
**Renewable Fuel Standard Program -
Standards for 2020 and Biomass-Based
Diesel Volume for 2021 and
Other Changes:**

Response to Comments

Renewable Fuel Standard Program - Standards for 2020 and Biomass-Based Diesel Volume for 2021 and Other Changes:

Response to Comments

Assessment and Standards Division
Office of Transportation and Air Quality
U.S. Environmental Protection Agency

Table of Contents

List of Acronyms and Abbreviations	v
List of Organizations Submitting Comments on the 2020 RVO Rule	vi
List of Organizations Submitting Comments on the REGS Rule	xiv
1. Policy Objectives of the RFS Program	1
1.1 Broad Policy Issues Including Congressional Intent and Program Goals.....	1
2. Waiver Authorities	3
2.1 General Waiver Authority	3
2.1.1 Inadequate Domestic Supply.....	6
2.1.2 Severe Economic Harm.....	10
2.1.3 Severe Environmental Harm	19
2.2 Cellulosic Waiver Authority	20
2.3 Statutory Obligation to Reset Volumes.....	24
2.4 Carryover RINs	25
3. Cellulosic Biofuel Standard	30
3.1 General Comments on Cellulosic Biofuels	30
3.2 Methodology for Projecting Volumes.....	38
3.2.1 Methodology for Projecting Liquid Cellulosic Biofuel Volumes	41
3.2.2 Methodology for Projecting Cellulosic Biogas Volumes	43
3.3 Proposed Cellulosic Biofuel Standard	47
4. Advanced Biofuel	53
4.1 Inability to Meet Statutory Targets	53
4.2 Attainable and Reasonably Attainable Volumes of Advanced Biofuel	54
4.2.1 Imported Sugarcane Ethanol	55
4.2.2 Biodiesel and Renewable Diesel	59
4.2.2.1 General Comments on Advanced Biodiesel and Renewable Diesel	59
4.2.2.2 Domestic Production Capacity	62
4.2.2.3 Potential Imports	65
4.2.2.4 Availability of Advanced Biodiesel and Renewable Diesel Feedstocks.....	67
4.2.2.5 Impact of Tax Credit	77
4.2.3 Other Advanced Biofuel.....	78
4.3 Advanced Volume that Can Be Supplied and Used.....	79
4.4 Proposed Advanced Biofuel Requirement.....	80

5. Total Renewable Fuel and Conventional Renewable Fuel	85
5.1 Ethanol	85
5.1.1 E10 Blendwall and Total Gasoline Demand	85
5.1.2 Exceeding the E10 Blendwall	87
5.1.3 Domestic Production Capacity	91
5.1.4 Refiner Responsibilities to Expand Ethanol Use	92
5.1.5 E0	94
5.1.6 E15	95
5.1.7 E85	98
5.1.8 Other Comments Related to Ethanol.....	101
5.2 Biodiesel and Renewable Diesel.....	102
5.2.1 Infrastructure for Distributing, Blending, and Dispensing.....	102
5.2.2 Vehicles That Can Use It	103
5.2.3 Cold Temperature Impacts	104
5.2.4 Production Capacity	105
5.2.5 Feedstock Availability.....	106
5.2.6 Imports of Conventional Biodiesel and Renewable Diesel.....	107
5.2.7 Consumer Response	108
5.2.8 Total Volume Achievable	109
5.3 Determination of Standards	110
5.3.1 Total Renewable Fuel Volume.....	110
5.3.2 Conventional Renewable Fuel / Corn-Ethanol “Mandate”	111
5.3.3 Other Comments Related to the Determination of Standards	115
6. BBD Volume for 2021	117
6.1 General	117
6.2 Supporting the BBD Industry.....	119
6.3 Ensuring Opportunities for Other Advanced Biofuels.....	120
6.4 Consideration of Statutory Factors (BBD).....	123
6.4.1 General Comments on the Consideration of Statutory Factors.....	123
6.4.2 Consideration of the Review of the Program to Date	125
6.4.3 Environmental Impacts (Air Quality, Climate Change, Conversion of Wetlands, Ecosystems, Wildlife Habitat, Water Quality, Water Supply).....	126
6.4.4 Energy Security Impacts	127
6.4.5 Expected Rate of Production of Biofuels	129

6.4.6 Impact of Renewable Fuels on Infrastructure in the U.S. (Deliverability of Materials, Goods, Renewable Fuels, and Other Products) and Sufficiency of Infrastructure to Deliver and Use Renewable Fuel	131
6.4.7 Impact on Transportation Fuel Prices and the Cost to Transport Goods	132
6.4.8 Impacts on Other Factors (Jobs, Price and Supply of Agricultural Goods, Rural Economic Development, Food Prices).....	135
7. Economic and Environmental Impacts	137
7.1 Economic Impacts and Considerations	137
7.1.1 Illustrative Costs of the Program.....	137
7.1.2 Energy Security	139
7.1.3 Impacts of Standards on RIN Prices	142
7.1.4 Impacts of Standards on Retail Fuel Prices.....	144
7.1.5 Price and Supply of Agricultural Commodities and Farm Income	145
7.1.6 Rural Economies	149
7.1.7 Jobs and Profitability of Biofuel Producers	150
7.2 Environmental Impacts and Considerations.....	153
7.2.1 GHG Impacts.....	155
7.2.2 Air Quality.....	156
7.2.3 Water Quality and Quantity	157
7.2.4 Ecosystems, Wildlife Habitat, and Conversion of Wetlands	159
7.2.5 Endangered Species Act.....	161
8. Percentage Standards	162
8.1 General Comments on the Percentage Standards.....	162
8.2 Accounting for Small Refinery Hardship Exemptions	164
9. Amendments to the RFS Program Regulations	192
9.1 Clarification of Diesel RVO Calculations.....	192
9.2 Pathway Petition Conditions	195
9.3 Esterification Pretreatment Pathway	196
9.4 Distillers Corn Oil and Distillers Sorghum Oil Pathways	199
9.5 Clarification of the Definition of Renewable Fuel Exporter and Associated Provisions	200
9.6 Other Revisions to the RFS and Fuels Programs	202
9.6.1 Flexibilities for Renewable Fuel Blending for Military Use.....	202
9.6.2 Heating Oil Used for Cooling	203
9.6.3 Separated Food Waste Plans	204
9.6.4 Additional Registration Deactivation Justifications.....	205

9.6.5 New RIN Retirement Section.....	207
9.6.6 New Pathway for Co-Processing Biomass with Petroleum to Produce Cellulosic Diesel, Jet Fuel, and Heating Oil.....	209
9.6.7 Other Revisions to the Fuels Program.....	212
9.6.7.1 Testing Revisions	212
9.6.7.2 Oxygenate Added Downstream in Tier 3.....	213
9.6.7.3 Technical Corrections and Clarifications	214
10. Other Comments	217
10.1 Statutory and Executive Order Reviews	217
10.2 Point of Obligation.....	219
10.3 Periodic Review	220
10.4 Beyond the Scope.....	223

List of Acronyms and Abbreviations

Numerous acronyms and abbreviations are included in this document. While this may not be an exhaustive list, to ease the reading of this document and for reference purposes, the following acronyms and abbreviations are defined here:

<i>ACE</i>	<i>Americans for Clean Energy v. EPA</i> , 864 F.3d 691 (D.C. Cir. 2017)
<i>API</i>	<i>API v. EPA</i> , 706 F.3d 474 (D.C. Cir. 2013)
BBD	Biomass-Based Diesel
BIP	Biofuels Infrastructure Partnership
CAA	Clean Air Act
CBI	Confidential Business Information
CNG	Compressed Natural Gas
CO	Carbon Monoxide
CWC	Cellulosic Waiver Credits
DOE	U.S. Department of Energy
EIA	U.S. Energy Information Administration
EISA	Energy Independence and Security Act of 2007
EPA	U.S. Environmental Protection Agency
GHG	Greenhouse Gas
REET	Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model
LCA	Lifecycle Analysis
LCFS	Low Carbon Fuel Standard
LNG	Liquefied Natural Gas
<i>Monroe</i>	<i>Monroe Energy v. EPA</i> , 750 F.3d 909 (D.C. Cir. 2014)
NO _x	Nitrogen Oxides
OPEC	Organization of the Petroleum Exporting Countries
PM	Particulate Matter
REGS	Renewables Enhancement and Growth Support Rule
RFS	Renewable Fuel Standard
RIA	Regulatory Impact Analysis
RIN	Renewable Identification Number
RVO	Renewable Volume Obligation
SO _x	Sulfur Oxides
SRE	Small Refinery Exemption
STEO	Short-Term Energy Outlook
USDA	U.S. Department of Agriculture
VOC	Volatile Organic Compounds

List of Organizations Submitting Comments on the 2020 RVO Rule

Commenter or Organization Name	Docket Item Number ^a
A. Tusek	0189
ABATE of Indiana Petroleum Council, a division of the American Petroleum Institute (API)	0427
ABATE of Kansas	1442
Ace Ethanol LLC	0344
Ace Ethanol, LLC	0273
ActionAid et al.	0699
Adkins Energy, LLC	0393, 0500
Advanced Biofuels Association (ABFA)	0202, 0365, 0529
Aemetis, Inc.	0129, 0133, 1138, 2036
AJW, Inc. and Iogen Corporation	0277, 0467
Alabama Petroleum Council, a division of American Petroleum Institute (API), et al.	0421
Alex Garza, State Representative, Michigan House of Representatives	0706
Alternative Fuels & Chemicals Coalition (AFCC)	0727
Ameresco, Inc.	0436
American Biogas Council (ABC)	0207, 1285
American Coalition for Ethanol (ACE)	0290, 0357, 0435
American Farm Bureau Federation	0153, 0443
American Fuel & Petrochemical Manufacturers	0299, 0378, 0735
American Motorcyclist Association (AMA)	0286
American Petroleum Industries of Michigan	0433
American Petroleum Institute (API)	0211, 0409, 0445, 0721
American Soybean Association (ASA)	0177, 0372, 0458
Americans for Prosperity Kansas	0439
Anew Travel and Fuel Centers, Zeeland Farm Services for National Association of Truckstop Operators, (NATSO)	0383
Anonymous public comment	0170, 0182, 0363, 0477, 0478, 0479, 0481, 0482, 0483, 0484, 0513, 0514, 0515, 0516, 0517, 0518, 0519, 0521, 0522, 0523, 0524, 0525, 0527, 0718, 0864, 1123

Commenter or Organization Name	Docket Item Number^a
API-Missouri	1548
Archer Daniels Midland Company (ADM)	0320, 0416, 0715
Aria Energy	0173, 0373, 0488
Arkansas Independent Producers & Royalty Owners Association (AIPRO), Arkansas Oil Marketers Association, and Arkansas Petroleum Council	0424
Arkansas Soybean Association	0122
Associated Petroleum Industries of Pennsylvania et al.	0447
Association of Equipment Manufacturers (AEM)	0283, 0456
B. Byrd	0480
B. Carron	0109, 0381
B. Gacke	0144
Badger State Ethanol, LLC	0134, 0422
Big River Resources, LLC	0163
Biodiesel Coalition of Missouri (BCM)	0494
Biogas Researchers, Inc.	0306
Biomass Power Association On behalf of the RFS Power Coalition	0191, 1944
Biotechnology Innovation Organization (BIO)	0208, 1999
Bracewell	0340
Brazilian Sugarcane Industry Association (UNICA)	0304, 0717
Brian K. Elder, State Representative, 96th District, Min. Vice Chair, State of Michigan House of Representatives Agriculture Committee	2003
Bureau of Public Affairs and Communications, New York City Department of Environmental Protection (DEP)	0342
Business Council for Sustainable Energy (BCSE)	0298, 0719
C. Fujan	0157
C. Hanson	0141
C. Nelson	0174
Carbon Green BioEnergy	0364
Chevron	0190
Chevron (name illegible)	0432
Clean Air Task Force (CATF)	0275
Coalition for Renewable Natural Gas, et al.	0323, 0723
Commonwealth Agri-Energy, LLC	0295, 0395
Compeer Financial	0178
Connecticut Petroleum Council	0463
Countrymark Cooperative	0501

Commenter or Organization Name	Docket Item Number^a
Crimson Renewable Energy	0302, 0543
CTE Global, Inc.	0417
D. Frederickson	0158
D. McNinch	0403
D3MAX, LLC	0338
Deere & Company (John Deere)	0396
Division of Economic and Business Development, Toledo, Ohio, for Mayor Wade Kapszukiewicz Toledo, Ohio	0385
DTE Biomass Energy	0316, 0434
DuPont	0184, 0455
E. Hoffman	0162
East Kansas Agri-Energy, LLC	0127, 0475, 0498
Element Markets Renewable Energy, LLC (EMRE or EM)	0341
Enerdyne Power Systems	0440
Energkem Inc.	0152
Eversheds Sutherland (US) LLP	0183
Flint Hills Resources, LP on behalf of Duonix Beatrice, LP (DBLP)	0267
Florida Petroleum Council et al.	0446
Fuels Regulatory Advocacy, BP America Inc.	0199, 0700
Georgia Petroleum Council, American Petroleum Institute (API)	0420
Gibson, Dunn & Crutcher LLP on behalf of Monroe Energy, LLC	0204, 1284
Golden Grain Energy	0315
Governor Pete Ricketts, State of Nebraska	0468
Governors' Biofuels Coalition	0384
Growth Energy	0312, 0362, 0711, 0726
Haynes and Boone, LLP on behalf of Small Retailers Coalition	0195
Heartland Corn Products	0394
HollyFrontier Corporation	0193, 0471
Illinois Corn Growers Association (ICGA)	0282, 0408
Illinois Corn Growers Association and Illinois Renewable Fuels Association	0528
Illinois Farm Bureau (IFB)	0708
Illinois Petroleum Council	1784
Independent Fuel Terminal Operators Association (IFTOA)	0185, 0470
Indiana Corn Growers Association	0415
Indiana Corn Growers Association and Indiana Soybean Alliance	0460

Commenter or Organization Name	Docket Item Number^a
Indiana Ethanol Producers Association	0379
Indiana Soybean Alliance (ISA)	0412
Institute for Energy Research	0732
International Brotherhood of Boilermakers, Local Lodge 85	0380
International Council on Clean Transportation (ICCT)	0124
Iowa Biodiesel Board	0703
Iowa Biodiesel Board and Western Iowa Energy	0356
Iowa Biotechnology Association (IowaBio)	0339
Iowa Corn Growers Association (ICGA)	0209, 0368, 0465
Iowa Soybean Association (ISA)	0305, 0370
J. Carstensen	0404
J. Kent Eckles	0406
J. McFall	0405
J. Parks	0166
J. Pavka	1976
J. Schmaltz	0253
Jim Hagedorn, Member of Congress, Congress of the United States	1152
John Barrasso, Chairman, Committee on Environment and Public Works, Wyoming Senator, U.S. Senate	0731
Joni K. Ernst, United States Senator Iowa, United States Senate	0390
K. Gould	0136
Kansas Corn Growers Association (KCGA)	0187, 0452
Kansas Farm Bureau (KFB)	0194
Kansas Grain Sorghum Producers Association and The National Sorghum Producers	0367
Kentucky Corn Growers Association (KYCGA)	0730
Kentucky Farm Bureau (KFB)	0714
Kevin Coleman, State Representative, 16th District, Wayne and Westland, Michigan House of Representatives	0495
Kim Reynolds, Governor and Mike Naig, Iowa Secretary of Agriculture, Office of Governor, State of Iowa	0311
Kim Reynolds, Governor, State of Iowa	0387
Kinetrex Energy	0697
Klickitat Public Utility District - Goldendale, Washington	0407
Kolmar Americas, Inc.	0186, 0414, 0707
L. Baxter	1919
LaMae Drier, Ace Ethanol LLC	0126

Commenter or Organization Name	Docket Item Number^a
Little Sioux Corn Processors, LLC (LSCP)	0128, 0249, 0335, 0461
M. Michael Rounds, U.S. Senator South Dakota, U.S. Senate	0391
Magellan Midstream Partners L. P.	0493
Marathon Petroleum Company LP (MPC)	0118
Mass Comment Campaign sponsored by Absolute Energy. (paper)	0544
Mass Comment Campaign sponsored by Iowa Renewable Fuels Association (IRFA)	0504
Mass Comment Campaign sponsored by Michigan Corn Growers Association (MCGA). Bundle (web)	0218
Mass Comment Campaign sponsoring organization unknown. (web)	0113, 0123, 0170, 0238, 0505, 0506, 0507, 0508, 0509, 0510, 0511, 0736, 0737, 0738, 0739, 0740
Mass Comment Campaign sponsoring organization unknown. Individual (web)	0214, 0215, 0216, 0217
Massachusetts Petroleum Council, A Division of the American Petroleum Institute (API)	0425
Michigan Bioscience Industry Association (MichBio) and Biotechnology Innovation Organization (BIO)	0377
Michigan Farm Bureau (MFB)	0154, 0434
Michigan Soybean Association (MSA)	0466
Mid-Missouri Energy (MME)	0287, 0476
Midwest AgEnergy Group, LLC (MAG)	0176, 0720
Minnesota Bio-Fuels Association (MBA)	0297, 0712
Minnesota Corn Growers Association (MCGA)	0205, 0535
Minnesota Farm Bureau Federation (MFBBF)	0701
Minnesota Farmers Union (MFU)	0201
Minnesota Petroleum Council	0423
Missouri Corn Growers Association (MCGA) and National Corn Growers Association (NCGA)	0336, 0716
Missouri Farm Bureau	0497
Missouri Farmers Union	0285
Missouri Soybean Association (MSA)	0121, 0457
Montauk Energy	0375
Montauk Energy Holdings, LLC	0192, 0722
National Association of State Foresters (NASF)	0490
National Biodiesel Board (NBB)	0213, 0360, 0369, 0451

Commenter or Organization Name	Docket Item Number^a
National Chicken Council (NCC)	0278, 0536
National Corn Growers Association (NCGA)	0276, 0359, 0441
National Corn-to-Ethanol Research Center (NCERC) at Southern Illinois University - Edwardsville (SIU-E)	0116, 0386
National Farmers Union (NFU)	0197, 0713
National Oilseed Processors Association (NOPA)	0200, 0491
National Renderers Association (NRA)	0328
NATSO, Inc.	0301, 0540
Nebraska Corn Board and Nebraska Corn Growers Association	0280, 0486
Nebraska Corn Growers Association	0366
Nebraska Ethanol Board (NEB)	0296, 0410, 0702
Nebraska Farm Bureau Federation (NEFB)	0318, 0454
Nebraska Soybean Association	0117, 0418
Neste US, Inc.	0196, 0537
New England Convenience Store & Energy Marketers Association (NECSEMA)	0449
New England Fuel Institute (NEFI)	0327, 0734
New Leaf Biofuel, LLC	0289
New York Corn and Soybean Growers Association (NYCSGA)	0169, 0474
New York Farm Bureau (NYFB)	0728
Newport Biodiesel, Inc.	0171, 0266
NH Off Highway Vehicle Association	1763
North Carolina Petroleum and Convenience Marketers Association	1480
North Dakota Corn Growers Association (NDCGA)	0499
North Dakota Farmers Union (NDFU)	0329, 0538
North Dakota Soybean Growers Association (NDSGA)	0181, 0532
NuVu Fuels	0361
Ohio Corn & Wheat Growers Association	0355
Ohio Farm Bureau	0172, 0442
Ohio Soybean Association (OSA)	0496
Outdoor Power Equipment Institute (OPEI)	0119
Owensboro Grain Company	0292, 0542
P. A. Winters	0503
P. Buckwalter	2038
Pacific Ethanol	2037
PBF Holding Company LLC	0212, 0710

Commenter or Organization Name	Docket Item Number^a
Peace 4 Animals	0272
PerkinsCoie, on behalf of Small Refiners Coalition	0324, 0733
Pete Ricketts, Governor, State of Nebraska, Office of the Governor	0206
Petroleum Marketers Association of America (PMAA)	0326, 0729
Phillips 66 Company	0270
Pike-Scott Farm Bureau	0419
POET	0411, 1893
POET-DSM Advanced Biofuels	0303
Policy Resolution Group, for Fueling American Jobs Coalition	0382
Producers of Renewables United for Integrity Truth and Transparency	0325, 2041
Protec Fuel Management	0135, 0462
Quad County Corn Processors Cooperative (QCCP)	0156, 0274, 0438, 0709
R. Krusemark	0485
R. Weyen	2035
R. White	2000
Red Trail Energy, LLC et al., for North Dakota Ethanol Producers Association (NDEPA)	0321, 0392
Renew Kansas Biofuels Association	0300, 0453
Renewable Biofuels LLC	0293
Renewable Energy Group (REG)	0313, 0705
Renewable Fuels Association (RFA)	0108, 0281, 0534, 1998
Renewable Fuels Nebraska	0168, 2029
Rio Valley Biofuels	0294, 0541
Rocky Mountain Farmers Union	0268
RPMG Inc.	0704
Sacramento Municipal Utility District (SMUD)	0530
Schoon Construction, Inc.	0167
Senator Amy Klobuchar et al., United States Senate	0698
Senator Mike Braun, United States Senate	0388
Senator Roy Blunt, United States Senate	0389
Shell Oil Products US	0131
Show Me Ethanol, LLC (SME)	0125, 0358
Social Compassion in Legislation (SCIL)	0271
Sorghum Producers (NSP)	0492

Commenter or Organization Name	Docket Item Number^a
South Carolina Petroleum Council, a division of the American Petroleum Institute (API)	0426
South Dakota Corn Growers Association (SDCGA)	0284, 0469
South Dakota Soybean Association	0413
Southwest Iowa Renewable Energy (SIRE)	2023
State Senator Dayna Polehanki, District 7, Michigan State Senate	0459
Step toe & Johnson LLP on behalf of National Association of Convenience Stores (NACS) and Society of Independent Gasoline Marketers of America (SIGMA)	0322, 0472
Strategy & Planning, Exxon Mobile Corporation	0279, 0489
T. I. Kiefer	0531
Tennessee (TN) Soybean Association	0431, 0502
Tennessee Petroleum Council	0450
Texas Corn Producers Association (TCPA)	0317, 0473
The 25x'25 Alliance	0288, 0533
Thumb Bioenergy LLC	0371
Toledo Refining Company	0376
U.S. Canola Association (USCA)	0164, 0464
Union of Concerned Scientists (UCS)	0120
United Steelworkers (USW)	0487
Valero Energy Corporation	0337, 1487
Virginia Petroleum Council et al.	0444
W2Fuels	0374
Waste Management (WM)	0319, 0725
Western Dubuque Biodiesel	0314
Western New York Energy, LLC	0210, 0428
Western Petroleum Marketers Association (WPMA) et al.	0724
Western Plains Energy, LLC (WPE)	0265, 0429
Wisconsin BioFuels Association (WBFA)	0437
Wisconsin Corn Growers Association (WCGA)	0203
Wisconsin Recreation Dealers Alliance and Wisconsin Petroleum Council	0448
World Energy	0291, 0539
Wynnewood Refining Company, LLC	1153

^a Individual comments from the public (and attachments submitted with comments) submitted to Docket No. EPAHQ-OAR-2019-0136 are assigned a unique 4-digit docket number that follows the base docket number (i.e., XXXX, where "XXXX" represents the unique 4-digit document docket number). For example, Docket Item No. EPA-HQ-OAR-2019-0136-0500 is presented as 0500 in this table and within the text of this document.

List of Organizations Submitting Comments on the REGS Rule

Commenter or Organization Name	Docket Item Number ^a
Advanced Biofuels Association (ABFA)	REGS-0313
AE Cote-Nord Canada Bioenergy Inc.	REGS-0216
American Petroleum Institute (API) and American Fuel & Petrochemical Manufacturers (AFPM)	REGS-0244
Anonymous	REGS-0198
Arbec Forest Products Inc.	REGS-0226
cLausten LLC	REGS-0307
Darling Ingredients Inc.	REGS-0282
Ensyn Corporation	REGS-0229
Ensyn Development Partners	REGS-0232
Fibria Celulose S.A.	REGS-0217
Fulcrum BioEnergy, Inc.	REGS-0269
National Biodiesel Board (NBB)	REGS-0300
Premium Energy Limited	REGS-0221
Renewable Energy Group, Inc. (REG)	REGS-0267
Renova Capital Partners LLC	REGS-0233
Roseburg Forest Products	REGS-0224
Sabine Biofuels II, LLC	REGS-0223
Shell	REGS-0234
Tesoro Companies, Inc.	REGS-0275
Valero Renewable Fuels Company, LLC	REGS-0266
Weaver and Tidwell, LLP	REGS-0272
Western Dubuque Biodiesel, LLC	REGS-0311

^a Individual comments from the public (and attachments submitted with comments) submitted to Docket No. EPAHQ-OAR-2016-0041 are assigned a unique 4-digit docket number that follows the base docket number (i.e., XXXX, where “XXXX” represents the unique 4-digit document docket number). For example, Docket Item No. EPA-HQ-OAR-2016-0041-0500 is presented as REGS-0500 in this table and within the text of this document.

1. Policy Objectives of the RFS Program

1.1 Broad Policy Issues Including Congressional Intent and Program Goals

Commenters that provided comment on this topic include but are not limited to: 0129, 0152, 0186, 0197, 0297.

Comment:

A commenter suggested that EPA should increase advanced biofuel volumes to fulfill the intent of Congress. One commenter suggested this should be accomplished by allowing advanced biofuels to backfill for cellulosic biofuel. Another commenter more generally stated that EPA should place increasing biofuel volumes above all other considerations, as Congress intended. Some commenters suggested that higher volumes support the goals of the RFS program and that significant growth in renewable fuels, including increasing the production of clean renewable fuels, is one of the goals of the program. Other commenters suggested that Congress intended for the conventional biofuel volume to exceed the blendwall and to require greater than 2 billion gallons of biodiesel. Some commenters suggested that EPA must implement Congress's "market-forcing policy." Still other commenters suggested that Congress did not intend for the RFS program to exceed the blendwall.

Response:

Although the statutory tables do exhibit increasing volumes of advanced biofuels, much of that increase is attributable to the cellulosic biofuel standard.

Congress did not speak to the E10 blendwall, instead laying out a program that required increasing volumes of various categories of renewable fuels through 2022 subject to certain EPA administered waiver authorities. See responses to additional comments on the E10 blendwall in Sections 5.1.1 and 5.1.2 of this document.

We agree that one of EISA's goals was to increase the production and use of renewable fuels, but that was not its only goal. Indeed, the preamble to EISA lists numerous goals: "An Act To move the United States toward greater energy independence and security, to increase the production of clean renewable fuels, to protect consumers"

We disagree with commenters who suggested that increasing volumes should drive our decision-making, or that Congress intended for advanced biofuels to backfill for cellulosic in all circumstances. Congress clearly envisioned that under certain circumstances, articulated in the waiver authorities under CAA section 211(o)(7), the volumes can be waived. As discussed further in Section 2.2 of this document, the cellulosic waiver authority in CAA section 211(o)(7)(D) grants EPA broad discretion in determining whether to use that waiver authority to adjust total renewable fuel and advanced biofuel volumes. While in the past we have found it appropriate to allow advanced biofuel to backfill for a portion of missing cellulosic biofuels, in this rulemaking we do not find such backfilling to be appropriate, as discussed in Section 2.2 of this document and Section IV of the final rule.

Additionally, we believe that the standards we are setting will drive additional growth in the market consistent with our authorities and the statute. We are also establishing a BBD volume of 2.43 billion gallons for 2021 and expect greater quantities of biodiesel and renewable diesel to be used to meet the advanced biofuel standard in 2021.

Comment:

Commenters stated that Congress clearly intended for the use of renewable fuel to increase, and that it is now time for EPA to get back to that mission by faithfully administering the rule of law as intended under the RFS. A commenter suggested that EPA must restore the RFS as guaranteed by law. Commenters suggested that EPA should meet the goals set by Congress, drive rural economic growth, and promote investments in biofuels.

Response:

The standards we are setting for 2020 include an increase of 170 million gallons in the cellulosic, advanced biofuel, and total renewable fuel standards, in comparison to the 2019 standards. In addition, the 2020 BBD standard represents an increase of 330 million gallons relative to the 2019 BBD standard.

2. Waiver Authorities

2.1 General Waiver Authority

Commenters that provided comment on this topic include but are not limited to: 0197, 0211, 0270, 0276, 0324.

Comment:

Numerous commenters stated that the general waiver authority is not triggered in this rulemaking, as none of the criteria for issuing a waiver have been met. Many commenters stated that there is no justification for the use of the general waiver authority, as the RFS is not creating severe economic or environmental harm, nor is there an inadequate domestic supply of renewable fuel. Some commenters suggested that the notice and comment requirements provided in the CAA have not been met to allow EPA to finalize use of the general waiver authority.

Conversely, other commenters suggested that EPA should use the general waiver authority to reduce volumes.

Response:

We are not using the general waiver authority to set the 2020 standards, as described in Section II of the final rule, and elsewhere in this section. Use of the general waiver authority under a finding of inadequate domestic supply is discussed in Section 2.1.1 of this document. Use of the general waiver authority under a finding of severe economic harm is discussed in Section 2.1.2 of this document. Finally, use of the general waiver authority under a finding of severe environmental harm is discussed in Section 2.1.3 of this document. below. We have assessed whether to reduce volumes under these authorities and determined that doing so would not be appropriate.

Comment:

Some commenters suggested that the volume reductions using solely the cellulosic waiver authority are insufficient to arrive at appropriate volumes.

Response:

Were the full exercise of the cellulosic waiver authority to be insufficient, further reductions to the volume requirements would need to be based on the general waiver authority.¹ We have evaluated whether the criteria for use of the general waiver authority have been met. As we

¹ CAA section 211(o)(7)(E) also provides that EPA may waive volumes under the “biomass-based diesel waiver authority.” We received no comments suggesting we should waive volumes under that authority, and do not find that it would be appropriate to do so. That is, we are not aware of data indicating “a significant renewable feedstock disruption or other market circumstances that would make the price of biomass-based diesel fuel increase significantly.” We do not further address this waiver authority in this document.

explain throughout this section, we have determined that exercising the general waiver authority would not be appropriate.

Comment:

Some commenters suggested that EPA should look at the statutory volumes when evaluating whether reductions under the general waiver authority are appropriate and make corresponding reductions because the statutory volumes cannot be used.

Response:

We do not find that we are required to assess the general waiver authority based on the statutory volumes. As described in Section III of the final rule, we have reduced the volume requirement for cellulosic biofuel to match the volumes we project will be available in 2020, and we have provided the corresponding maximum volume reductions to the statutory targets for advanced biofuel and total renewable fuel that are permitted under the cellulosic waiver authority. It is reasonable, therefore, to assess whether the resulting volumes following the use of the cellulosic waiver authority will give rise to circumstances justifying the use of other waiver authorities to provide further reductions. This approach was affirmed by the D.C. Circuit in *AFPM v. EPA*, 937 F.3d 559, 579.

In addition, even were we to assess the statutory volumes under general waiver authority, the statute still gives EPA discretion to waive volumes upon finding that the triggering condition (inadequate domestic supply, or severe environmental or economic harm) has been met. In exercising our discretion, we would assess the degree of the waiver needed to avoid inadequate domestic supply or severe environmental or economic harm. In this analysis, we would still consider the resulting volumes from the exercise of the cellulosic waiver authority.

Comment:

One commenter pointed to the requirements for public notice and comment before issuing a waiver, saying that the general request for comment in the proposal on the possibility of using the general waiver authority was insufficient. This commenter stated that EPA had proposed not to use the general waiver and, as such, it must initiate a new public notice and comment process, as well as consultation with USDA and DOE, before acting on any further reductions.

Response:

After consideration of comments received in response to the proposal, we have determined that further reductions using the general waiver authority are not warranted for 2020.

Comment:

A commenter suggested that EPA should first determine reasonably achievable volumes, and then assess whether it can use its waiver authorities to lower volumes to that level, and that doing otherwise renders the required volumes arbitrary and capricious. They suggested that the

volumes proposed were not achievable due to the need for significant increases in BBD, sugarcane ethanol, or a significant drawdown in the carryover RIN bank.

Response:

We note that the statute does not require us to determine “reasonably achievable volumes.” In some prior annual rules, we have assessed the maximum reasonably achievable volume in determining the appropriate level of reduction under the general waiver authority after a finding of inadequate domestic supply. However, as described in Section 2.1.1, we do not believe there will be an inadequate domestic supply of renewable fuel. In general, we find that none of the statutory criteria for reductions under the general waiver authority have been met. In addition, as explained in Section IV of the final rule, we account for a reasonably attainable volume of sugarcane ethanol in estimating the market’s response to this final rule. As explained in Section VI of the final rule, the BBD standard is not expected to be binding. The advanced biofuel standard is expected to drive the use of BBD in 2020, and that standard is attainable, as described in Section IV of the final rule. We are also not increasing the BBD volume for 2021 relative to 2020. We do not expect this final rule to result in the drawdown of carryover RINs, as explained further in Sections II and IV of the final rule, Section 2.4 of this document, and the memorandum “Updated market impacts of biofuels in 2020.”

2.1.1 Inadequate Domestic Supply

Commenters that provided comment on this topic include but are not limited to: 0197, 0204, 0276, 0288, 0323, 0337.

Comment:

Several commenters stated that use of the general waiver authority under a finding of inadequate domestic supply would be inappropriate given plentiful supply of feedstocks and renewable fuel to obligated parties.

Response:

We agree with commenters who suggested that we should not use the general waiver authority under a finding of inadequate domestic supply to waive volumes for the final rule. See responses within this section for further discussion.

Comment:

Several commenters suggested that there is not an inadequate domestic supply of advanced biofuels, citing to the meaning of “domestic supply” articulated in *ACE* at 709, and concluding that it must include both biofuels produced in the U.S. and imported biofuels. Some commenters noted that *ACE* construed “supply” to refer to the renewable fuel available to refiners, blenders, and importers, including imports. Commenters suggested that reading “domestic supply” to exclude imports is not consistent with the plain reading of the statute, because it refers to “supply” and not “production.” Another commenter noted that Congress intended to reduce dependence on foreign petroleum, and not increase dependence on foreign renewable fuel. Some commenters additionally stated that the goals of the RFS program are best served by reading “domestic supply” to include imports.

Many other commenters suggested that EPA should interpret the undefined term “domestic” within the phrase “inadequate domestic supply” to mean renewable fuel produced domestically, thus excluding imports from any assessment of supply. These commenters suggested that this interpretation would “give meaning” to the use of the word “domestic” and is the best reading of the statute. Commenters suggested that this interpretation is not precluded by the *ACE* decision, because the Court in *ACE* was evaluating the interpretation presented by EPA in the 2014-2016 rule, and the issue of the meaning of “domestic” was not before the Court. Most of these commenters suggested that imported biofuels should only be excluded in determining the volume under a waiver due to inadequate domestic supply, while still being eligible to be used for compliance with the standard. Some commenters suggested that the difficulty in estimating biofuel imports in setting standards further supports interpreting “inadequate domestic supply” to exclude imports. Some commenters suggested that this interpretation is also consistent with the goals of the statute and intent of Congress to increase energy independence and security and domestic renewable fuel production. Some commenters suggested that this interpretation would also provide more certainty to obligated parties due to the potential impacts on imports due to tariffs and trade issues. Many of the commenters suggested that when looking solely at domestic

production, an inadequate domestic supply of renewable fuel exists, particularly for advanced biofuels, and therefore EPA should exercise the waiver.

Response:

In this action, we are declining to exercise our discretion to reduce total renewable fuel or advanced biofuel volumes under a finding of inadequate domestic supply.

We recognize that commenters advanced differing interpretations of the statutory term “inadequate domestic supply.” Some commenters claimed that this term refers to only domestically produced renewable fuels, while others claimed that it also includes imported renewable fuels. EPA need not resolve this interpretive question, because under either interpretation we would not find it appropriate to exercise the waiver for two independent reasons.² We first adopted this approach in the 2018 final rule, where it was upheld by the D.C. Circuit’s decision in *AFPM v. EPA*.

First, even assuming we were to interpret “inadequate domestic supply” to only comprise domestic production, domestic production may be sufficient to meet the volumes established in this final rule. To begin with, no parties suggested that there was insufficient conventional renewable fuel to meet the implied volume requirement of 15 billion gallons, nor did parties suggest that there was insufficient cellulosic biofuel to meet the cellulosic standard. As we stated in the 2018 rule,

The total domestic production capacity of corn ethanol in the U.S. is about 16 billion gallons, and total production of denatured and undenatured ethanol from these facilities in 2016 exceeded 15 billion gallons. As a result, there does not appear to be an inadequate domestic supply of renewable fuel to satisfy the implied 15 billion gallon conventional renewable fuel volume that results from full application of the cellulosic waiver authority to reduce statutory volume targets for advanced biofuel and total renewable fuel. We note that this assessment does not include imported volumes of fuel, such as conventional biodiesel, which could also be used to satisfy the volume requirements.³

Updated data from 2017 and 2018 shows continued domestic production of corn ethanol in excess of 15 billion gallons.⁴

With respect to cellulosic biofuels, we note that the vast majority of cellulosic biofuel supply is expected to come from domestic sources, and that any imports of cellulosic biofuel are expected to be less than 13% of the standard based on data from 2018. Given the importance that Congress placed on the growth of cellulosic biofuel volumes, our projection that compliance with a 590 million gallon requirement is feasible using RINs generated in 2020, and the availability of carryover cellulosic biofuel RINs and cellulosic waiver credits for additional compliance

² See 82 FR 58516-17 (December 12, 2017), adopting this approach in the 2018 rule.

³ See 82 FR 58517 (December 12, 2017).

⁴ See “Endangered Species Act No Effect Finding for the 2020 Final Rule,” memorandum to docket EPA-HQ-OAR-2019-0136.

flexibility, EPA would not exercise its discretion to lower the 590 million gallon projected cellulosic biofuel volume even if EPA were to interpret the term “domestic supply” to exclude imported volumes.

For advanced biofuels, the 2020 standard could be satisfied by an increase in domestic production of approximately 510 million gallons relative to domestic production in 2019⁵, which is about the same as than the greatest year-over-year increase in domestic advanced biofuel production.⁶ This type of increase would be difficult, but not impossible for the domestic industry to fulfill. As noted in Section IV of the final rule, we do not believe that feedstock supplies or production capacity would preclude the domestic industry from meeting the standard.

Alternatively, we could interpret “inadequate domestic supply” to comprise both domestic production and imports. Under this interpretation, we would not find there to be an inadequate domestic supply. The domestic production of biofuels, described above, together with imports, described in Sections III and IV of the final rule and Section 4.2 of this document, likely suffice to supply the requisite volumes.

Second, we would decline to exercise our discretion under either interpretation. The statute does not require EPA to reduce volumes upon finding an “inadequate domestic supply,” but instead confers EPA the discretion to do so.⁷ In determining whether to exercise our discretion, we may consider, among other things, domestic production, imports, and the size of the carryover RIN bank.⁸ As described above, we expect that domestic production and imports likely suffice to supply the required volumes. Moreover, there exists a significant carryover RIN bank that can be used to meet the 2020 volumes were the actual use or production of renewable fuels to fall short.

For each of the above reasons, we are not exercising our discretion to further waive volumes under the inadequate domestic supply waiver authority. We believe the market can and will supply sufficient biofuels to meet the total and advanced standards we are setting in this action.

Comment:

A commenter suggested that EPA should define “domestic supply” to only include renewable fuel produced in the United States, and evaluate whether that supply is adequate, considering both availability and cost. The commenter also stated that when EPA determines how much BBD is “reasonably attainable,” EPA should consider domestic supply only and not imports, as imports are not consistent with national security and domestic resource development goals. They state that in including imports results in a BBD RVO for 2021 that is not reasonably attainable.

⁵ The advanced biofuel standard for 2020 is 4.5 billion gallons. As discussed in Section IV of the final rule, we anticipate approximately 50 million gallons of domestic other advanced biofuel will be used to meet that standard. In 2019, domestic production of biodiesel and renewable diesel is projected to reach approximately 2.356 billion gallons. Thus, an increase of only 510 million gallons of biodiesel or renewable diesel would need to be produced domestically to meet the standard.

⁶ The highest year over year increase in domestic advanced biofuel production was approximately 709 million gallons from 2015 to 2016.

⁷ See CAA section 211(o)(7)(A) (“the Administrator *may* waive...”) (emphasis added).

⁸ See *ACE* at 709, 715.

Response:

As discussed above, although EPA could interpret “domestic supply” to only include domestically produced fuel, we choose not to resolve this issue. We also are not resolving the interpretive issue of whether we must consider costs in determining “inadequate domestic supply.” It is not clear that we can make a finding of inadequate domestic supply based on economic costs alone. Congress authorized a waiver based on severe economic harm, and thereby implied that the general waiver authority is not available due to economic cost considerations that do not rise to the level of severe economic harm.⁹ But even were we to adopt that interpretation, we would still decline to exercise the inadequate domestic supply waiver. The costs associated with the volumes of renewable fuel we are requiring in this action are not so prohibitive as to constitute its being inadequate or. For further discussion of costs, see Section V of the final rule.

In determining the “reasonably attainable” volumes of advanced biofuels for purposes of the cellulosic waiver authority, EPA has considered both domestic supply and imports. The cellulosic waiver authority provides EPA broad discretion and allows consideration of imports. Moreover, regardless of the volumes we establish under the cellulosic waiver authority, both qualifying imported and domestically produced biofuels may be used to satisfy the renewable fuel standards.

EPA does not, however, assess the reasonably attainable volume in establishing the BBD volume. We do not find that the “reasonably attainable” analysis is relevant in our setting of the 2021 BBD standard, which we do so under our authority to set BBD volume requirements under CAA section 211(o)(2)(B)(ii). That analysis does consider the impacts of biofuels on energy security and the domestic economy.

Finally, to the extent the commenter is suggesting that EPA should exercise the general waiver authority to reduce the 2021 BBD volume, we believe this issue is best resolved when establishing the 2021 percentage standard for BBD in 2020. In any event, we do not believe the BBD standard will be binding, as it is the 2021 advanced biofuel requirement that will drive the use of BBD in 2021.

⁹ See *ACE* at 712.

2.1.2 Severe Economic Harm

Commenters that provided comment on this topic include but are not limited to: 0190, 0197, 0204, 0212, 0276, 0278, 0299, 0323, 0337.

Comment:

Numerous commenters suggested that the RFS program is imposing severe economic harm on specific industries.

The poultry industry, particularly broiler producers, argued that the RFS program caused severe economic harm by inducing fluctuations in corn prices. They also suggested that broiler producers have faced higher feed costs due to the RFS program. This commenter also suggested that an appropriate and predictable waiver would be based on the USDA “stocks-to-use-ratio.”

Some commenters suggested that increasing volumes are causing severe economic harm to ATV and motorcycle users due to increasing ethanol concentrations in gasoline and increased risk of misfueling.

Some commenters suggested that the RFS program is imposing economic harm on merchant refiners. For merchant refiners, commenters pointed to the blendwall, high RIN prices, and limited availability of higher level ethanol blends as demonstrating harm. Some commenters specifically mentioned refiners located in particular areas, such as East Coast and Mid-continent refiners.

Other commenters suggested that a finding of severe economic harm would not be justified. Some pointed to lower RIN prices than in the past as evidence of a lack of harm.

Response:

CAA section 211(o)(7)(A) provides that EPA may grant a waiver based on a determination that implementation of the 2020 RFS requirements would severely harm the economy of a *State, a region, or the United States*. We have previously interpreted this provision in our decisions denying requests to exercise this waiver authority.¹⁰ Based on our interpretation of the statute and the record before us, we decline to exercise our discretion to grant the waiver for multiple, independent reasons. First and generally, while commenters alleged harm to specific industries, they did not demonstrate severe harm to the economy of a State, a region, or the United States. Second, in assessing whether to exercise our discretion to grant a waiver, EPA considers the overall impacts of the 2020 volume requirements, including beneficial impacts on renewable fuel producers, farmers, and other industries.¹¹ Commenters generally failed to demonstrate that granting a waiver would be appropriate notwithstanding the beneficial impacts of the 2020 volume requirements. Third, as we explain below, even were we to focus on the impacts to

¹⁰ See 77 FR 70755 (November 27, 2012); 73 FR 47170-72 (August 13, 2008).

¹¹ Regardless of whether the statute requires such a showing, EPA would still consider such impacts in deciding whether to exercise our discretion. See 73 FR 47172 (August 13, 2008).

particular industries, the commenters did not demonstrate that the 2020 volume requirements would cause severe harm to their industry.¹²

Regarding the poultry industry specifically, the commenter pointed to corn price fluctuations and higher feed costs. However, the commenter did not demonstrate that the 2020 volume requirements, as opposed to other market factors, would cause these economic impacts. *A fortiori*, the commenter did not demonstrate that implementation of the 2020 volume requirements would cause these impacts with a high degree of certainty. Nor did the commenter show that any resulting corn price fluctuations would constitute severe economic harm. We note, however, that in our analysis of previous waiver requests, we found that the applicable standards were only responsible for a very small impact on corn prices.¹³ We further note in the memorandum to the docket “Endangered Species Act No Effect Finding for the 2020 Final Rule” that the 2020 RFS rule itself is having no impact on domestic corn ethanol production and therefore on the corn market.

Regarding the suggestion that the USDA “stocks-to-use-ratio” could provide a basis for a waiver, we do not believe that such an approach would be consistent with the criteria under which we are authorized to grant a waiver, as it is not a measure of severe economic harm.

Regarding potential economic harm to ATV and motorcycle users due to increasing ethanol concentrations in gasoline and increased risk of misfueling, the commenter did not provide data indicating severe economic harm for the use of E10. Also, ethanol blends higher than E10 are not permitted to be used in such vehicles, and we have implemented regulations to help prevent misfueling.

In response to comments that the RFS is causing severe economic harm to merchant and small refiners, these commenters did not provide any concrete evidence that their financial difficulties are caused primarily or even significantly by the RFS program. In our past assessments of this issue we have concluded that the cost of the RIN is recovered by obligated parties in the revenues received for their petroleum products, and is passed through to consumers in the marketplace and does not represent a net cost to obligated parties.¹⁴ The prices refiners receive for their gasoline blendstocks and diesel fuel have risen in the U.S. to offset their RFS compliance costs.¹⁵ We found this cost recovery notwithstanding the so-called “blendwall” and the limited availability of higher level ethanol blends. Commenters provided no new credible evidence to indicate that they do not or cannot recover the cost of RINs. Accordingly, we do not believe that the price paid for RINs is a valid indicator of the economic impact of the RFS program on these entities, since a narrow focus on RIN price ignores the fact that these parties are recovering the cost of RINs from the sale of their petroleum products. When the ability for

¹² As we explained in our prior decisions, we do not believe it would be appropriate to exercise our discretion based on impacts to a single industry. See 77 FR 70755 (November 27, 2012); 73 FR 47172 (August 13, 2008).

Nonetheless, as we explain in the text, the record does not demonstrate severe economic harm even by that standard.
¹³ See, e.g., “Notice of Decision Regarding Requests for a Waiver of the Renewable Fuel Standard,” 77 FR 70752 (November 27, 2012).

¹⁴ See “A Preliminary Assessment of RIN Market Dynamics, RIN Prices, and Their Effects,” Dallas Burkholder, Office of Transportation and Air Quality, US EPA. May 14, 2015, EPA Air Docket EPA-HQ-OAR-2015-0111 and “Denial of Petitions for Rulemaking to Change the RFS Point of Obligation,” November 22, 2017.

¹⁵ *Id.*

obligated parties to recover the costs associated with acquiring RINs is considered, we do not believe that RIN prices have had a negative economic impact on obligated parties. We also recognize that refining margins have decreased in recent years for some market participants,¹⁶ and believe that it is most likely these lower refining margins, rather than any cost associated with the RFS program, that are currently negatively impacting portions of the domestic refining industry.¹⁷

Commenters that suggested that the RFS program is harming the PADD 1 or “East Coast” region suggested that the harm is caused by the struggle or closure of refineries, pointing specifically to the recent closure of PES. However, the shutdown of PES was due to a fire, not the RFS program, as commenters acknowledge. These assertions are premised on a study by Pirrong, suggesting that the 2019 RFS requirements have the potential to make East Coast refineries unprofitable which will increase the probability that they may shut down. They attribute these costs to the cost of RINs, which as discussed above, is inconsistent with EPA and external analysis on RIN pass-through.

Another commenter that suggested that the East Coast and Mid-continent refiners face unique risks from the RFS program did so without pointing to any specific information about why a waiver on the basis of severe economic harm would be appropriate.

Comment:

Several commenters pointed out that our BBD and cellulosic biofuel volumes only add up to 2.5 billion gallons which is insufficient to meet an advanced biofuel volume standard of 5.04 billion gallons.

Response:

The BBD volume of 2.43 is expressed in physical gallons; the advanced biofuel volume is expressed in terms of RINs. Since a gallon of BBD generates, on average, 1.55 RINs, the appropriate volume for purposes of meeting the advanced biofuel standard is 3.77 billion RINs. When added to the cellulosic biofuel volume of 590 million gallons, this results in a volume of 4.36. While this is still less than 5.04 billion gallons, as discussed in Section 6 of this document, we expect the BBD volume to exceed the BBD standard. As discussed in Section IV of the final rule and Section 4 of this document, we anticipate that the advanced biofuel standard is attainable.

¹⁶ See, e.g., T. Fitzgibbon, A. Kloskowska, A. Martin, “Impact of low crude prices on refining,” McKinsey & Company Energy Insights, February 2015. and J. Moore, “Refining Margins Are Collapsing, Crude Prices Will Follow,” Seeking Alpha, July 26, 2016. Available Online: <https://seekingalpha.com/article/3991582-refining-margins-collapsing-crude-prices-will-follow>

¹⁷ We also note that individual refiners may have been impacted by factors such as unusually high price spreads between varying types of crude oil from 2011-2014 and the recent legislative changes allowing crude oil exports from the U.S.

Comment:

Several commenters referred to a study by Energy Ventures Analysis, prepared in the context of the bankruptcy of Philadelphia Energy Solutions Refining and Marketing, LLC (“PESRM”), in support of their claim that the RFS program is imposing economic harm on merchant refiners and small retailers.

Response:

We find that the EVA study’s comparison of RIN costs to marginal benefits of increasing ethanol blending above 10% to be a faulty assessment of costs, as it incorrectly assumes that RIN prices represent costs, rather than transfer payments intended to serve as a cross subsidy between renewable fuels and the petroleum based fuels they displace.¹⁸

The study also uses specific PESRM data to evaluate RIN costs in comparison to crack spreads. This assessment is flawed for two major reasons. As an initial matter, crack spreads are susceptible to many factors outside of the RFS, and thus are a poor comparison point. Additionally, the study’s comparison of RIN prices as a percentage of crack spread is an improper comparison. The authors of the EVA study state that, “If sales prices were raised to compensate for increasingly costly RIN obligations, one should expect this percentage to be controlled at a relatively stable and low level.” This is not accurate. If RIN costs were recovered by refiners (and crack spreads were constant), we would expect to see that the RIN obligation as a percent of the crack spread increases as the RIN price increases. For example, if a refiner’s average crack spread was \$0.30 per gallon with no RIN costs, and that refiner recovered 100% of their RIN costs, we would expect the crack spread to remain at \$0.30 whether the per gallon RIN cost increased to \$0.01 per gallon or to \$0.10 per gallon. Thus, contrary to the EVA’s claims, their RIN obligation as a percent of the crack spread would be expected to rise from 0% to 3% to 33% as the RIN price rose in the previous example. Finally, the study notes that for fuel sold at the rack the value of RINs is mostly shared with customers. This statement is consistent with our conclusions that the RIN costs are passed through; the value of the RIN is not kept with either merchant refiners or integrated refiners or unobligated blenders.¹⁹

Comment:

Several commenters supported EPA’s interpretation of the general waiver authority under a finding of severe economic harm as articulated in the 2008 and 2012 waiver denials, including the high bar set by the requirement that the harm must be caused by the RFS program, and that an evaluation must also look at benefits of the RFS program as well, and that any reductions in the volumes would be likely to result in economic or environmental harm.

¹⁸ For a further discussion of this topic, see “Denial of Petitions for Rulemaking to Change the RFS Point of Obligation,” November 22, 2017.

¹⁹ “A Preliminary Assessment of RIN Market Dynamics, RIN Prices, and Their Effects,” Dallas Burkholder, Office of Transportation and Air Quality, US EPA. May 14, 2015, EPA Air Docket EPA–HQ–OAR–2015–0111 and “Denial of Petitions for Rulemaking to Change the RFS Point of Obligation,” November 22, 2017.

Several commenters suggested that issuing a waiver under severe economic harm would instead cause harm to the economy, and that compliance costs to refiners are not an appropriate basis for a waiver.

Some commenters suggested that EPA's interpretation of severe economic harm is too restrictive and not supported by the statute. Some commenters stated that EPA need not require showing of harm with a high degree of confidence. These commenters suggested that we could grant a waiver where the RFS program would be a significant factor, and not the sole factor. They also suggested that EPA should not consider benefits of the program in evaluating the waiver.

Response:

We believe that under the interpretation of the "severe economic harm" authority that we previously set forth, the record for this action would not support a finding that the 2020 volume requirements would cause severe economic harm, and consequently not support our granting of a waiver. As upheld by the D.C. Circuit in *AFPM v. EPA*, the bar is not set "so high as to be unreasonable."²⁰ However, we also believe that the record for this action would not support granting a waiver even under the interpretations advanced by commenters. That is, we would decline to exercise our discretion to grant a waiver even were we to re-interpret the term "severe" as requiring a lesser degree of confidence in the estimation of impacts, require the RFS program to only be a significant contributor to the harm, and not consider the benefits of the program. As discussed above, commenters have not demonstrated that the 2020 volume requirements cause or is a significant contributor of significant harm to an industry, or to a State, region, or the United States. Therefore, we do not find it necessary to assess a possible reinterpretation of the phrase "severe economic harm" at this time.

Comment:

Several commenters pointed to EPA's practice of granting SREs as further evidence of harm to refineries.

Response:

We disagree that EPA's past grant of SREs warrants our exercising the severe economic harm waiver. Generally, SREs are held to a different standard than a waiver under severe economic harm: the former requires "disproportionate economic hardship" to "[a] small refinery" whereas the latter requires severe economic harm to a State, a region, or the United States. Thus, these two statutory provisions entail different considerations, and exercising one authority does not necessarily require us to exercise the other.

First, the terms disproportionate economic hardship and severe economic harm are not synonymous; these two different statutory terms require different showings. As one example, some commenters have argued that refinery closures, or threats of such closures, justify a finding of severe economic harm. However, the Tenth Circuit has held that "disproportionate economic

²⁰ *AFPM* at 579.

hardship” does *not* “require a threat to a refinery’s survival as an ongoing operation.”²¹ Second, SREs are evaluated on a case-by-case basis for a specific refinery and can be granted on the basis of disproportionate economic hardship to that refinery. By contrast, granting a waiver requires a showing that implementation of the RFS requirements would severely harm the economy of a State, a region, or the United States. Third, our grant of SREs does not undermine the fact that refiners are passing through their RIN costs. An exempt small refinery may experience disproportionate economic hardship even though refineries, including small refineries, pass their RIN costs to their customers. EPA has never granted an SRE because the refinery could not pass through the costs of RINs to their customers or because of high RIN prices. Fourth, EPA has to date not granted any SREs for 2020. Whether a severe economic harm waiver is appropriate in the context of the 2020 volumes, however, depends on the impact of the 2020 volumes, not of prior year volumes. Fifth, we note that EPA has granted SREs for disproportionate economic hardship since 2011. Nonetheless, we have consistently declined to waive volumes for severe economic harm during this time.²² Finally, we have specifically assessed whether we should grant a waiver of the 2020 volumes for severe economic harm to a State, region, or United States. As we explain throughout this section, we do not believe it is appropriate to exercise our discretion to grant such a waiver.

Comment:

A commenter pointed to a recent study by EVA-NEMs suggesting that “the RIN obligation represents a net cost to the merchant refiners that has increasingly reduced their refining margin.”

Response:

EPA reviewed the EVA-NEMs study submitted by the commenter. In general, this study simply repeated claims that RIN obligations represent a net cost to merchant refiners that EPA has previously examined in other contexts.²³ To support these claims the study included data on RIN revenue and EBITDA (earnings before interest, taxes, depreciation, and amortization) from Murphy USA, a marketer that can separate RINs through blending but generally does not have an RFS obligation. The study states that “its [Murphy USA] RIN revenue is almost the same as EBITDA in some quarters.” First, we note that this statement does not accurately describe the data presented. The study presents quarterly data on RIN revenue and EBITDA for 6 years. In only one of these quarters is the RIN revenue approximately the same as EBITDA. More importantly, the data clearly demonstrates that there is no correlation between Murphy USA’s RIN revenue and EBITDA. If unobligated blenders such as Murphy USA were able to acquire RINs at no cost (or even at a reduced cost) because of their position as unobligated blenders we would expect to see a strong correlation between RIN revenue and EBITDA (e.g., when RIN revenue increases, we would expect to see EBITDA increase). Instead, we see that there is no discernable correlation between Murphy USA’s RIN revenue and EBITDA. This is precisely

²¹ *Sinclair Wyo. Ref. Co. v. EPA*, 874 F.3d 1159, 1161 (10th Cir. 2017).

²² See, e.g., “Assessment of waivers for severe economic harm or BBD prices for 2018,” memorandum to docket EPA-HQ-OAR-2017-0091; 77 FR 70752; 73 FR 47168.

²³ “Denial of Petitions for Rulemaking to Change the RFS Point of Obligation,” November 22, 2017.

what we would expect if market competition forced Murphy USA to pass along the value of the RIN in the price of the blended products they sell, as EPA has concluded.

The study also cites calculations based on the price of E10, CBOB, and ethanol as evidence that merchant refiners are at a disadvantage relative to integrated refiners due to the RFS program. Unfortunately, the study does not provide sufficient data or citations for EPA to be able to evaluate their findings. For example, the study simply says that the data are from OPIS, that the prices are weekly averages from January to April 2019, that RIN prices are D6 RIN prices, and that prices represent the economics in the Philadelphia area in PADD I. The study further notes that “this study was inspired and improved by and improved upon Bob Neufeld’s study on PADD 4.” EPA previously evaluated similar claims by Mr. Neufeld in the context of the petitions for rulemaking to change the RFS point of obligation.²⁴ While some of the problems with Mr. Neufeld’s calculations appear to have been addressed (such as the inclusion of a blending cost), the biggest problem with Mr. Neufeld’s calculations, noted in our decision document, is that the prices used were not from the same terminal. We suspect this error was repeated in the calculations presented in the study, and the citations are insufficient to allow EPA to assess these calculations. Further, the citations suggest that the study relied on average prices over an extended time period (January – April 2019). This may not be appropriate, as it could obscure potentially different pricing dynamics at different time periods. Finally, we note that the data presented suggests that parties may be able to realize significant profits from blending ethanol into gasoline even in the absence of the RFS program. While that may be the case, this impact is not due to the RFS program, but rather is the result of integrated refiners being involved in a separate line of business (blending and marketing fuel) as compared to merchant refiners (refining).²⁵

Comment:

A commenter suggested that EPA should waive the standards under a finding of severe economic harm if the standards would exceed the blendwall and result in increased fuel costs. The commenter suggested that this harm would be due to the RFS program. The commenter also suggested that this kind of harm could also meet the other criteria EPA laid out in the 2008 and 2012 waiver denials.

Relatedly, several commenters stated that exceeding the E10 blendwall would cause severe economic harm due to constraints in supply of E15 and E85 and suggested that EPA should set the RFS standards in such a way as to ensure that the pool-wide ethanol content does not exceed 9.7%. Other commenters suggested that EPA should do an analysis of whether the 15 billion

²⁴ We assume this work referenced in the study is similar to the comments submitted by Bob Neufeld based on the content of the study. At the time EPA prepared this comment response the link included in the study to Bob Neufeld’s work resulted in an error message.

²⁵ The study also presents data on RIN obligation and crack spread, and margins eroded by RIN obligation without comment. The purpose of this data is unclear, and EPA has previously explained why comparing RIN obligations and crack spreads is not an appropriate way to determine the impact of the RFS program on refiners. We have previously addressed the statements from the 2018 NERA Economic Consulting report on the RIN market (see *Modifications to Fuel Regulations to Provide Flexibility for E15; Modifications to RFS RIN Market Regulations: Response to Comments*, May 2019; EPA-420-R-19-004), and we incorporate the relevant portion of the response by reference.

gallon implied conventional requirement would cause severe economic harm. Other commenters suggested that EPA should consider a general waiver under severe economic harm because the volumes we proposed are not attainable.

Response:

As explained throughout this section, we do not believe the standards we are establishing in this final rule cause severe economic harm. That inherently includes the 15 billion gallon implied conventional biofuel requirement. We do not believe the market's exceeding the blendwall or its use of high level ethanol blends constitute severe economic harm for reasons explained throughout this section, in Section 5 of this document, and the memorandum "Updated market impacts of biofuels in 2020."

As explained in Sections III and IV of the final rule and the memorandum "Updated market impacts of biofuels in 2020," we believe the market can make available the volumes we are requiring.

Regarding fuel prices, EPA does not anticipate that the market will respond to the 2020 volume requirements by increasing fuel prices rising to the level of severe economic harm. We acknowledge that requiring higher volumes of renewable fuels can result in higher fuel prices if renewable fuels cost more than the petroleum fuels they displace. However, as explained in further detail in the 2018 final rule,²⁶ fuel prices are affected by numerous market dynamics, with the cost of crude oil as the single largest component. Thus, it is challenging to assess the economic impact of the RFS based solely on fuel prices. Nonetheless, in the past EPA has not seen increasing fuel prices with the implementation of the RFS program, even as fuel blends exceeded 10%.

Comment:

A commenter suggested that the proposed volumes will cause economic harm to obligated parties and consumers as BBD is increasingly expensive with higher demand. Conversely, other commenters stated that advanced biofuels, including BBD, are not causing severe harm to the economy of a state, region, or the United States, and instead provides benefits to the economy including providing jobs and economic impact within the biodiesel industry, as well as support to farmers through demand for soy oil. These commenters also suggested that advanced biofuels help increase competition and energy security which can also reduce shortages and prevent price spikes.

Response:

We do not believe that the evidence provided by commenters on BBD prices is sufficient to grant a waiver under severe economic harm. The information provided by commenters is largely qualitative, highlighting the fact that BBD is typically priced above petroleum-based diesel and inferring that this price difference is sufficient to cause severe economic harm. As we explain in

²⁶ See "Assessment of waivers for severe economic harm or BBD prices for 2018," memorandum to docket EPA-HQ-OAR-2017-0091.

Section V of the final rule, we agree that BBD typically costs significantly more than petroleum-based diesel. However, this price differential has existed for some time, and has not caused severe economic harm in the past even with increasing BBD and advanced biofuel standards.²⁷ The commenter has not demonstrated why this type of price differential would cause severe economic harm in 2020. Thus, without any further justification, the statements made by this commenter are insufficient to justify a waiver on the basis of severe economic harm.

Additionally, other comments citing to the benefits of advanced biofuels would also be considered in evaluating whether to grant a waiver under severe economic harm. However, even if we do not consider the benefits of the applicable standards, commenters did not demonstrate sufficient harm to warrant a waiver.

Comment:

A commenter suggested that EPA should waive volumes under a finding of severe economic harm because the standards will result in a drawdown of the carryover RIN bank.

Response:

We do not find that a drawdown in the carryover RIN bank would constitute severe economic harm, nor do we think that the standards we are setting today are likely to result in a significant drawdown of the carryover RIN bank. See further discussion in Section 2.4 of this document and Section II.C of the final rule.

²⁷ See “Assessment of waivers for severe economic harm or BBD prices for 2018,” memorandum to docket EPA-HQ-OAR-2017-0091.

2.1.3 Severe Environmental Harm

Commenters that provided comment on this topic include but are not limited to: 0197, 0276.

Comment:

Several commenters suggested that the RFS program provides environmental benefits, including GHG reduction benefits, especially as compared to petroleum-based fuels. Several commenters also pointed to USDA's lifecycle analysis for corn ethanol. Some of these commenters also suggested that in evaluating whether the volumes will cause severe environmental harm, EPA should look at renewable fuels compared to other transportation fuels. Several commenters stated that farmers are taking steps to improve water quality and habitat and that additional GHG benefits could be possible in the future. Some commenters also suggested that the RFS program is not causing aggregate land use change. A commenter urged EPA to perform a comparative assessment to other transportation fuel and perform an updated and rigorous assessment of environmental benefits of biofuels.

In contrast, other commenters suggested that EPA should use the general waiver authority a finding of severe environmental harm to reduce implied conventional volumes below 15.0 billion gallons to address environmental impacts.

Response:

While some commenters suggested that EPA should utilize the general waiver authority under a finding of severe environmental harm, these parties did not provide further analysis or justification for such a finding. We find that there is insufficient evidence in the record to support a finding that the 2020 RFS standards would cause severe environmental harm. As explained in the "Endangered Species Act No Effect Finding for the 2020 Final Rule," we do not believe that the 2020 RFS standards induce increased crop cultivation or associated land use changes. In last year's final rule, we made a similar finding for the 2019 standards and also found that the standards would not cause severe environmental harm in other ways, related to the impacts from tailpipe air pollutant emissions, greenhouse gas emissions, and feedstock switching. We believe these finding remain true for the 2020 standards, particularly as, relative to 2019, they represent no increase in the implied conventional biofuel volume or the non-cellulosic advanced volumes and an increase only in cellulosic biofuel. See "Endangered Species Act No Effect Finding and Determination on Severe Environmental Harm under the General Waiver Authority for the 2019 Final Rule," available in the docket. Therefore, we decline to issue a waiver under the general waiver authority using a finding of severe environmental harm at this time.

2.2 Cellulosic Waiver Authority

Commenters that provided comment on this topic include but are not limited to: 0185, 0190, 0196, 0204, 0211, 0276, 0312, 0322.

Comment:

Several commenters supported EPA's use of the full reduction in advanced biofuels and total renewable fuel under the cellulosic waiver authority. Some parties particularly supported the equal reductions due to the fact that the resulting volume of conventional renewable fuel was in alignment with the volume in the statute. Other commenters suggested that EPA should not allow the backfilling of additional advanced biofuel, not consider the existence of carryover RINs in standard setting, or not increase the standards to account for small refinery exemptions.

Response:

We appreciate the comments in support of our use of the cellulosic waiver authority to its full extent to reduce advanced biofuel and total renewable fuel. We are finalizing that approach. With respect to carryover RINs, however, we note that, consistent with our past practice, we have considered the availability of carryover RINs in making a determination about whether and how to reduce the statutory volume requirements. Further discussion of this issue can be found in Section 2.4 of this document and Section II.C of the final rule.

Comment:

Some commenters suggested that EPA should allow for the backfilling of the shortfall in cellulosic biofuel with advanced biofuel or total renewable fuel. A commenter suggested this is particularly appropriate because the larger RIN bank allows for higher standards to be met.

Response:

As explained in Section IV of the final rule and Section 4 of this document, we do not believe it would be appropriate to allow advanced biofuel and total renewable fuel to backfill for missing volumes of cellulosic biofuel in 2020. Further discussion of comments related to carryover RINs and our responses to those comments can be found in Section 2.4 of this document.

Comment:

Commenters argued that we should lessen the exercise of the cellulosic waiver authority commensurate with the volume of small refinery exemptions, including those we granted for 2016, 2017 and 2018, and those we anticipate granting in the future. Commenters generally argued that EPA should adjust for exempted small refinery volumes by intentionally drawing down the carryover RIN bank, including in our exercise of the cellulosic waiver authority. Commenters also argued that the cellulosic waiver authority requires small refinery reallocation because other statutory provisions direct EPA to "ensure" that the statutory volumes are met.

Some commenters suggested that EPA should lessen the reduction in the advanced biofuel standard to result in an implied advanced biofuel standard of 5.5 billion gallons.

Response:

The cellulosic waiver authority grants EPA broad discretion to waive total renewable fuel and advanced biofuel volumes. As explained in Section II.B of the final rule and Section 2.4 of this document, we have carefully considered the carryover RIN bank in the exercise of the cellulosic waiver authority. The carryover RIN bank accounts for previously exempted small refinery volumes (which tend to increase the size of the bank), including the exempted volumes for 2016 and 2017 noted by these commenters.²⁸ For the reasons stated in Section II.B of the final rule and Section 2.4 of this document, we have decided not to intentionally draw down the carryover RIN bank.

We agree, however, that we should account for SREs in establishing the standards. As discussed further in Section 8.2 of this document and Section VII.B of the final rule, we are revising the percent standards formula at 40 CFR 80.1405(c) to prospectively project the exempt volume of gasoline and diesel and account for SREs we grant for the 2020 compliance year. Particularly in light of our decision to account for SREs through the percentage standards formula, we see no need to make an additional adjustment for such exemptions through limiting the exercise of the cellulosic waiver authority.

In any event, we disagree with comments claiming that EPA is statutorily required to reallocate exempted volumes through drawing down the carryover RIN bank or otherwise limiting the exercise of the cellulosic waiver authority. We have never deemed ourselves bound to do so in any prior annual rule, and we previously explained our interpretation of the statute in the 2019 final rule.²⁹ We reaffirm our prior interpretation in today's final rule. Namely, we believe that the statute plainly grants us discretion over whether and how we consider exempted small refinery volumes and the carryover RIN bank in exercising the cellulosic waiver authority.³⁰ Alternatively, even if the statute is ambiguous, we believe our interpretation is reasonable under *Chevron v. NRDC*.

Beginning with the text of the cellulosic waiver authority, it states that EPA “may” waive the total renewable fuel and advanced biofuel volumes up to the shortfall in cellulosic biofuel production.³¹ It does not refer to exempted small refinery volumes, to small refineries generally, or to the carryover RIN bank.³² To the contrary, the plain text requires another, completely different statutory condition to be met: “[a]ny reduction EPA makes to the advanced biofuel or total renewable fuel volume requirements may not exceed the amount of EPA’s reduction to the cellulosic biofuel volume requirement.”³³ To the extent the statute affords EPA discretion — in

²⁸ However, Section II.B of the final rule explains why this relationship is not one-to-one.

²⁹ See “Renewable Fuel Standard Program – Standards for 2019 and Biomass-Based Diesel Volume for 2020: Response to Comments” 26-28.

³⁰ While we may also consider carryover RINs in exercising our other waiver authorities, we have not exercised any other waiver authority in this action.

³¹ See CAA section 211(o)(7)(D)(i).

³² See *ACE* at 714.

³³ *Id.* at 733.

stating that EPA “may” waive volumes — it is silent on how EPA is to exercise that discretion. That silence does not impliedly mandate small refinery reallocation through a drawdown of the carryover RIN bank. Rather, it authorizes us to consider the carryover RIN bank in deciding whether and to what extent to exercise our discretion.³⁴

The context and structure of the statute support our reading. Commenters’ reliance on the “ensure” language of other statutory provisions, such as CAA sections 211(o)(2)(A)(i) and (o)(3)(B)(i), is telling.³⁵ That language does not appear in the cellulosic waiver authority. Such exclusion was likely intentional, for Congress intended to confer “broad discretion” through the discretionary waiver powers it granted EPA.³⁶ This discretion provides EPA needed flexibility to respond to unexpected shortfalls in cellulosic biofuel production. That Congress gave EPA such flexibility is particularly apt as at the time of the statute’s enactment, the cellulosic biofuel industry was in its infancy. Had Congress wanted to mandate reallocation of exempted small refinery volumes through the cellulosic waiver authority, it would have said so. Indeed, Congress explicitly required EPA to make a different adjustment for exempt small refineries.³⁷ Thus, Congress’ omitting to specify the adjustment sought by these commenters is especially telling.

Because the text of the statute is plain, and the statutory scheme is coherent and consistent, we need not consider extra-textual evidence. In any event, the purpose of the statute affirms our reading.³⁸ Congress enacted EISA “[t]o move the United States toward greater energy independence and security, to increase the production of clean renewable fuels, [and] to protect consumers.”³⁹ As we explain in Section II.B of the final rule and Section 2.4 of this document, preserving the carryover RIN bank ensures liquidity in the RIN market, avoids needless market disruptions and price spikes, protects against market uncertainties, and obviates the need for subsequent EPA waivers actions during the compliance year. These benefits are essential to the smooth operation of the entire RFS program, its ability to incent greater production and use of renewable fuels in the long-term, and consequently to the nation’s energy independence and security. They are also immediately relevant to protecting consumers from potential price spikes caused by market illiquidity.

Commenters’ view that the we must draw down the carryover RIN bank to account for exempted small refinery volumes would significantly reduce or eliminate the carryover RIN bank, the vital functions it serves, and Congress’ purposes in enacting the RFS program. The total exempt volume of renewable fuel for 2016, 2017, and 2018 exceeds the volume of the carryover RINs. An increase in the advanced biofuel standard of 1 billion gallons, as suggested by some commenters, would also be unable to be met using carryover RINs, as that volume exceeds the volume of advanced biofuel carryover RINs. Even a small increase in gasoline and diesel usage, or a minute supply disruption, could cause significant fuel price spikes and harm consumers, necessitate subsequent EPA waivers during the compliance year, and generally undermine the

³⁴ Cf. *ACE* at 712-16 (agreeing with this same approach to considering carryover RINs in exercising the general waiver authority (citing *Monroe* at 917)).

³⁵ Cf. *id.* at 714 (rejecting petitioners’ reliance on “ensure” language and upholding EPA’s approach to carryover RINs in exercising the general waiver authority).

³⁶ *Id.* at 733.

³⁷ See CAA section 211(o)(3)(B)(ii).

³⁸ Cf. *ACE* at 714.

³⁹ 121 Stat. 1492.

regulatory certainty essential to market investments and the RFS program were the carryover RIN bank to be significantly reduced or eliminated.

Moreover, the commenters' contention that such reallocation is statutorily mandated could eliminate the carryover RIN bank in the long-term. This would undermine the entire RFS program and Congress' purposes in enacting it. We do not believe the statute requires these counterintuitive results. To the contrary, our approach of considering the carryover RIN bank in exercising our discretion "reasonably balances the need to drive growth in the renewable fuel industry with the need to ensure that obligated parties have sufficient flexibility to comply with the statute."⁴⁰

Comment:

Some commenters suggested that there was no need to make reductions in advanced biofuel and total renewable fuel to maintain the 15 billion gallons of conventional renewable fuel implied by the statute. Others suggested that EPA is not required to reduce advanced biofuel and total renewable fuel by the same amount (i.e., maintaining 15 billion gallon implied volume of conventional renewable fuel). Some suggested that it would be more appropriate, under the broad policy goals of the RFS program to allow conventional biofuel to backfill for missing cellulosic.

Response:

We acknowledge that if we made no reductions to advanced biofuel and total renewable fuel using the cellulosic waiver authority, the implied volume requirement for 15 billion gallons of conventional renewable fuel would be maintained. However, as discussed in Section IV of the final rule, we believe that such reductions are warranted.

As explained in Sections II.A.1 and IV.D of the final rule, we continue to maintain that the best reading of the statute is one that utilizes equal reductions for advanced biofuel and total renewable fuel under the cellulosic waiver authority. For further discussion of the policy goals of the RFS program, see Section 1.1 of this document.

⁴⁰ See *ACE* at 715.

2.3 Statutory Obligation to Reset Volumes

Commenters that provided comment on this topic include but are not limited to: 0299, 0324.

Comment:

Commenters suggested that EPA has a statutory duty to implement CAA section 211(o)(F) to reduce the RFS volumes in 2020 and must consider the factors provided in CAA section 211(o)(2)(B)(ii) in setting the standards for 2020 because the trigger for resetting total renewable fuel volumes has been met as of the 2019 RVO.

Response:

We have chosen to promulgate the 2020 renewable fuel standards prior to resetting the volumes to carry out the statutory mandate to establish the percentage standards for each of the renewable fuel types by November 30 of each year.⁴¹ Not only does the law require us to do this, but doing so facilitates the smooth functioning of the biofuels market and provides regulatory certainty to obligated parties and other stakeholders by having percentage standards in place prior to the beginning of the compliance year.

In addition, we believe that our authority to waive volumes under CAA section 211(o)(7)(A) and (D) remain regardless of whether we have triggered the obligation to reset volumes under CAA section 211(o)(7)(F). Congress granted EPA multiple “textually distinct waiver authorities that operate in different scenarios pursuant to different limitations.”⁴² Nowhere does the statute indicate that EPA’s exercise of the reset authority displaces its other waiver authorities, which are meant to address “different scenarios pursuant to different limitations.”⁴³ This reading is also consistent with our well-settled interpretations of the cellulosic and general waiver authorities, under which we may first exercise one waiver authority and then exercise a different subsequent waiver authority if the statutory conditions are met.⁴⁴

⁴¹ See CAA section 211(o)(3)(B).

⁴² *Americans for Clean Energy v. EPA*, 864 F.3d 691, 733 n.12.

⁴³ See also *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Intern., Inc.*, 534 U.S. 124 (2001) (When two statutes are capable of coexistence, it is duty of court, absent clearly expressed congressional intention to the contrary, to regard each as effective.).

⁴⁴ See prior annual rules: 2014, 2015, and 2016 volumes 80 FR 77420 (December 14, 2015); 2017 volumes, 81 FR 89746 (December 12, 2016); 2018 volumes, 82 FR 58486 (December 12, 2017); and 2019 volumes, 83 FR 63704 (December 11, 2018); see also the 2012 waiver denial, 77 FR 70752 (November 27, 2012).

2.4 Carryover RINs

Commenters that provided comment on this topic include but are not limited to: 0185, 0190, 0196, 0197, 0211, 0212, 0276, 0277, 0299, 0304, 0312, 0320, 0324, 0329, 0337.

Comment:

Several commenters expressed their support for EPA's proposed decision to not intentionally draw down the bank of carryover RINs in setting the 2020 volume requirements. These commenters were generally obligated parties and reiterated the importance of maintaining the carryover RIN bank in order to provide obligated parties with necessary compliance flexibilities, better market trading liquidity, and a cushion against future program uncertainty. Several of these commenters also stated that while it may have been EPA's intent not to draw down the carryover RIN bank, such a drawdown was possible given the high advanced biofuel and total renewable fuel standards.

Conversely, several other commenters stated that the carryover RIN bank is larger than necessary and should be intentionally drawn down and that carryover RINs represent actual supply and should be accounted for when establishing the annual volume standards. These commenters were generally renewable fuel producers and stated that not accounting for carryover RINs goes against Congressional intent of the RFS program and reduces demand, development, and consumption of renewable fuels, particularly cellulosic and advanced biofuels.

Response:

EPA appreciates the importance of carryover RINs to the RFS program. As the comments indicate, carryover RINs have played a crucial role in actions by obligated parties to plan for and achieve compliance with RFS requirements, in enabling the RIN market to function in a liquid manner, in providing the statutorily required credit program function, in avoiding excessive market price swings, and in determining whether and to what extent statutory volume targets can be met. In establishing the renewable fuel volume requirements for 2020, we have weighed these various roles for carryover RINs and sought to appropriately balance them in the context of the overall statutory goal of significantly increasing the amount of renewable fuels in the transportation fuel supply through increasing RFS volume requirements. In light of our consideration of costs and other factors, as well as allowing for the aforementioned benefits of carryover RINs to continue to operate to facilitate program operation and compliance and to contribute towards avoiding the possibility of subsequent waivers, we have determined that it is appropriate for EPA to set the volume requirements for 2020 without the express intention or expectation of a drawdown in the current bank of carryover RINs.

As explained in Section II.C of the final rule, we believe it is appropriate for EPA to not intentionally draw down the current bank of carryover RINs in setting the 2020 annual volume requirements. In *Monroe*, the U.S. Court of Appeals for the D.C. Circuit upheld EPA's decision not to waive the 2013 statutory advanced and total renewable fuel volume requirements based in part on the availability of abundant carryover RINs to address a scenario where increasing physical volumes of renewable fuels may be inadequate to allow compliance. In *ACE*, the Court

upheld EPA's decision to not consider carryover RINs as part of the "supply" of renewable fuel for purposes of determining whether an "inadequate domestic supply" exists that may warrant a waiver of the standards.

Where circumstances make it appropriate to rely on carryover RINs to avoid or minimize reductions in statutory volumes, we intend to do so, as we did in setting the 2013 standards. Though this number could be considerably lower as a result of compliance actions not yet recorded, for 2020, we project that as many as 3.48 billion total carryover RINs (including 680 million advanced carryover RINs and 50 million cellulosic carryover RINs) will be available for compliance. This is approximately 17% of the final 2020 total renewable fuel volume standard, 13% of the final 2020 advanced biofuel volume standard, and 9% of the final 2020 cellulosic biofuel volume standard, all of which are less than the 20% limit permitted by the regulations to be carried over for use in complying with the 2020 standards. Consistent with our past practice, we considered the availability of carryover RINs in making a determination about whether and how to reduce the 2020 statutory volume requirements, and that assessment was properly done in view of the specific circumstances present for 2020. Considering all of the various relevant factors for 2020, including the potential benefit to biofuel producers in drawing down the bank of carryover RINs, the role they play for obligated parties in a well-functioning, liquid market for managing compliance, and the increased level of the 2019 and 2020 standards, we have concluded that we should not set the volume requirements for 2020 in a manner that would be expected to require a drawdown in the collective bank of carryover RINs.

We appreciate that it would be helpful to obligated parties if we foreclosed the possibility of ever again counting on carryover RINs to avoid or minimize the reduction of statutory standards. Leaving open that possibility leaves obligated parties with some uncertainty about their compliance options. However, EPA continues to believe that the statutory purpose of significantly increasing the volume of renewable fuels is best served by continuing to consider carryover RINs in deciding whether and how to exercise the statute's waiver authorities on a year-by-year basis. As explained in Section II.B of the final rule and below, we believe the circumstances for 2020 warrant setting the volume requirements without the express expectation or intention of drawing down the current bank of carryover RINs.

We also appreciate that it could be favorable to biofuel producers for us to always count on carryover RINs as a basis to maintain the statutory volume targets or minimize the reduction in the statutory volume targets, since higher standards generally create higher short-term demand for and/or higher prices for their products. If the standards cannot be achieved, then RIN prices may rise dramatically based on scarcity pricing, creating market turmoil that could operate to the short-term benefit of renewable fuel producers. At the same time, many biofuel producers have made significant investments in production capacity to meet the demand that the RFS standards help create. The concerns that many raised about the potential for the proposed standards to damage their businesses appear to be premised, however, on an assumption that renewable fuel

production volumes would decline significantly. The final rule will continue to place upward pressure on the production and use of renewable fuels.⁴⁵

As discussed in the 2014-2016 final rule, the bank of carryover RINs is analogous to a typical bank account, in which it is commonly understood that a reserve fund should be maintained to cover unforeseen circumstances.⁴⁶ If such currently unforeseen events occur without a bank of carryover RINs to operate as a program buffer, we could see RIN shortages and price spikes, potentially causing a need for an emergency waiver for even relatively small reductions in renewable fuel supply or increases in petroleum fuel demand. This would only create further program uncertainty and impede the investment needed for the program to grow. We believe that we should not set the volume requirements for 2020 in a manner that would be expected to require a drawdown in the collective bank of carryover RINs given all of the various relevant factors mentioned above.

This is even more important now for 2020 given that we are projecting future SREs for the first time, resulting in percentage standards that will apply throughout the course of the year. Therefore, there will be greater demand for renewable fuels until the SREs are ultimately granted (likely early in 2021). Since most obligated parties comply with the RFS program ratably in real time as they produce their gasoline and diesel fuel, this will likely necessitate the drawdown of a sizeable portion of the existing carryover RIN bank during the course of the year until it is restored when the SREs are subsequently granted.

It should be highlighted for this discussion that the carryover RIN bank is not one bank with equal access by all obligated parties. The carryover RIN bank is separate accounts of prior-year RINs of varying magnitude held by different individual parties. Some parties may hold significant numbers of RINs, while other parties hold none at all. Thus, even when carryover RINs exist, they may not be “available” to parties that need to purchase them for compliance if the parties that own the carryover RINs are unwilling to sell them. The benefit of market liquidity is only achieved if there are an adequate number of RINs available and expected to be available in the future to incent those holding the RINs to sell them to those who need them. This would not occur were the carryover RIN bank to be brought to or near zero.

While the final volume requirements for advanced and total renewable fuels are lower than the statutory levels, the statute authorizes waivers and EPA has made a determination in this rulemaking that the statutory 2020 volumes should be waived consistent with EPA’s cellulosic waiver authority. We have set the 2020 advanced biofuel and total renewable fuel volume requirements at a level that is expected to continue to place upward pressure on the production and use of renewable fuels. Setting standards in this manner should not result in a drawdown in the bank of carryover RINs. However, the projections on which the standards are based still involve unavoidable uncertainties. As a result, some risk remains that our projections are over-

⁴⁵ For more detail on how the rule may impact the production and use of various renewable fuels, see Sections III, IV, and VI of the final rule and “Updated market impacts of biofuels in 2020,” memorandum to docket EPA-HQ-OAR-2019-0136.

⁴⁶ See 80 FR 77483-84 (December 14, 2015).

optimistic and that individual obligated parties will face challenges in complying with the standards. The bank of carryover RINs will be available for such eventualities.

Comment:

One commenter recommended that the carryover RIN bank should consist of at least 14% of the projected volume standard. The commenter stated that a carryover RIN bank of this size is necessary to ensure stability in the RIN market.

Conversely, other commenters objected to EPA's proposed rationale that carryover RINs should be preserved as a "programmatically buffer" and argued that use of carryover RINs as a "programmatically buffer" is an inaccurate reading of the statute, that the *ACE* ruling did not give EPA carte blanche authority to maintain the carryover RIN bank at any size, and that allowing RINs to be rolled over from one year to the next violates the statutory limited life on RINs.

Response:

As discussed earlier, we have consistently considered the availability of carryover RINs in making waiver determinations, and we do so on a case-by-case basis taking into account all of the relevant facts before us. Indeed, we have consistently considered the carryover RIN bank as a buffer since the 2013 rule.⁴⁷ In addition, we established our regulations allowing RINs to be carried over in the RFS2 final rule.⁴⁸ We did not propose changes to, take comment on, or otherwise reexamine these longstanding legal interpretations and policy approaches, and these comments are therefore beyond the scope of this proceeding. Our response to comments is not meant to reopen these issues.

Different circumstances can and do lead to different decisions about whether (and how much) to rely on a drawdown in the bank of carryover RINs when balancing the various objectives of the RFS program. Under the statutory provision for credits with a 12-month credit life and the regulations establishing carryover RINs, obligated parties have the option of obtaining and carrying over excess RINs or carrying forward a compliance deficit to the next compliance year. This makes it clear that carryover RINs are a key mechanism for providing compliance flexibility in addition to that provided by the ability to carry forward a deficit. "Buffer" is another way of conceptualizing the compliance flexibility that carryover RINs afford to address uncertainties and unforeseen circumstances and otherwise manage compliance efforts, as well as to avoid unnecessary RIN shortages or price spikes and provide liquidity to the RIN trading market.

In response to comments regarding the *ACE* decision, as commenters point out, the *ACE* court did not address the issue of the appropriate size of the carryover RIN bank. EPA is not relying on the *ACE* opinion for the proposition that we have carte blanche authority to maintain the carryover RIN bank at any size. Rather, we are choosing not to intentionally draw down the

⁴⁷ See 78 FR 49820-23 (August 15, 2013).

⁴⁸ See 75 FR 14734-35 (March 26, 2010).

carryover RIN bank based on our consideration of the facts before us, as described in this section and Section II.C of the final rule.

We are not currently in a position to state with specificity the optimal size of the carryover RIN bank. We do not believe it is necessary at this time to determine an optimal absolute or relative carryover RIN bank size, either minimum or maximum. We note, however, that the size of the carryover RIN bank is essentially capped at 20% of the total renewable fuel volume standard due to RFS regulations that do not permit more than 20% of prior-year RINs to be used by an obligated party to comply with the current year's standards.⁴⁹ As we have explained, we consider the carryover RIN bank on a case-by-case basis in each annual rule, and the appropriate size of the carryover RIN bank depends on a complex agglomerate of regulatory and market factors that cannot be reduced to a single number. In any event, consistent with the commenters' request, we are not intentionally drawing down the carryover RIN bank in this action.

⁴⁹ See 40 CFR 80.1427(a)(5). We evaluated establishing higher or lower regulatory thresholds in the RFS2 rule, and our rationale for selecting a 20% regulatory threshold is provided in that action. See 75 FR 14734–35 (March 26, 2010). We are not reexamining this issue in this action.

3. Cellulosic Biofuel Standard

3.1 General Comments on Cellulosic Biofuels

Commenters that provided comment on this topic include but are not limited to: 0118, 0120, 0156, 0191, 0207, 0208, 0211, 0212, 0270, 0276, 0288, 0298, 0299, 0303, 0306, 0312, 0319, 0323, 0337, 0341, 0342, 0438, 0490, 0530, 1285, 1944.

Comment:

Some commenters stated that if EPA provided the appropriate market signals through higher required volumes of cellulosic biofuel and/or greater stability in the cellulosic RIN market, then substantial market opportunities for these fuels would arise, leading to increased production of cellulosic biofuel.

Response:

The EISA directs EPA to establish the cellulosic biofuel volume at the projected volume available in years where the projected volume of cellulosic biofuel production is less than the statutory target (as is the case in 2020). Our projection of cellulosic biofuel production⁵⁰ in this final rule is an attempt to neutrally project the volume of cellulosic biofuel that will be produced in 2020. We have increased the cellulosic biofuel volume from the volume proposed based on updated data as described in Section III of the final rule. This projection is required by the statute and consistent with the direction EPA received from the Court. We believe it also provides the appropriate market signals for the continued development of cellulosic biofuels.

Comment:

A number of commenters requested that EPA quickly take action on pending facility registration requests and pathway petitions. These commenters often stated that if EPA processed these facility registration requests and pathway petitions more quickly, greater volumes of cellulosic biofuel could be produced. Several commenters stated that EPA's projection of cellulosic biofuel production in 2020 should or must include volumes from all potential sources of cellulosic biofuel, including from pathways and/or facilities that have not yet been approved to generate cellulosic biofuel RINs (including RINs from mixed waste digesters, facilities intending to produce cellulosic ethanol from corn kernel fiber, electricity generated from biogas used as transportation fuel, etc.). One commenter claimed that EPA's standards for cellulosic ethanol produced from corn kernel fiber were overly restrictive. Commenters stated that by including all potential sources of cellulosic biofuel in its projection, EPA would provide the support the cellulosic biofuel industry needs.

⁵⁰ In this section, we often use "cellulosic biofuel production," "projection of cellulosic biofuel," and similar terms as shorthand to refer to the "projected volume available" at which we are establishing the cellulosic biofuel volume. As explained in Section III of the final rule and in this section, this volume includes a projection of domestic cellulosic biofuel production and of imports of cellulosic biofuel, that are available for domestic use.

Response:

We are working as expeditiously as possible, in light of resource constraints and competing priorities, to evaluate all of the facility registration requests and pathway petitions we have received to date. While we recognize the importance of timely evaluations of these requests and petitions, we note that prior to acting on many of these requests there are significant regulatory and technical issues that must be resolved. Some of these regulatory and technical concerns are discussed in greater detail in a guidance document released by EPA in May 2019 (in the case of corn kernel fiber)⁵¹ and in the 2016 REGS proposal (in the case of electricity used as transportation fuel).⁵² We remain committed to working with stakeholders to resolve these issues.

Our projection of cellulosic biofuel production in 2020 includes production volumes from all facilities that are reasonably likely to produce qualifying cellulosic biofuel in 2020. As explained in Section III of the final rule, these projections include volumes from facilities that have not yet completed facility registration as cellulosic biofuel producers but are expected to complete facility registration and produce cellulosic biofuel in 2020. Under our long-standing approach to projecting the available cellulosic volume,⁵³ we have not, however, included in our projections production from facilities for which significant technical and regulatory issues must be addressed prior to EPA registering facilities for participation in the RFS program (such as corn ethanol producers that intend to produce cellulosic RINs for the production of ethanol from corn kernel fiber but do not yet have an approved methodology for determining the portion of the ethanol they produce that is derived from cellulosic biomass, or facilities seeking to generate RINs for electricity used as transportation fuel) or from pathways that have not yet been approved. While it is possible that the technical and regulatory issues associated with these facility registration requests could be resolved (or the pathways in question could be approved) in a timeframe that would allow additional facilities to produce cellulosic biofuel in 2020, such approvals and subsequent commercial-scale cellulosic biofuel production is highly uncertain.

Some commenters noted that these approvals are dependent on EPA's actions, and therefore EPA could reasonably anticipate approving new facility registrations and/or pathways in 2020. Such an approach, however, inappropriately assumes that approval is a mere formality, and ignores the significant technical issues related with many of these facility registration requests and pathway petitions.⁵⁴ In the case of facilities seeking to generate RINs for electricity under an existing pathway, EPA explained that, upon consideration of facility registration requests, we discovered that the current regulatory structure "has created an untenable environment for the

⁵¹ Guidance on Qualifying an Analytical Method for Determining the Cellulosic Converted Fraction of Corn Kernel Fiber Co-Processed with Starch (EPA-420-B-19-022), May 2019.

⁵² 81 FR 80890 (November 16, 2016).

⁵³ See, e.g., the Response to Comment documents for the 2014-16 Rule at 550, 559; for the 2017 Rule at 431-32; for the 2018 Rule at 47, 69; and for the 2019 Rule at 36-37, 56.

⁵⁴ In the case of the production of cellulosic ethanol from corn kernel fiber, these issues are related to quantifying the volume of ethanol produced from the cellulosic components of the feedstock, rather than other non-cellulosic feedstocks that are being processed simultaneously. We note that until these issues are resolved, these parties may generate conventional (D6) RINs for any ethanol they believe is produced from corn kernel fiber that is simultaneously processed with corn starch.

approval of any single registration request by the EPA to date.”⁵⁵ Thus, in 2016 EPA sought comment on, among other issues associated with electricity RINs, “potential RIN generation structures for renewable electricity in order to help resolve the many issues associated with choosing an appropriate structure and its design.... Feedback received in response to this request for comment will be essential to ensuring that an equitable, open, and comprehensive program structure is adopted and implemented.”⁵⁶ EPA has not reopened and is not taking final action on this issue in this rulemaking. We continue to consider the comments pursuant to this request as well as other information received; however, due to resource constraints and competing priorities, we have yet to propose revisions to the existing regulatory system or otherwise take the steps that we believe are necessary before registering facilities to generate RINs for the production of renewable electricity from biogas.

Simply assuming the technical and regulatory issues associated with electricity RINs or any other pathway for generating cellulosic RINs can be resolved in a timeframe that would allow for significant production of cellulosic biofuel from the facilities awaiting registration (or facilities seeking to use pathways that have not yet been evaluated) would not result in a neutral projection of cellulosic biofuel production for 2020. We will continue to work with all companies interested in generating cellulosic RINs to address any outstanding technical and regulatory issues and may include projected production from these sources in the future as appropriate.

Comment:

EPA should approve the bio-intermediate regulations proposed in the REGS rule to increase cellulosic biofuel production.

Response:

This issue is beyond the scope of this rulemaking, as explicitly noted in the July 29 proposal.⁵⁷ Consistent with the proposal, we have not reexamined this issue in this rulemaking. We reiterate, however, that as noted in the REGS proposal, there are several important issues that must be addressed for EPA to allow RINs to be generated for fuel produced from bio-intermediates (e.g. situations where renewable biomass is partially processed at one facility and converted to transportation fuel at a separate facility).⁵⁸ We recognize the importance of resolving this issue to the cellulosic biofuel industry. As with the pathways and facility registrations discussed above, we are working as expeditiously as possible, in light of resource constraints and competing priorities, to resolve the issues related to the use of bio-intermediates to produce qualifying transportation fuel.

Comment:

Multiple commenters stated that an oversupply of cellulosic (D3) RINs in 2019 resulted in lower D3 RIN prices. Some commenters stated that this oversupply was caused by EPA granting small

⁵⁵ 81 FR 80891(November 16, 2016).

⁵⁶ *Id.*

⁵⁷ 84 FR 36756 (July 29, 2019).

⁵⁸ 81 FR 80833 (November 16, 2016).

refinery exemptions. A commenter similarly stated that in 2019 cellulosic RINs traded below the cellulosic waiver credit “price floor”.

Response:

The statute mandates EPA to reduce the cellulosic biofuel volume to the projected volume available. EPA has consistently interpreted this to mean the amount of the cellulosic biofuel available for use in the United States without consideration of RIN prices. We acknowledge that the price of D3 RINs has been lower in 2019 (averaging \$1.30 for a 2019 D3 RIN through September 2019) than in 2018 (when the average price for a 2018 D3 RIN was \$2.25), and that SREs were likely one of several factors that impacted the price of D3 RINs. We note, however, that the RFS is a market-based program and as such changes in RIN prices due to market factors, including changes in the supply and demand for cellulosic RINs, are to be expected.

We disagree with the commenter’s characterization of the cellulosic waiver credit price as a price floor. EPA would expect cellulosic RINs to generally be priced below the price of a cellulosic waiver credit plus an advanced biofuel RIN (since this is the compliance equivalent of a cellulosic RIN) and above the price of an advanced RIN (since excess cellulosic biofuel RINs can be used to satisfy an obligated party’s advanced biofuel and total renewable fuel obligations). Cellulosic biofuel RINs traded within this range in 2019.

Comment:

EPA’s statements in the proposed rule that we “collected data through meetings with representatives of facilities that have produced or have the potential to produce qualifying volumes of cellulosic biofuel in 2020” was incorrect since to their knowledge no EPA representative met with parties capable of producing qualifying fuel from electricity.

Response:

The statement quoted by the commenter describes one of the sources of data used by EPA in our projection of likely production of cellulosic biofuel in 2020. EPA does not claim to have met with or contacted every possible producer of cellulosic biofuel, but rather focused outreach on potential liquid cellulosic biofuel producers that are likely to produce qualifying volumes in 2020. EPA’s outreach was focused on liquid cellulosic biofuel producers, as we once again used an industry-wide projection methodology, rather than a facility-by-facility methodology, to project the production of CNG/LNG derived from biogas. As discussed above, we do not currently expect that the technical and regulatory issues that need to be addressed prior to the generation of cellulosic RINs for electricity used as transportation fuel will be resolved in time for an appreciable number of RINs to be generated for this fuel.

Comment:

EPA’s statements in the preamble that there are two main elements to the projected volume of cellulosic biofuel in 2020 (liquid cellulosic biofuels and CNG/LNG derived from biogas) was false. The commenter claimed that electricity produced from cellulosic feedstocks was also

likely to be produced and made available in the U.S. and that this fuel should not be excluded from EPA's projection of the available volume of cellulosic biofuel. The commenter further stated that electricity cannot be excluded on the basis that no facilities have been registered, since in some cases EPA includes projected volume from other facilities that are not yet registered to produce qualifying cellulosic biofuel.

Response:

EPA's projection of qualifying cellulosic biofuel production in 2020 does include consideration of fuel projected to be produced from facilities that have not yet registered as cellulosic biofuel producers. However, as explained in Section III.B of the final rule, we have only considered production from facilities that have not yet registered as cellulosic biofuel producers in situations where we are unaware of any outstanding issues that would reasonably be expected to prevent these facilities from registering as cellulosic biofuel producers and producing qualifying cellulosic biofuel in 2020. In the case of potential producers of electricity used for transportation fuel, there are several technical and regulatory issues that must be resolved prior to these facilities registering and producing qualifying cellulosic biofuel (see earlier response for more on these issues). We currently do not expect these issues to be resolved on a timeline that would allow for the production of a significant volume of cellulosic RINs in 2020.

Because of this, including the potential production of cellulosic electricity used as transportation in our projection of qualifying cellulosic biofuel produced in 2020 as the commenters suggest would be unreasonable. Basing the required volume of cellulosic biofuel on a projection that includes a significant volume of fuel we do not expect to generate cellulosic RINs in 2020 would result in a cellulosic biofuel volume requirement that cannot be satisfied with cellulosic biofuel RINs and would be in contradiction with EPA's charge to project cellulosic biofuel production with a neutral aim at accuracy.

Comment:

EPA should not include electricity used as transportation fuel in our projection of cellulosic biofuel production in 2020.

Response:

EPA has not included electricity used as transportation fuel in our projection of cellulosic biofuel production for 2020 due to the unresolved technical and regulatory related to generating RINs from qualifying cellulosic biofuel under this pathway (for more detail, see previous responses).

Comment:

The cellulosic RIN market is not competitive. This commenter claimed that there are never more than two or three entities offering cellulosic RINs for sale at any given time.

Response:

The commenter provides no evidence for their claims that the cellulosic RIN market is not competitive. In years in which EPA reduces the required volume of cellulosic biofuel we also make CWCs available at a price calculated according to a formula in the statute. These CWCs serve to cap the price of cellulosic RINs, as obligated parties can purchase a CWC and an advanced biofuel RIN instead of a cellulosic biofuel RIN. This provides protection in the market from non-competitive behaviors. In 2019 the average D3 RIN price (\$1.30) is significantly lower than the cellulosic waiver credit price for 2019 (\$1.77). This pricing information suggests a more competitive market, rather than monopoly pricing behavior. Finally, we note that EPA is charged with making a neutral projection of cellulosic biofuel production, notwithstanding potential concerns over the non-competitive nature of the cellulosic RIN market.

Comment:

Any shortfall in cellulosic biofuel production relative to the required cellulosic biofuel volume in EPA's final rule would force obligated parties to purchase additional advanced biofuel RINs and cellulosic waiver credits.

Response:

EPA's projection of cellulosic biofuel represents a neutral projection of the volume of cellulosic biofuel production in 2020. We therefore do not anticipate a shortfall in cellulosic biofuel production relative to the required cellulosic biofuel volume. If such a shortfall does occur obligated parties have multiple options, including: purchasing additional advanced RINs and cellulosic waiver credits, complying with available carryover RINs, or carrying a deficit into 2021.

Comment:

Multiple commenters stated that CNG/LNG sourced from landfill biogas does not meet the 60% GHG reduction targets and therefore should not be able to generate cellulosic RINs or be included in EPA's projection of cellulosic biofuel production for 2020. The commenter also claimed that EPA should compare the GHG emissions of CNG/LNG derived from biogas to emissions for fossil natural gas. To support their claims the commenter cites statements from EPA that landfills expected to produce high BTU gas likely already have collection infrastructure in place and so the use of this biogas would occur without incentives for cellulosic biofuel through the RFS program.

Response:

EPA conducted a lifecycle assessment for CNG/LNG derived from biogas sourced from landfills in the Pathways II rulemaking.⁵⁹ The GHG assessment for CNG/LGN derived from biogas in the Pathways II rule assumed that landfills were already capturing and flaring methane.⁶⁰ In that rule

⁵⁹ 79 FR 42128 (July 18, 2014).

⁶⁰ 79 FR 42141 (July 18, 2014).

EPA determined that CNG/LNG derived from biogas sourced from landfills exceeded the 60% lifecycle GHG reduction threshold relative to baseline diesel fuel to qualify as cellulosic biofuel. We did not reexamine that assessment in this rulemaking, and therefore comments on it are beyond the scope of this rulemaking.

Comment:

A commenter stated that biogas from landfills and municipal wastewater treatment systems contain significant levels of siloxanes, which can cause serious problems if the biogas is burned in gas turbines, boilers, or combustion engines. Commenters also stated that siloxanes could poison the catalysts on vehicles. The commenter stated that the potential presence of siloxanes found in landfill biogas should disqualify this fuel from participating in the RFS program, as siloxanes damage engines and lead to higher GHG emissions. Another commenter similarly stated that EPA should not increase the projection of CNG/LNG derived from biogas until the impacts of siloxanes are studied and a specification is established.

Response:

The regulatory framework for biogas introduced into a commercial, *i.e.*, fungible, distribution system that EPA promulgated in the 2010 RFS2 rule⁶¹ (and revised in the 2014 Pathways II rule⁶²) allows RINs to be generated so long as, among other things, it is demonstrated through contractual relationships that the quantity of CNG/LNG that is withdrawn from the distribution system for use as transportation fuel is the same as the quantity of biogas that was introduced into that same distribution system.⁶³ Once injected into a commercial pipeline, biogas mixes with conventional natural gas and the biogas molecules become diluted. EPA does not require that the physical biogas molecules be tracked from introduction point to withdrawal in a commercial distribution system; the regulatory requirements are intended to ensure that it is at least theoretically possible that the biogas is ultimately used as a transportation fuel. Thus, it is possible, if not likely, that the actual molecules of CNG/LNG withdrawn from the distribution system and used in vehicles as transportation fuel are not the same molecules that originated in a municipal landfill or wastewater treatment plant and are, in fact, conventional natural gas. We thus do not currently have a basis to conclude that including biogas in the cellulosic projection under this rule will have the impacts on vehicle engines that commenters suggest, and commenters have provided no data or other evidence to the contrary. More generally, while EPA is aware of the problems associated with the use of CNG/LNG with high levels of siloxanes in certain applications, at this time we do not have sufficient information to establish a specification for siloxanes in CNG/LNG derived from biogas or to disqualify all landfill biogas from qualifying as cellulosic biofuel due to concerns about the presence of siloxanes in this fuel. We are not reexamining or otherwise reopening the longstanding policies described above, including the 2010 RFS2 rule and the 2014 Pathways II rule.

⁶¹ 75 FR 14670, 14876 (Mar. 26, 2010).

⁶² 79 FR 42128, 42162 (July 18, 2014).

⁶³ 40 CFR 80.1426(f)(11)(ii).

Comment:

The production of biogas in agricultural digesters has many benefits, including the capture of nutrients and reduction in nutrient run off. The commenter also stated that the value provided by cellulosic RINs can be shared with farmers (if the biogas is source from agricultural digesters) or municipalities (if the biogas is sourced from wastewater treatment facilities).

Response:

EPA recognizes these potential benefits of producing CNG/LNG derived from biogas in agricultural digesters and wastewater treatment facilities. These factors, however, do not impact our projection of cellulosic biofuel production in 2020.

Comment:

CNG/LNG derived from biogas cannot be produced at a cost that is competitive with natural gas.

Response:

EPA's cost estimate for producing CNG/LNG derived from biogas can be found in Section V of the final rule. While there may be some cases in which CNG/LNG derived from biogas can be produced at a price similar to natural gas, in most cases CNG/LNG derived from biogas is more costly to produce.

Comment:

Increased production of CNG/LNG derived from biogas would provide additional jobs.

Response:

We acknowledge that increased biofuel production, including increased production of CNG/LNG derived from biogas, could result in increased employment in these industries.

3.2 Methodology for Projecting Volumes

Commenters that provided comment on this topic include but are not limited to: 0192, 0212, 0296, 0299, 0323.

Comment:

EPA should adopt “true-up” methodologies to adjust the cellulosic biofuel volume requirement to equal the number of cellulosic biofuel RINs available at the end of the year (including both the RINs produced during the year and any available carryover RINs from the previous year).

Response:

We do not believe it would be appropriate at this time to adopt a “true up” methodology whereby the cellulosic biofuel standard was retroactively changed to the volume of available cellulosic RINs after the end of a compliance year. Such a methodology would cause significant uncertainty for obligated parties, as they would not know their actual cellulosic biofuel obligations for any given year until after the end of the year, at which point they would have limited time available to obtain the RINs necessary to demonstrate compliance. Such a change could also inadvertently harm cellulosic biofuel producers if obligated parties, uncertain of their final cellulosic biofuel obligations, wait until after the end of the calendar year to purchase cellulosic biofuel and/or cellulosic biofuel RINs. Cellulosic biofuel producers may be unable to continue commercial production without customers and may therefore scale back production volumes or shut down their production facilities. Further, we note that if carryover RINs were included in the “true up” calculation, this would effectively disincentivize obligated parties for acquiring excess cellulosic biofuel RINs. Finally, the commenter’s approach appears inconsistent with the statutory directive to establish cellulosic biofuel volumes and standards by November 30 of the preceding year.⁶⁴ Given the inherent uncertainties associated with projecting cellulosic biofuel production, the commenter’s approach would seem to require EPA to issue a new rulemaking after every year to “true-up” the volume requirement, effectively nullifying the timeframe established by Congress.

Comment:

Multiple commenters stated that EPA has continuously over-estimated cellulosic biofuel production and should therefore err on the side of caution when setting the cellulosic biofuel volume for 2020.

Response:

As discussed in greater detail in Section III of the final rule, we recognize that the projection methodology we used in 2016 and 2017 resulted in projections that were greater than actual cellulosic biofuel production in these years. We therefore adjusted the projection methodology for liquid cellulosic biofuels and adopted a new, industry-wide projection methodology for

⁶⁴ See CAA sections 211(o)(7)(D)(i) and (o)(3)(B)(i).

CNG/LNG derived from biogas for 2018 and used the same projection methodology for 2019 and 2020. EPA also adjusted the approach to projecting liquid cellulosic biofuels in 2018 to rely more heavily on the observed production of cellulosic biofuel within projected production ranges in previous years when projecting production in future years.

These changes resulted in EPA under-projecting cellulosic biofuel production in 2018. Actual cellulosic biofuel production appears to be on track to exceed EPA's estimate again in 2019 by a small margin. These recent changes to EPA's methodology appear to be producing reasonably accurate projections of cellulosic biofuel; for example, EPA's projection of cellulosic biofuel production for 2019 is within 4% of expected production in 2019 (based on data through September 2019). We do not believe there is any basis for "erring on the side of caution" in light of the recent improvements to EPA's cellulosic biofuel projections (which actually under-projected cellulosic biofuel production in 2018 and appear likely to do so again in 2019) and the court's direction for EPA to make a neutral projection.

Comment:

EPA's projection of cellulosic biofuel production should be a reasonable projection of production potential, and that this should include volumes of cellulosic ethanol produced from corn kernel fiber.

Response:

While EPA's projection of cellulosic biofuel production must be reasonable, we are charged with projecting actual production in 2020 rather than production potential. In a developing industry, such as the cellulosic biofuel industry, the production potential is often much greater than actual production. EPA has included production of cellulosic ethanol from corn kernel fiber from currently registered facilities that are reasonably anticipated to generate cellulosic RINs in 2020; however, we note that as the industry has continued to develop we have become aware that in many cases there are significant regulatory and technical issues that must be resolved before potential producers of this fuel can register as cellulosic biofuel producers and produce qualifying cellulosic biofuel (see Section 3.1 of this document for more on cellulosic ethanol produced from corn kernel fiber).

Comment:

Potential limitations on the use of cellulosic biofuel (such as the volume of CNG/LNG that can be consumed in CNG/LNG vehicles) are not valid considerations under the cellulosic waiver authority.

Response:

EPA does not consider the potential for the transportation fuel market to consume liquid cellulosic biofuels, such as cellulosic ethanol or cellulosic diesel, when projecting production in 2020.

With respect to potential limitations on the use of CNG/LNG derived from biogas, we see no need to resolve the legal issue raised by the commenter. We acknowledge that we have assessed the potential limitations on use in Section III of the final rule. We do so because to qualify as cellulosic biofuel, CNG/LNG derived from biogas must meet the definition of a renewable fuel, which means that the fuel must be “used to replace or reduce the quantity of fossil fuel present in a transportation fuel.”⁶⁵ If CNG/LNG derived from biogas cannot replace or reduce the quantity of fossil fuel present in transport fuel because the entire fleet of CNG/LNG vehicles is already operating on renewable fuel then any additional CNG/LNG derived from biogas cannot be cellulosic biofuel as it would have to be used for other non-transportation purposes (e.g., electrical power generation).

Nonetheless, for 2020, we found that the size of the CNG/LNG vehicle fleet did not limit the market’s ability to consume CNG/LNG derived from biogas, and in turn our projection of cellulosic biofuel for 2020 was not limited by the ability for the market to consume cellulosic biofuel as transportation fuel. Thus, even were EPA to adopt the commenter’s interpretation of the statute, it would not affect the cellulosic biofuel volume established by the final rule.

⁶⁵ CAA section 211(o)(1)(J)

3.2.1 Methodology for Projecting Liquid Cellulosic Biofuel Volumes

Commenters that provided comment on this topic include but are not limited to: 0211, 0276, 0312.

Comment:

EPA's proposed projection methodology for liquid cellulosic biofuels is appropriate.

Response:

EPA has used the same projection methodology (with updated data) in the final rule as in the proposed rule.

Comment:

EPA should consider production data in 2019 to assess the accuracy of the methodology used to project 2019 volumes.

Response:

We have assessed the accuracy of the projection methodology for cellulosic biofuel in the 2019 rule using actual production data for 2019 and previous years. This assessment can be found in Section III of the final rule. We have determined that this methodology produced a reasonably accurate projection of cellulosic biofuel production in 2019 (based on data through September 2019), and thus continues to be appropriate for use in this final rule.

Comment:

EPA's projection of liquid cellulosic biofuel should be forward looking rather than backward looking. Another commenter stated that EPA's projection methodology for liquid cellulosic biofuels was conservative and "history-bound" since many of the factors in the projection use historical data.

Response:

EPA's methodology for projecting volumes of liquid cellulosic biofuels uses data from previous years (including 2016 -2019) to calculate a percentile value for expected production within a calculated range of likely production volumes for two groups of companies (those that have achieved consistent commercial scale production of liquid cellulosic biofuel and those that have not). Many of the other factors used in this methodology, including all the factors used to determine the high end of the potential production range for each company, do not rely on historical data. This methodology appropriately uses relevant data from the performance of similar groups of facilities in previous years, along with production expectations in 2020, to neutrally project likely production of liquid cellulosic biofuel in 2020. While we recognize the maturation of the cellulosic biofuel industry, we have not yet seen a consistent trend in the

production of cellulosic biofuel relative to the cellulosic biofuel producer's projections that would justify using percentile values that differ from those calculated based on historical data. We will continue to monitor the accuracy of the methodologies we used to project cellulosic biofuel production and anticipate adjusting the methodology as appropriate in future years.

3.2.2 Methodology for Projecting Cellulosic Biogas Volumes

Commenters that provided comment on this topic include but are not limited to: 0192, 0202, 0207, 0211, 0270, 0316, 0319, 0323, 0436, 0723.

Comment:

EPA's proposed methodology provides a good foundation, but that EPA should continue to analyze our methodology to ensure it is accurate and does not underestimate production.

Response:

EPA continues to believe that the methodology used to project CNG/LNG derived from biogas in this final rule is appropriate. The use of this methodology in 2019, together with the methodology for projecting liquid cellulosic biofuel, resulted in a projection that is expected to be within 4% of actual cellulosic biofuel production in 2019. We recognize that the production methodology for CNG/LNG derived from biogas slightly under-projected actual production of these fuels in 2018 and appears likely to do so again in 2019. We will continue to monitor the accuracy of our projection methodologies and anticipate making adjustments in the future if appropriate.

Comment:

EPA should develop an "intermediate approach" to projecting CNG/LNG derived from biogas the uses both data from EMTS and continued engagement with the industry and facilities that produce CNG/LNG derived from biogas. The commenter claimed that this would result in a more neutral projection. Other commenters similarly claimed that EPA should account for production from facilities projected to begin producing CNG/LNG derived from biogas in 2020.

Response:

The industry-wide projection methodology used in this final rule accounts for new facilities that may begin producing CNG/LNG derived from biogas in 2020. The growth rate used to project the production of CNG/LNG derived from biogas in 2020 includes consideration of increased production from existing facilities, as well as new facilities that began producing fuel in the last 12 months for which data are available. Thus, the industry-wide methodology already considers the impact of new facilities in the past in the calculated rate of growth, and the projection for 2020 already includes projected volume from new facilities that begin producing volume in 2020. Adding additional production volumes expected to be produced from new facilities would not be appropriate, nor would it be likely to result in a more accurate projection. If we were to add an additional volume to what we are currently projecting using our industry-wide rate of growth projection methodology, we would effectively be double-counting production from new facilities. Finally, we note that EPA's efforts to project the production of CNG/LNG derived from biogas using facility specific information in 2016 and 2017 resulted in significant over-projections. We do not expect that a facility specific projection methodology for CNG/LNG derived from biogas, either in place of or in addition to an industry wide projection methodology,

would result in a more accurate projection in 2020 based on the accuracy of facility specific projections in previous years.

Comment:

EPA's proposed methodology misses the current anticipated surge in production of CNG/LNG derived from biogas in 2020. The commenter stated that EPA should not assume "linear" growth in 2020.

Response:

We disagree with this commenter's assessment of our projection of CNG/LNG derived from biogas in this final rule. Actual generation of cellulosic biofuel RINs for CNG/LNG derived biogas increased from approximately 240 million gallons in 2017 to approximately 303 million gallons in 2018. Cellulosic RIN generation for these fuels is projected to grow to approximately 418 million gallons in 2019 (based on data through September 2019) and to 577 million gallons in 2020. This is not a linear growth rate. Production of qualifying biogas is projected to increase by approximately 115 million gallons from 2018 to 2019, and by approximately 178 million gallons from 2019 to 2020. We believe our projection of CNG/LNG derived from biogas in 2020 in this final rule (which is approximately 53 million gallons higher than our projection in the proposed rule) adequately accounts for the anticipated surge in the production of CNG/LNG derived from biogas noted by the commenter.

Comment:

Multiple commenters stated that EPA's projection of CNG/LNG derived from biogas in 2020 should be between 580 and 620 million gallons. Another commenter projected the production of these fuels at 617 million gallons in 2020.

Response:

EPA's projection of CNG/LNG derived from biogas in 2020 in this final rule (577 million gallons) is near the low end of the range of volumes requested by most commenters. As discussed in further detail in Section III of the final rule, we believe this projection represents a neutral aim at accuracy. Finally, we note that EPA's projection is based in part on production data from August and September 2019 that was not available to commenters when they submitted their comments. The growth rate observed in these months (relative to production in August and September 2018) was lower than many of the preceding months, which resulted in EPA's projection of CNG/LNG derived from biogas at the low end of the range requested by many commenters.

Comment:

Multiple commenters noted that EPA under-projected the production of CNG/LNG derived from biogas in 2018 and 2019.

Response:

We acknowledge that we under-projected the production of CNG/LNG derived from biogas in 2018 and appear likely to slightly under-project the production of these fuels in 2019. However, the accuracy of these projections (within 11% of actual production in 2018 and within 5% of actual production in 2019 based on our projection of production in 2019 using data through September 2019) is much greater than our projections of CNG/LNG derived from biogas in previous years. EPA over-projected production of CNG/LNG derived from biogas by approximately 17% in 2016 and by approximately 16% in 2017. We continue to believe that the industry wide projection methodology used in this final rule produces a reasonably accurate projection of cellulosic biofuel production. We will continue to monitor the accuracy of our projection methodology and anticipate making adjustments as appropriate in future years.

Comment:

A commenter supported EPA's use of an industry wide projection methodology for CNG/LNG derived from biogas. This commenter supported EPA's view of the biogas industry as a mature market. Another commenter similarly stated that EPA's projection methodology for CNG/LNG derived from biogas was appropriate.

Response:

We continue to believe that the market for CNG/LNG derived from biogas is mature, and that an industry-wide projection methodology is therefore appropriate.

Comment:

Multiple commenters stated that EPA should use the most recent data to re-calculate the rate of growth for CNG/LNG derived from biogas, and that this more recent data should be used as the basis for analysis and forecasting production of CNG/LNG derived from biogas in 2020.

Response:

We have used the most recent data available (through September 2019) to re-calculate the growth rate for CNG/LNG derived from biogas. We have used this re-calculated growth rate (based on data through September 2019) to project the production of CNG/LNG derived from biogas in 2020 in this final rule.

Comment:

EPA should use the highest growth rate in the last 12 months (at least 40%) to project production of CNG/LNG derived from biogas, rather than the most recent data.

Response:

We do not believe that using the highest growth rate the industry has achieved over the past 12

months is consistent with our responsibility to make a neutral projection of cellulosic biofuel production in 2020. The rate of growth over the past 12 months has varied from 26.4% (to January 2018 through December 2018 vs. January 2017 through December 2017) to a high of 42.5% (August 2018 through July 2019 vs. August 2017 through July 2018). Simply selecting the highest growth rate over the past 12 months would bias our projection and would potentially allow biofuel producers to manipulate future projections by adjusting the timing of their RIN generation.

Comment:

A consistent projection methodology for CNG/LNG derived from biogas is important to the industry.

Response:

We understand the benefits of a consistent and predictable projection methodology to the industry. However, these benefits must be balanced with EPA's obligation to neutrally and accurately project cellulosic biofuel production. Based on data through September 2019 the projection methodology for CNG/LNG derived from biogas used in the 2018 and 2019 final rules appears to have resulted in a reasonably accurate projection, and this is appropriate for use in this final rule. We will continue to monitor the accuracy of this methodology and anticipate that we will make adjustments as appropriate.

3.3 Proposed Cellulosic Biofuel Standard

Commenters that provided comment on this topic include but are not limited to: 0131, 0152, 0153, 0156, 0185, 0192, 0202, 0207, 0277, 0288, 0298, 0299, 0303, 0312, 0316, 0319, 0323, 0337, 0338, 0341, 0342, 0436, 0438, 0440, 0467, 0530, 0723, 0725, 1285.

Comment:

A number of commenters stated that EPA's proposal underestimated cellulosic biofuel production, and that our projection should be increased in the final rule. One commenter stated that EPA's projection in the proposed rule was too close to actual production in 2019.

Response:

In the final rule EPA has used the projection methodology discussed in the proposed rule along with additional data not available at the time of the proposed rule. This additional data has resulted in a significant increase to our projection of cellulosic biofuel for 2020 relative to both the volume projected in the proposed rule and the volume of cellulosic biofuel projected to be produced in 2019.

Comment:

Multiple commenters stated that EPA should adopt a higher cellulosic biofuel volume for 2020 to offset the impact of SREs in previous years.

Response:

We do not believe that increasing the cellulosic biofuel volume for 2020 to offset the impact of SREs in previous years would be consistent with EPA's statutory authority. In years when the projected volume of cellulosic biofuel production is less than the statutory target the Administrator shall reduce the volume to the projected volume available. SREs granted for previous years do not impact the projected volume available in a future year. Our response to commenters' request to include carryover RINs in our cellulosic volume for 2020 is covered in a separate response. Additional responses to comments about SREs are found in Section 8.2 of this document

Comment:

EPA should stop granting SREs, or account for them in setting the cellulosic volume for 2020.

Response:

The statute authorizes EPA to grant SREs in situations where petitioners meet the statutory criteria for relief. In this final rule EPA is accounting for the projected volume of gasoline and diesel expected to be exempted through the SRE process for the 2020 standards (see Section VIII of the final rule and Section 8.2 of this document for a further discussion of this issue).

Comment:

Multiple commenters supported the proposed cellulosic biofuel volume for 2020. One commenter similarly stated that they expected EPA's projection methodology to produce an accurate projection of cellulosic biofuel production after updated data were considered.

Response:

In this final rule we have used the same general methodology as in the proposal to project cellulosic biofuel production in 2020 and have incorporated the most recently available data in our projection. While the projection in this final rule is higher than the volume from the proposal, we believe this volume is justified based on the data available since our proposal.

Comment:

EPA should reassess their projection of cellulosic biofuel for 2020 and ensure that the projection is realistic rather than aspirational.

Response:

EPA has considered the accuracy of the proposed projection methodology, which was first adopted in 2018, for both 2018 and 2019 (based on data through September 2019). This methodology has produced reasonably accurate projections in both years. This methodology under-projected cellulosic biofuel production in 2018 and appears likely to under-project actual production again in 2019. This data supports EPA's position that this methodology is not aspirational, and that it is appropriate to use this methodology to project cellulosic biofuel production for 2020.

Comment:

A number of commenters requested a volume of at least 650 million gallons (some suggested higher volumes) to account for cellulosic biofuel production in 2020, anticipated SREs in 2020, and carryover cellulosic biofuel RINs available in 2020 (sometimes referred to as a "true up"). Some of these commenters claim that including carryover RINs is required by the statutory language that requires that EPA establishes the cellulosic biofuel volume at the projected volume available, which includes carryover RINs, and noted that neither EPA nor the courts have evaluated whether or not carryover RINs can or must be included in the cellulosic biofuel volume under the current market circumstances (high volume of carryover RINs and low RIN prices). Commenters generally argued that while a carryover RIN bank may serve a purpose for the other categories of renewable fuel, due to the cellulosic waiver credit (CWC) a carryover RIN bank is not necessary for cellulosic biofuel. They further argued that preserving a carryover RIN bank insures an oversupply of carryover RINs, reducing RIN prices and harming the cellulosic biofuel industry. One commenter stated that EPA's proposed changes to the percentage standards to account for small refinery exemptions would not be sufficient to address the problems caused by the cellulosic carryover RINs that are currently available.

Response:

EPA disagrees with commenters who stated that the cellulosic waiver authority statutory language at CAA section 211(o)(7)(D) *requires* EPA to include both projected cellulosic biofuel production and available cellulosic carryover RINs when using the cellulosic waiver authority to establish the required volume of cellulosic biofuel. We recognize that the statute uses slightly different terms when stating the conditions triggering exercise of the cellulosic waiver authority (“any calendar year for which *the projected volume of cellulosic biofuel production* is less than the minimum applicable volume”) and the volume to which the Administrator shall reduce the applicable volume (“*the projected volume available* during that calendar year.”) Commenters suggest that this difference must mean that the “projected volume available” include cellulosic carryover RINs.

However, the provision does not specifically address this issue at all. The term carryover RINs is one created by EPA and does not appear in the statute at all. Moreover, the provision does not refer to the credit provisions in CAA section 211(o)(5), under which EPA created the RIN program. Nor does CAA section 211(o)(5) treat cellulosic biofuels differently from other types of biofuels or indicate that EPA must intentionally eliminate the bank of cellulosic carryover RINs by including them in projected volume available. In construing a related provision, the D.C. Circuit also upheld EPA’s decision to not consider carryover RINs in determining “inadequate domestic supply.”⁶⁶

EPA believes that there are multiple reasonable constructions to construe this ambiguous statutory provision. One reading is to construe “the projected volume available” as a shortened reference to the “projected volume of cellulosic biofuel production.” In this case the terms would both refer only to projected production. Another reading is the commenters’ reading, under which we construe “the projected volume available” to include carryover RINs. A third reading is to construe “the projected volume available” to mean all cellulosic biofuel produced in that year (in this case 2020) which will be available for use in the United States.

EPA adheres to this third reading in this final rule, consistent with our interpretation in past annual rulemakings: “the projected volume available” is our projection of cellulosic biofuel produced in 2020 which will be available for use under the RFS program. To calculate this projection, we estimate the production of qualifying cellulosic biofuel in the United States and any anticipated imports of cellulosic biofuel. We then subtract any volumes not available for qualifying domestic use, namely volumes projected to be exported. For 2020, we are not projecting any exports of qualifying cellulosic biofuel. Thus, we projected the available volume as the sum of domestic production and imports. We further discuss this projection in Section III of the final rule.

Not only do we believe that our reading is a reasonable interpretation of the statutory text, we believe that, under the circumstances present for 2020, this approach strikes an appropriate balance between the interests of various stakeholders and best ensures the ongoing smooth implementation of the program. As several of the commenters noted, the current availability of

⁶⁶ See *ACE*, 864 F.3d at 716.

cellulosic carryover RINs is largely the result of SREs granted in previous years.⁶⁷ We expect that the changes in this final rule, notably the increased projection of cellulosic biofuel production for 2020 and the adjustments to the percent standard calculations to account for the projected SREs, will address many of the concerns raised by the commenters. While we acknowledge that some aspects of the cellulosic category (such as the cellulosic waiver authority and the cellulosic waiver credits) are unique, at this time we believe that the benefits of carryover RINs (as discussed in Section II.C of the final rule and Section 2.4 of this document) also apply to cellulosic carryover RINs. Finally, we note that our proposed rule did not raise the possibility of including cellulosic carryover RINs as part of the available supply on which the cellulosic biofuel volume is based. We do not think it would be appropriate at this time to make such a change in statutory interpretation without giving opportunity for all stakeholders to comment on the potential change. We are also reluctant to further delay the issuance of this final rule to provide the opportunity for another round of comment on this issue.

Further discussion of similar comments on the consideration of the use of carryover RINs in standard setting more broadly is contained in Section 2.4 of this document.

Comment:

If EPA does not require the use of carryover RINs obligated parties will use carryover RINs rather than new production, reducing demand for cellulosic biofuel.

Response:

Cellulosic carryover RINs have been available in appreciable quantities since 2015. During this time, EPA is unaware of obligated parties allowing cellulosic biofuel RINs to go unpurchased and unused despite the existence of carryover RINs. Cellulosic biofuel industry commenters provided no evidence of this occurring. Instead, carryover RINs have allowed parties an alternative compliance option to purchasing CWCs when EPA's projection of cellulosic biofuel has exceeded actual production and excess carryover RINs have been purchases for use in the following year.

Comment:

EPA should not round the cellulosic biofuel volume to the nearest 10 million gallons as this could introduce error in the projection.

Response:

See Section 8.1 of this document for our response to this comment.

⁶⁷ The number of cellulosic carryover RINs (estimated at 50 million 2018 RINs available to be used for compliance with the 2019 obligations) is primarily the result of SREs granted in previous years. SREs granted from 2016-2018 reduced the cellulosic biofuel volume requirements by about 70 million RINs (10 million RINs in 2016 and 30 million RINs in both 2017 and 2018).

Comment:

EPA should project the point at which marginal gallons of cellulosic biofuel are unlikely to be produced despite the highest incentives that the RFS program can provide. EPA cannot set the cellulosic volume at what the market would do if the RFS program did not exist. This would require EPA to increase its projection of cellulosic biofuel for 2020.

Response:

The commenter did not specify the cellulosic biofuel volume that would result from the suggested approach in 2020. EPA's projection methodology is described in Section III of the final rule. We have not explicitly accounted for projected cellulosic RIN prices in making these projections, however EPA's projection of cellulosic biofuel production in 2020 assumes the continued existence of the RFS program, including the financial incentives provided by the cellulosic RINs.

Further, EPA does not expect that cellulosic biofuel production in 2020 will be sensitive to the cellulosic RIN price. All of the facilities expected to produce cellulosic biofuel in 2020 are either currently producing cellulosic biofuel or in the advanced stages of construction. While expectations about future cellulosic RIN prices may significantly impact investment decisions related to future cellulosic biofuel production facilities (and thus impact cellulosic biofuel production in the long term), we expect that RIN prices will have a far lesser impact on facilities that have already been built (or will be in the near future). Data from 2019, in which RIN prices were lower than historical prices but cellulosic biofuel production was significantly higher, supports this position as production increase significantly despite lower RIN prices than observed in 2018.

Comment:

EPA cannot implement a RIN price cap for cellulosic biofuel.

Response:

EPA is not implementing a RIN price cap in this rule for cellulosic biofuel or any other RIN category.

Comment:

EPA should not reduce the growth rate for CNG/LNG derived from biogas from the proposed rule.

Response:

The rate of growth for CNG/LNG derived from biogas in this final rule is higher than the rate of growth in the proposed rule. As discussed in Section III of the final rule, the rate of growth in this final rule is based on updated data through September 2019. Had this data indicated a rate of

growth that was lower than the proposed rule, adopting this lower rate of growth in the final rule would have been appropriate.

Comment:

The RIN value is much higher than the value of biogas. EPA should therefore be conservative in the cellulosic biofuel projection.

Response:

As discussed throughout Section III of the final rule and Section 3 of this document, we believe our projection of cellulosic biofuel is a neutral projection of the volume of cellulosic biofuel likely to be produced in 2020. We note that our projection of cellulosic biofuel production is required to be neutral, and an intentionally conservative projection (erring on the side of caution) would contradict the *API* ruling that our projection is to be a neutral aim at accuracy.

Comment:

Volumes should be at least 1 billion gallons higher than proposed, due to the inclusion of RINs generated for electricity used as transportation fuel in the projection.

Response:

As discussed further in Section 3.1 of this document, we have not included RINs for electricity used as transportation fuel in our projection of cellulosic biofuel production. Therefore, a higher projected volume of cellulosic biofuel production, such as the 1 billion gallon increase, is not warranted.

4. Advanced Biofuel

4.1 Inability to Meet Statutory Targets

Commenters that provided comment on this topic include but are not limited to: 0276.

Comment:

One commenter stated that while the statutory volume target for cellulosic biofuel cannot be reached, EPA should be striving to set 2020 standards for advanced biofuel and total renewable fuel that are as close to their statutory volume targets as possible. This means allowing some backfilling for missing cellulosic biofuel.

Response:

Under the cellulosic waiver authority, EPA has the discretion to reduce advanced biofuel and total renewable fuel by less than the reduction in cellulosic biofuel, thereby allowing some backfilling for missing cellulosic biofuel. However, the cellulosic waiver authority gives EPA discretion to consider a variety of factors in this determination. As described in Section IV of the final rule, we believe that a consideration of these factors appropriately leads to a determination that, for 2020, there should be no backfilling for missing cellulosic biofuel.

4.2 Attainable and Reasonably Attainable Volumes of Advanced Biofuel

Commenters that provided comment on this topic include but are not limited to: 0124, 0213, 0299, 0337.

Comment:

It is inappropriate for EPA to estimate reasonably attainable volumes of advanced biofuel, and then set standards that are above those levels.

Response:

As described in Section IV.B of the preamble to the July 29 proposal,

As used in this rulemaking, both “reasonably attainable” and “attainable” are terms of art defined by EPA. Volumes described as “reasonably attainable” are those that can be reached with minimal market disruptions, increased costs, reduced GHG benefits, and diversion of advanced biofuels or advanced biofuel feedstocks from existing uses. Volumes described as “attainable,” in contrast, are those we believe can be reached but would likely result in market disruption, higher costs, and/or reduced GHG benefits.

Footnote 70 of the proposal elaborates on our use of these terms:

Our consideration of “reasonably attainable” volumes is not intended to imply that “attainable” volumes are unreasonable or otherwise inappropriate. As we explain in this section, we believe that an advanced biofuel volume of 5.04 billion gallons, although not reasonably attainable, is attainable, and that establishing such volume would be an appropriate exercise of our cellulosic waiver authority.

Thus, these terms are meant to convey a spectrum of attainability and are useful in the absence of more precise statutory direction on how to make determinations of the appropriate volume requirements. Moreover, as the statute provides no specific thresholds above which renewable fuel volumes would be considered unreasonable or inappropriate, we have made our determinations based on an assessment of attainable and reasonably attainable volumes.

We proposed a determination that 5.04 billion gallons of advanced biofuel is attainable notwithstanding that it could result in some feedstock/fuel diversions, and that reductions below this level using the general waiver authority were not warranted. Commenters did not provide compelling reasons that attainable volumes of advanced biofuel were not an appropriate basis for establishing the volume requirement for advanced biofuel. We have taken the same general approach in the final rule with updated data. We are finalizing an advanced biofuel volume requirement of 5.09 billion gallons, which we find to be attainable.

4.2.1 Imported Sugarcane Ethanol

Commenters that provided comment on this topic include but are not limited to: 0186, 0196, 0202, 0304, 0313, 0320.

Comment:

One commenter stated that Brazil will export more sugarcane ethanol to the U.S. if the right market signals are present.

Response:

Recent data on imports of sugarcane ethanol into the U.S. suggest that the correlation between ethanol imports and the applicable standards under the RFS program is uncertain. For instance, when establishing the applicable standards for both 2016 and 2017, EPA assumed that 200 million gallons of sugarcane ethanol would be imported. In reality, only 36 million gallons was imported in 2016 and only 77 million gallons was imported in 2017, and the majority of these volumes were imported into California presumably to fulfill the requirements of the LCFS program.⁶⁸ For 2018 we assumed that 100 million gallons of sugarcane ethanol would be imported, but only 54 million gallons was imported.⁶⁹

More importantly, over the last several years imports of sugarcane ethanol have fulfilled only a small portion of the advanced biofuel volume requirement that is not required to be cellulosic biofuel or BBD.

Year	Portion of the advanced biofuel volume requirement that is not required to be cellulosic biofuel or BBD (mill gal)	Actual imports of sugarcane ethanol (mill gal)	Fraction
2016	530	36	7%
2017	969	77	8%
2018	852	54	6%

Thus, despite the opportunities created by the RFS program, imports of sugarcane ethanol have not responded in kind, contrary to the commenter's expectations.

We note that total ethanol exports from Brazil were significantly lower in 2014 - 2018 than they were in 2012 - 2013, despite the greater opportunities in these later years for use of sugarcane ethanol as a contributor to meeting the advanced biofuel volume requirement.⁷⁰ Based on these facts, we continue to believe that recent low import levels and high variability in longer-term historical imports are significant and must be taken into account in the context of determining reasonably attainable volumes of advanced biofuel.

⁶⁸ "Ethanol imports into California," available in docket EPA-HQ-OAR-2019-0136.

⁶⁹ "EIA Brazilian ethanol import data queried 11-13-19," available in docket EPA-HQ-OAR-2019-0136.

⁷⁰ "UNICA data on ethanol exports 11-13-19," available in docket EPA-HQ-OAR-2019-0136.

Comment:

One commenter stated that EPA's assumption of 100 million gallons of imported sugarcane ethanol was too low and should not be based on historical volumes. Instead, EPA has not appropriately considered the much higher volume that Brazil could export to the U.S. in 2020. EPA has also ignored the increase in ethanol imports that has occurred so far in 2019.

Response:

As discussed in previous annual standard-setting rules, imports of sugarcane ethanol have been highly variable in the past. This fact makes it impossible to calculate exactly how much sugarcane ethanol will be imported in 2020; the number of worldwide market factors involved is large and there is no mechanism for accurately predicting how they will change. As a result, we have no alternative but to consider historical import levels and the uncertainty associated with potential future imports in our determination of the applicable volume requirements. Moreover, even if we were to assume that more than 100 million gallons of sugarcane ethanol could be imported in 2020, our consideration of cost would still lead us to conclude that it is appropriate to require only that volume of advanced biofuel that results from the maximum reduction permitted under the cellulosic waiver authority.

A comparison of past projections of potential imports of sugarcane ethanol from stakeholders with actual imports discussed above highlights the fact that those projections have been significantly overestimated. For instance, in response to the proposal for the 2016 standards, UNICA suggested that Brazil could supply 2 billion gallons in 2016.⁷¹ In reality, only 36 million gallons were exported to the U.S. In response to the proposal for the 2017 standards, UNICA suggested that Brazil could supply up to 1 billion gallons in 2017. In reality, only 77 million gallons were exported to the U.S.⁷² This commenter has not provided any information indicating why its projections for 2020 would be more accurate than in past years, and has not pointed to any new circumstance expected to occur in 2020 that would increase imports of sugarcane ethanol into the U.S.

We recognize that imports in 2019 have been slightly higher than in recent years. Based on EIA data, imports of Brazilian ethanol through August of 2019 have totaled 95 million gallons.⁷³ Using the per-month average, the total for 2019 could reach 142 million gallons. However, the higher import volumes in 2019 must nevertheless be evaluated in the context of the significant variability of imports in prior years and in the failure of higher advanced biofuel volumes to drive increased imports of advanced ethanol.

Comment:

One commenter stated that sugar demand and prices will not hinder ethanol exports from Brazil to the U.S.

⁷¹ "Comments from UNICA on 2014-2016 proposal," available in docket EPA-HQ-OAR-2018-0167.

⁷² "Comments from UNICA on 2017 proposal," available in docket EPA-HQ-OAR-2018-0167.

⁷³ "EIA Brazilian ethanol imports for 2019 through August," available in docket EPA-HQ-OAR-2019-0136.

Response:

In May 2019, USDA reported that both worldwide sugar production and consumption are projected to increase slightly in the 2019/2020 marketing year in comparison to the previous marketing year.⁷⁴ Higher production levels are generally correlated with higher prices, creating some market pressure towards sugar production and away from ethanol production. The same report indicates that Brazilian sugar production will increase for the 2019/2020 marketing year. Based on this more recent information, there is no indication that exports of sugarcane ethanol from Brazil to the U.S. in 2020 are likely to be substantially higher than they have been in recent years.

Comment:

One commenter said that, since California is projecting 150 million gallons of imported sugarcane ethanol for 2020, EPA should use at least this level for 2020.

Response:

California has made estimates of the volumes of different types of biofuel that may be needed to meet the targets under its Low Carbon Fuel Standard (LCFS) program. For 2017 and 2018, California estimated the need for 50 and 100 million gallons of sugarcane ethanol, respectively.⁷⁵ Actual use of sugarcane ethanol was 23 and 44 million gallons for 2017 and 2018, respectively.⁷⁶ Because actual use has fallen significantly short of the estimate, we do not believe it would be appropriate to use California's estimate of 150 million gallons for 2020 in the context of estimating reasonably attainable volumes for 2020 under the RFS program.

Comment:

One commenter said that the price for LCFS credits has been higher in 2019 than in recent years. This will bring more imported sugarcane ethanol into California, and EPA should include this in their projections for 2020.

Response:

LCFS credit price data from the California Air Resources Board through September of 2019 does show an increase in comparison to 2018.⁷⁷ However, it is as yet unclear if these higher credit prices will continue through 2020; credit prices also increased in both 2013 and 2016 only to fall afterwards. Furthermore, higher LCFS credit prices do not necessarily lead to increases in sugarcane ethanol from Brazil if other low carbon fuels prove to be more economical. We will continue to monitor the market's reaction to LCFS credit prices and will account for clear trends in future standard-setting actions.

⁷⁴ "Sugar - World Markets and Trade May 2019," USDA, available in docket EPA-HQ-OAR-2019-0136.

⁷⁵ "LCFS illustrative compliance scenarios 3-6-18," available in docket EPA-HQ-OAR-2019-0136.

⁷⁶ "Actual fuel use in California 5-9-19," available in docket EPA-HQ-OAR-2019-0136.

⁷⁷ "LCFS credit prices as of 10-9-19," available in docket EPA-HQ-OAR-2019-0136

Comment:

One commenter said that EPA did not account for the expected reduction in Japan's demand for ethanol nor the fact that the federal biodiesel tax credit may not be reinstated. Both of these factors should lead EPA to use a higher volume of imported sugarcane ethanol in setting the 2020 advanced standard.

Response:

Both of the factors cited by the commenter are uncertain in terms of their impacts on exports of Brazilian ethanol to the U.S. Moreover, there are many other factors that are similarly uncertain which are not cited by the commenter, such as demand for Brazilian ethanol in other countries, world sugar prices, and climate impacts on sugarcane yields. These factors make it very difficult to predict with any precision the volumes that may be imported in 2020. Absent a mechanism for making such predictions, we believe that it is more appropriate to use historical data as the basis for estimating the volumes of imported sugarcane ethanol to include in determining the appropriate 2020 volume requirement for advanced biofuel. Moreover, even were EPA to project greater volumes of sugarcane ethanol, the high costs of advanced biofuels independently justifies our decision to exercise the cellulosic waiver to the maximum extent.

4.2.2 Biodiesel and Renewable Diesel

4.2.2.1 General Comments on Advanced Biodiesel and Renewable Diesel

Commenters that provided comment on this topic include but are not limited to: 0164, 0171, 0177, 0212, 0313, 0320, 0324, 0337.

Comment:

Multiple commenters stated that the advanced biofuel volume for 2020 should be higher to promote the advanced biodiesel and renewable diesel industries. To support these claims one commenter stated that biodiesel and renewable diesel production are up 12% in 2019 through July 2019 despite SREs, the absence of the biodiesel tax credit, and tariffs. Another commenter noted that there are no limitations to the production, distribution, or use of higher volumes of these fuels.

Response:

We believe the advanced biofuel volume for 2020 established in this final rule (together with the BBD volumes established for 2020 and 2021) provide the appropriate incentives for the biodiesel and renewable diesel industry. The advanced biofuel volume for 2020 established in this final rule reflects the implied statutory target for non-cellulosic advanced biofuels (4.5 billion gallons). As discussed in further detail in Section IV of the final rule, while higher volumes of advanced biofuel may be achievable in 2020, requiring higher volumes would increase the cost of the RFS program (due to the high cost of advanced biofuels) and would be more likely to cause unintended adverse consequences associated with diversions of advanced feedstock and biofuels. New data about production levels in 2019 do not significantly affect these premises or warrant a different outcome. In any event, we have considered updated data on production, imports, exports of advanced biodiesel and renewable diesel in Section IV of the final rule. We agree that production, distribution, and use are not likely to limit the availability advanced biodiesel and renewable diesel in 2020, and we present our analysis of these issues in the same section of the final rule.

Comment:

Multiple commenters stated that the proposed advanced biofuel volume effectively requires 2.8 billion gallons of biodiesel. This volume is higher than the volume that can be produced by the domestic biodiesel industry, and therefore effectively requires the use of imported biodiesel. This is contrary to the intention of the Energy Independence and Security Act (EISA), including the goal of promoting energy independence and security.

Response:

We disagree that the advanced biofuel volume in this final rule is a de facto mandate for imported biodiesel and renewable diesel. As discussed in Section IV of the final rule and Section 2.1.1 of this document, sufficient domestic production capacity and feedstocks exist to enable

domestic producers of biodiesel and renewable diesel to supply the volume of these fuels projected to be used to meet the advanced biofuel standard (2.83 billion gallons). While we expect that some volume of imported advanced biodiesel and renewable diesel will be used in 2020, this is likely due to the lower cost of importing these fuels rather than an inability for the domestic producers to supply the projected volumes. We also note that imported biofuels, including advanced biodiesel and renewable diesel, increase the energy security of the U.S., which is a goal of the RFS program.

Comment:

The RFS program is supposed to result in “market disruption” by requiring greater production and use of renewable fuels. By not increasing the advanced biofuel volume requirement EPA causes “market disruption” for biofuel producers.

Response:

We recognize that the RFS program was intended to support and in fact is supporting greater production of renewable fuels and greater use of these fuels in the U.S. transportation fuel market. In this rule EPA has established the implied statutory volume for non-cellulosic advanced biofuels (4.5 billion gallons), which we believe provides the appropriate level of support for the advanced biofuel industry. We believe this required volume results in significantly greater use of advanced biofuels than in the absence of the RFS program. As discussed in further detail in Section IV of the final rule, while higher volumes of advanced biofuel may be achievable in 2020 achieving higher volumes would increase the cost of the RFS program (due to the high cost of advanced biofuels) and higher volumes would be more likely to have unintended adverse consequences.

Comment:

The volume of biodiesel and renewable diesel projected in the proposed rule (2.83 billion gallons) is overly optimistic. The proposed advanced biofuel volume would require drawing down the carryover RIN bank, which EPA says is not the intent of this rule. Domestic biodiesel production is only projected to reach 1.73 billion gallons in 2019, far short of what is needed to meet the proposed advanced biofuel volume.

Response:

The commenter takes an overly pessimistic view of both the potential for domestic production of advanced biodiesel and renewable diesel, as well as potential imports of these fuels. Based on data through September 2019, we currently expect domestic production of advanced biodiesel and renewable diesel to reach approximately 2.36 billion gallons in 2019, rather than the 1.73 billion gallons projected by the commenter (which does not appear to account for domestic renewable diesel production or seasonal trends in advanced biodiesel and renewable diesel production). Similarly, we currently project imports of advanced biodiesel and renewable diesel to reach approximately 0.50 billion gallons in 2019. Even assuming advanced biodiesel and renewable diesel exports remain at 150 million gallons, the supply of advanced biodiesel and

renewable diesel (including both domestic production and imports) would have to increase by approximately 0.09 billion gallons from 2019 to 2020 to reach the volume projected for 2020. As discussed in greater detail in Section IV.B.3 of the final rule, we believe these volumes are attainable. We further note that reductions to the advanced biofuel volume below the level in this final rule would require the use additional waiver authorities (beyond the cellulosic waiver authority), and we do not believe that exercise of these authorities to further reduce volumes is warranted (see Section 2.1 of this document for a further discussion of the general waiver authority).

4.2.2.2 Domestic Production Capacity

Commenters that provided comment on this topic include but are not limited to: 0164, 0171, 0177, 0186, 0200, 0211, 0293, 0313, 0320, 0337.

Comment:

Multiple commenters stated that sufficient production capacity exists to produce greater volumes of advanced biodiesel and renewable diesel. Some commenters referenced the Energy Information Administration's capacity data of over 3 billion gallons per year.

Response:

We acknowledge that the production capacity of advanced biodiesel and renewable diesel exceeds the volume of these fuels we project will be used to meet the advanced biofuel volume in this final rule. However, as discussed in further detail in Section IV of the final rule, EPA believes that other factors, such as the availability of feedstocks and the cost of advanced biofuels should also be considered when establishing the advanced biofuel volume.

Comment:

EPA should base the reasonably attainable volume of advanced biodiesel and renewable diesel on the production capacity for these fuels.

Response:

It would not be appropriate for EPA to project the reasonably attainable volume of advanced biodiesel and renewable diesel at the production capacity for these fuels at registered facilities. The term "reasonably attainable" is a term of art created by EPA and refers to volumes that can be reached with minimal market disruptions. This inherently requires consideration of more than just production capacity. Basing the reasonably attainable volume solely on the production capacity of these fuels would ignore other important considerations, such as the availability of feedstocks to produce these fuels at the production capacity. In addition, actual production of these fuels has never approached the production capacity in any previous year. These factors are discussed in further detail in Section IV of the final rule and Section 4.2.2.4 of this document.

Comment:

There has been little growth in the production capacity for advanced biodiesel and renewable diesel for several years. Achieving 3.2 billion gallons of biodiesel and renewable diesel in 2020 would require the production facilities to operate at a 76% utilization rate, which has never happened in any previous year.

Response:

Achieving the volume of advanced biodiesel and renewable diesel projected to be used to meet

the advanced biofuel volume requirement in 2020 (2.83 billion gallons) would only require a modest increase of about 90 million gallons over the volume of these fuels projected to be supplied in 2019. Between the excess production capacity that went unused in 2019 and new production capacity expected to come online in 2020 there do not appear to be any limitations related to production capacity to achieving the advanced biofuel volume in this final rule. The 3.2 billion gallons referenced by the commenter is the amount of biodiesel and renewable diesel (including both advanced and conventional biodiesel and renewable diesel) that we estimate the market could make available to meet the total renewable volume for 2020. We note that the production capacity for biodiesel and renewable diesel (including both advanced and conventional biodiesel and renewable diesel) at facilities registered in the RFS program is approximately 4.2 billion gallons in the U.S. and over 9.6 billion gallons globally.⁷⁸ Production capacity is highly unlikely to limit the availability of biodiesel and renewable diesel in 2020.

Comment:

Production capacity is not a limiting factor to biodiesel and renewable diesel production in 2020. We expect 1.8 billion gallons of BBD production capacity to come online between 2018 and 2020.

Response:

We recognize the potential for the expansion of biodiesel and renewable diesel production capacity in future years. As discussed in greater detail in Section IV of the final rule, we do not expect the production capacity of these fuels to limit their production in 2020 or 2021.

Comment:

Production capacity is irrelevant as it does not reflect actual production. EPA should rely only on EIA production capacity of 2.54 billion gallons.

Response:

Production capacity is a relevant consideration when projecting the reasonably attainable and attainable volume of advanced biodiesel and renewable diesel in future years. Increasing production of biodiesel and renewable diesel can happen more quickly and at lower cost when excess production capacity exists, relative to situations where additional production capacity must be built.

We do not believe it would be appropriate to use EIA's estimate of biodiesel production capacity as the limit of the volume of advanced biodiesel and renewable diesel that can be produced domestically. First, this estimate does not include the production capacity of renewable diesel production facilities, whether these are stand-alone production facilities or facilities that co-process renewable and petroleum-based feedstocks. Second EIA's estimate includes only facilities that produced biodiesel in a given month. We do not believe it is appropriate to

⁷⁸ "Biodiesel and Renewable Diesel Registered Production Capacity (March 2019)," memorandum from Dallas Burkholder to EPA docket EPA-HQ-OAR-2019-0136.

categorically exclude biodiesel facilities that did not produce in a given month from our calculation of the domestic production capacity. We finally note that EIA's estimate does not include facilities that may begin operating in 2020.

4.2.2.3 Potential Imports

Commenters that provided comment on this topic include but are not limited to: 0171, 0212, 0213, 0293, 0302, 0337.

Comment:

Multiple commenters stated that tariffs on biodiesel from Argentina and Indonesia do not impact the potential supply of advanced biodiesel and renewable diesel as they do not affect the volume of these fuels that could be imported.

Response:

We recognize that, strictly speaking, the price for biofuels could rise high enough to overcome the impact of the tariffs. However, we note that increasing the supply of biofuel in this manner (importing biofuels at elevated prices due to the tariffs) does significantly increase the cost of these fuels. In determining the advanced biofuel volume for 2020, EPA has considered the relatively high cost of advanced biofuels. While biodiesel imports from Argentina and Indonesia may technically be available, their cost would be significantly higher than the cost projected by EPA in Section V of the final rule. We therefore do not believe it would be reasonable to increase the advanced biofuel volume for 2020 on the basis of these fuels. We do, however, believe that domestic production of biodiesel and renewable diesel, as well as imports of these fuels from countries not affected by the tariffs, can increase in 2020, and likely will do so in response to the advanced biofuel volume established in this rule (see Section IV of the final rule for a further discussion of EPA's projections of advanced biodiesel and renewable diesel domestic production and imports in 2020).

Comment:

Multiple commenters stated that the supply of advanced biodiesel and renewable diesel has continued to increase even with tariffs on biodiesel from Argentina and Indonesia in place.

Response:

The supply of imported advanced biodiesel and renewable diesel peaked in 2016, before decreasing in 2017 and 2018 after the tariffs on biodiesel imported from Argentina and Indonesia were put in place. Imports in 2019 are projected to increase (relative to imports in 2018), but still projected to be well short of the volume of these fuels imported in 2016. This decrease in imports has been offset by increases in domestic production of advanced biodiesel and renewable diesel. The supply of advanced biodiesel and renewable diesel projected for 2019 is projected to be higher than the volume of these fuels supplied in 2016 (the last year before the tariffs were put in place). These data demonstrate that while the tariffs impacted the source of advanced biodiesel and renewable diesel supplied to the U.S., over time increased imports from other parts of the world and increased domestic production have resulted in higher availability of advanced biodiesel and renewable diesel despite these tariffs.

Comment:

Tariffs and highly unpredictable foreign demand will mean that imports will not be sufficient to meet the 2.83 billion gallons of advanced biodiesel and renewable diesel projected to be needed to meet the advanced biofuel volume. EPA's projected volume of advanced biodiesel and renewable diesel for 2020 rely on unreasonably high imports and increases in domestic production.

Response:

While we acknowledge that tariffs on biodiesel and renewable diesel, as well as foreign demand for these fuels, are unpredictable we do not believe this uncertainty makes the advanced biofuel volume established in this final rule unreasonably high. As discussed in further detail in Section IV of the final rule, the volume of advanced biodiesel and renewable diesel projected to be needed to meet the advanced biofuel volume for 2020 (2.83 billion gallons) is only 90 million gallons higher than the volume of these fuels projected to be supplied in 2019 (2.74 billion gallons). This volume is lower than the average historical rate of growth for these fuels, and we do not expect that other factors (such as production capacity, distribution infrastructure, etc.) will limit the availability of these fuels to a volume below 2.83 billion gallons. In addition, further reductions to the advanced biofuel volume would require exercise of the general waiver authority. As described in Section 2 of this document, we do not believe that doing so is warranted.

4.2.2.4 Availability of Advanced Biodiesel and Renewable Diesel Feedstocks

Commenters that provided comment on this topic include but are not limited to: 0117, 0124, 0164, 0171, 0177, 0186, 0196, 0197, 0200, 0202, 0211, 0213, 0276, 0293, 0301, 0302, 0313, 0320, 0328, 0458.

Comment:

A commenter supported EPA's concerns about feedstock diversion.

Response:

As in the proposed rule, EPA has exercised our cellulosic waiver authority to reduce the advanced biofuel volume by the maximum amount allowable, in part due to concerns over the potential for higher volumes to result in greater feedstock diversion.

Comment:

EPA should project an increase in available fats, oils, and greases of 100 million gallons in 2020 (rather than the 32 million gallons based on historical increases). This number is closer to the 115 million gallons projected by LMC. Another commenter stated that additional feedstocks are available through the increased collection and use of used cooking oil. They estimate that of the total volume of 5.7 billion pounds of used cooking oil produced in the U.S., 1.7 billion pounds is still not collected. Higher required volumes increase used cooking oil collection and help improve water quality.

Response:

As noted in the proposed rule, the LMC estimate of available waste fats, oils, and greases only accounts for potential sources of feedstock and not for the economic viability of recovering waste oils. As such, it is not an appropriate volume to use when projecting the reasonably attainable volume of advanced feedstocks. This is especially true when the price for recycled feedstocks, which is the primary driver for feedstock collect, is lower than it has been in previous years. While we recognize the potential benefits to increased collection of waste oils, such as improved water quality, we continue to believe that the historic increases of these feedstock represent the best estimate for the growth in the use of these feedstocks in the production of biodiesel and renewable diesel in future years. Based on updated data, the final rule projects an increase of 48 million gallons of advanced biodiesel and renewable diesel derived from waste fats, oils, and greases.

Comment:

Collection of fats, oils, and greases is driven by the incentives created by the RFS program.

Response:

We acknowledge that the financial incentive provided by the RFS program, along with other state and local incentives, can provide an incentive to collect additional waste fats, oils, and greases to use as feedstock for biofuel production. However, these same incentives can also lead to greater diversion of qualifying feedstocks from existing (non-biofuel) uses to be used to produce advanced biodiesel and renewable diesel. This diversion of feedstocks could ultimately lead to the greater use of palm or petroleum-based products in non-biofuel industries. Thus, a desire to increase the collection of waste fats, oils, and greases is not a sufficient justification for a higher advanced biofuel volume.

Comment:

EPA should not assume the use of oils for food is flat. The commenter projects an 18 million gallon increase in the use of vegetable oils for food. The commenter further stated that EPA should not assume that the use of waste oils can increase without causing diversion.

Response:

We recognize that our projection of the reasonably attainable volume of advanced biodiesel and renewable diesel does not account for every factor that could impact the availability of feedstocks that could be used to produce advanced biodiesel and renewable diesel. We have attempted to account for the primary sources of feedstock, including production of virgin vegetable oils, increased production of distillers corn oil, and increased collection of fats, oils, and greases, and have generally assumed that consumption of these feedstocks in markets other than renewable fuel will not change appreciably from 2019 to 2020. While there are factors that are not accounted for in our assessment, such as those noted by commenters above, the impact these factors are expected to have on the total availability of feedstocks that could be used to produce advanced biodiesel and renewable diesel are highly uncertain and are expected to be small. We further note that some of these factors, such as the potential for increased use of vegetable oils in the food market, are expected to decrease the availability of feedstocks while others, such as increased availability of animal fats due to increased meat consumption, are expected to increase the supply of feedstocks. On balance, these factors are not expected to have a significant impact on our assessment of the reasonably attainable volume of advanced biodiesel and renewable diesel. Nor would a slightly higher or lower estimate of the reasonably attainable volume of these fuels affect our determination that the final advanced biofuel requirement is attainable or result in a different advanced biofuel volume for 2020.

Comment:

EPA should reduce the reasonably attainable volume to account for lower projected imports in 2020 relative to 2017.

Response:

Imports of advanced biodiesel and renewable diesel were higher in 2017 (653 million gallons)

than they were in 2018 (353 million gallons) as well as the projected volume of imports in 2019 (502 million gallons). If imports of advanced biodiesel and renewable diesel increase by the same magnitude from 2019 to 2020 as they are projected to increase from 2018 to 2019 (149 million gallons) then total imports of advanced biodiesel and renewable diesel would be approximately equal in 2020 (651 million gallons) as in 2017. However, even if imports are ultimately lower in 2020 than in 2017, this would not affect the reasonably attainable volume, an analysis which is primarily based on the availability of advanced feedstocks. Thus, as we state in Section IV of the final rule, we do not consider changes in imports or exports of advanced biodiesel and renewable diesel in our projection of the reasonably attainable volume. Moreover, as explained in the preamble, we believe that the required advanced biofuel volume is attainable even if imports do not rise from 2019 to 2020. Finally, further reducing the advanced biofuel and/or total renewable fuel volumes in this final rule would require the use of the general waiver authority, which EPA has determined is not warranted.

Comment:

Multiple commenters stated that higher volumes of advanced biofuel can be achieved without resulting in feedstock diversion. These commenters generally stated that plentiful feedstocks exist, and that EPA's concerns about feedstock switching are misguided. One commenter stated that EPA underestimated the agricultural community and misunderstands the commodity market when claiming that feedstock switching would result from higher volume requirements.

Response:

As discussed in greater detail in Section IV of the final rule, EPA has projected the growth of various advanced biodiesel and renewable diesel feedstocks, including vegetable oil, distillers corn oil, and waste oils and greases. The data reviewed by EPA does not support the commenter's statement that there will be a significant increase of these feedstocks in 2020. The data reviewed by EPA also suggests that feedstock switching has occurred historically and is a normal reaction to the changes in supply, demand, and price among the various feedstocks.⁷⁹ Consequently, there is a reasonable expectation that this would occur in the future were EPA to mandate greater volumes of advanced biofuel under the RFS program.

Comment:

EPA's discussion of feedstock switching is wrong. EPA's own lifecycle analysis (LCA) in 2010 considered the impact of feedstock switching with increased biodiesel production and concluded that production of biodiesel and renewable diesel from approved feedstocks still met the 50% lifecycle GHG threshold for advanced biofuel. More recent modeling confirms these results.

Response:

By considering the potential for indirect land use change, both domestically and internationally, EPA's 2010 LCA modeling did consider the potential impacts of feedstock switching. However, the volume scenarios modeled in that rule are significantly different than the volumes of

⁷⁹ See data on palm oil imports in this document

advanced biodiesel and renewable diesel expected to be used to meet the 2020 advanced biofuel volume. The volume of advanced biodiesel and renewable diesel projected to be used to meet the RFS volume requirements in 2022 in the 2010 RFS final rule (1.82 billion gallons) was over 1 billion gallons lower than the volume projected to be used to meet the advanced biofuel volume for 2020 (2.83 billion gallons). It is uncertain how these changes to the scenarios modeled for the 2010 RFS rule, together with other changes in the global agricultural and fuels sectors since 2010, would impact the LCA results. We are not claiming in this final rule that volumes above the reasonably attainable threshold inherently fail to meet the 50% GHG reduction threshold required by the Clean Air Act. We did not do a new LCA or reopen the 2010 LCA. The analysis in this final rule considers updated data and market circumstances that have developed since the 2010 lifecycle analysis was conducted. Based on this new information we believe, as a qualitative matter, that volumes above the reasonably attainable threshold are likely to result in diversions of advanced biofuels and feedstocks, which in turn are linked with various adverse effects.

Finally, while some more recent studies, noted by commenters, have supported the conclusion that biodiesel produced from soybean oil meets the 50% GHG reduction thresholds required for advanced biofuel when considering indirect land use change, other studies have reached different conclusions.⁸⁰

Comment:

The GHG impacts of feedstock switching are small because even if palm oil is used in place of advanced biofuel feedstocks due to feedstock switching, the use of palm oil is still better than petroleum-based diesel.

Response:

EPA has not finalized an LCA of biodiesel or renewable diesel produced from palm oil. Our proposed LCA suggested that while these fuels may have lower GHG emissions than petroleum, they likely do not meet the 50% GHG reduction threshold to qualify as advanced biofuels.⁸¹ In any event, even assuming the commenter is correct, the statute does not require EPA to single-mindedly require the maximum amount of biofuels possible where such biofuels have any GHG reductions relative to fossil fuels. As explained in Section IV of the final rule, we believe that the concerns about high costs of advanced biofuels and adverse consequences of feedstock and biofuel diversions justify the final advanced biofuel requirement.

Comment:

There are no pathways for palm oil in the RFS program or California's LCFS. The lack of these incentives, combined with the tariffs on biodiesel imported from Argentina, mean that biodiesel and renewable diesel produced from palm oil cannot be used to meet the required volumes, and

⁸⁰ For example; Valin H, P. D., van den Berg M, Frank S, Havlik P, Forsell N, Hamelinck C. (2015). The land use change impact of biofuels consumed in the EU: Quantification of area and greenhouse gas impacts. Utrecht, Netherlands, Ecofys: 261.

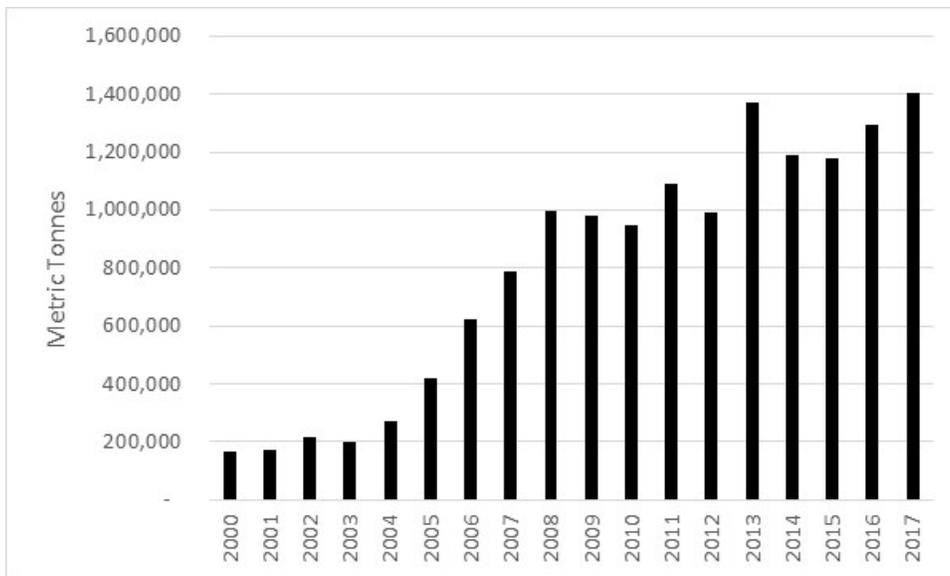
⁸¹ See the draft GHG assessment of palm oil biodiesel and renewable diesel at 77 FR 4300 (January 27, 2012).

concerns about the use of palm oil are misguided.

Response:

A number of renewable diesel and biodiesel producers in the U.S. and abroad were grandfathered under the RFS program in keeping with the provisions of the statute to allow them to produce such fuels from palm oil that meets the definition of renewable biomass. Thus, palm oil can and has been used to meet the conventional renewable fuel volumes required by the annual standards. However, EPA’s concerns about increased demand for palm oil due to the RFS program are not limited to palm oil that is used to produce qualifying biodiesel or renewable diesel. Rather, we are concerned that palm oil could be used as a replacement feedstock in non-biofuel industries as demand for qualifying feedstocks to produce advanced biodiesel and renewable diesel increases. Imports of palm oil to the U.S. have increased dramatically in recent years, during the same time period in which domestic consumption of advanced biodiesel and renewable diesel has also increased dramatically. While there may be multiple reasons for the increase in palm oil imports, including the FDA regulation of hydrogenated oils in food markets, this provides evidence that a likely result of increasing demand for advanced feedstocks in the biodiesel and renewable diesel industry can, and likely has, resulted in an increased use of palm oil in other markets. As noted in Section IV of the final rule, advanced biodiesel and renewable diesel produced from feedstocks that had previously been used in other industries are expected to have reduced benefits as these industries rely on increasing volumes of palm oil.

Palm Oil Imports (2000-2017)



Source: USDA Foreign Agriculture Service

Comment:

Multiple commenters stated that soybean oil is a co-product of soybean meal production. These commenters often claimed that there will be excess soybean oil in the future due to increasing

meat demand. Soybean producers need a new market for soybean oil due to the ban of partially hydrogenated oils in food, which took effect on June 18, 2018.

Response:

As discussed in greater detail in Section IV of the final rule, EPA has used projections from USDA's most recent WASDE report (October 2019) to project the increase in vegetable oil production in the U.S. in 2020. We believe this report reasonably projects the likely increases in vegetable oil production, which could be used as a feedstock for producing biodiesel and renewable diesel. The WASDE report does project increasing production of soybean oil in the U.S. in 2020, and we have reflected this projected increase in our assessment of the reasonably attainable volume of advanced biodiesel and renewable diesel for 2020. Increasing the quantity of soybean oil that is used to produce biodiesel and renewable diesel at a rate greater than the increase in vegetable oil production is highly likely to result in the diversion of these feedstocks from other industries that are currently using them. We recognize that the FDA regulations, along with broader market factors resulted in significant decreases in the quantity of soybean oil used in food markets from 2005 to 2012. However, comments submitted to EPA suggests that while the use of soybean oil in food markets in the U.S. declined from 2005 through 2012 as the use of partially hydrogenated oils decreased in food markets (that is, even prior to the 2018 FDA regulation), and the use of soybean oil in food markets was fairly consistent from 2012 through 2018, and is expected to increase in future years.⁸² The FDA regulations are therefore unlikely to result in a significant decrease in the use of soybean oil in the U.S. food market (and are therefore unlikely to result in a corresponding increase in the amount of soybean oil that could be used to produce biodiesel and renewable diesel) in 2020.

Comment:

Multiple commenters referenced a study by LMC International (submitted in comments on this rule) that global supplies of all feedstocks are growing.

Response:

We recognize that the production of advanced feedstocks is expected to increase in future years, according to both the LMC international study and other studies. As discussed in Section IV of the final rule, we have used the October 2019 WASDE to project the increase in production of vegetable oils in the U.S. in 2020 in this final rule. We have also used the WAEES model to project increases in distillers corn oil and EPA's own model to project increases in waste fats, oils, and greases.

Comment:

A commenter stated that the current trade war is resulting in excess soybean oil in the U.S. that can be used to produce biodiesel. Another commenter noted that stocks of soybeans are currently

⁸² See NBB comments on the 2019 proposal (Docket Item No. EPA-HQ-OAR-2018-0167-0711 Attachment 3).

very high.

Response:

Our consideration of the expected impacts of these tariffs on feedstocks for advanced biodiesel and renewable diesel can be found in Section IV of the final rule.

Comment:

Corn oil production is growing with ethanol production. The increased production of corn oil is a source of additional feedstocks. Another commenter stated that corn oil extracted at ethanol plants can be used to produce biodiesel, and that the use of this corn oil to produce biodiesel does not impact food markets.

Response:

EPA recognizes that increasing corn ethanol production would likely lead to an increase in the availability of distillers corn oil, however we do not expect that higher RFS standards would result in higher domestic corn ethanol production. Corn ethanol production in the U.S. currently exceeds the implied volume of conventional biofuel in this final rule (15 billion gallons) and is driven by demand for ethanol as an economical blending component in E10 blends and demand for ethanol in the export market. We expect a small increase in the production of distillers corn oil in 2020 due to relatively small increases in the adoption rate of corn oil extraction technology and an increase in the yield of distillers corn oil extracted at existing facilities as the technology improves. Additional growth due to expansion in corn ethanol production is possible but would be driven by ethanol export demand apart from the RFS.

Comment:

EPA should account for 15 million gallons of sorghum oil in the assessment of available feedstock in 2020.

Response:

We have not separately assessed the quantity of sorghum oil that could be available in 2020. We do, however, believe that our assessment of available feedstocks incorporates any sorghum oil that may be available in 2020. Sorghum oil is produced at ethanol production facilities in much the same way as corn oil. Our projection of corn oil assumed that all conventional grain ethanol in the U.S. was produced using corn as the only feedstock (rather than a small portion of the feedstock being sorghum rather than corn), and that all of the distillers oil produced from these facilities was corn oil. Thus, to the degree that some of these facilities use sorghum, rather than corn, as their feedstock, the sorghum oil volume produced from these facilities is already considered in our projection of the growth in corn oil for 2020.

Comment:

EPA's focus on feedstock and fuel switching violates the statute by creating a bias against foreign fuels that otherwise meet the minimum lifecycle emissions thresholds.

Response:

EPA's consideration of feedstock and fuel switching does not discriminate against foreign produced fuels that otherwise meet the regulatory requirements to qualify as advanced biofuel. These fuels are eligible to generate RINs that have the same compliance and monetary value as the RINs produced for domestic advanced biofuels. Indeed, EPA's analysis of fuel and feedstock switching does not distinguish at all between switching that occurs abroad versus that which occurs in the U.S. Rather, EPA's concerns over the potential for adverse impacts related to feedstock and fuel switching recognize that the fuels market, as well as the impacts of GHG emissions, are global. Thus, increasing demand and consumption for renewable fuel in the U.S. can impact actions in other domestic industries as well as in other countries. To the degree that these impacts increase GHG emissions, regardless of their location, we consider such increases in exercising the cellulosic waiver authority. We also note that other concerns, most notably the high cost of advanced biofuels, also justify EPA's decision to reduce the advanced biofuel volume by the same amount as the reduction to the cellulosic biofuel volume.

Comment:

A commenter submitted study by Advanced Economic Solutions (AES). The commenter claimed this study described the negative impacts on the vegetable oil market of volume requirements for biodiesel and renewable diesel that exceeded 3 billion gallons. The commenter also described potential limitations on several potential feedstock sources.

Response:

The AES study referenced by the commenter assessed the potential impacts of scenarios where the volume of biodiesel and renewable diesel (including both advanced and conventional biodiesel and renewable diesel) required by the RFS program rose to 3 billion gallons and 4 billion gallons. The scenarios examining the impacts of requiring 3 billion gallons of biodiesel and renewable diesel are most relevant to this final rule, as this volume is slightly higher than the volume of these fuels that we project will be used to meet the advanced biofuel volume (2.83 billion gallons) and slightly lower than the volume we project will be used to meet the total renewable fuel volume (3.24 billion gallons). The AES study described the impact of these scenarios as having a "limited feedstock impact from the current situation," with the impacts on demand for soybean oil being a "relatively modest increase."⁸³ We further note that the price of biodiesel projected in the AES study under these scenarios (\$4.13 - \$4.33 per gallon of biodiesel) is much higher than the current prices (\$2.81-\$2.82 per gallon per Argus Americas Biofuels, depending on the location), notwithstanding that EPA required the same volume of non-cellulosic advanced biofuels for 2019 as we are doing for 2020.⁸⁴ This more recent data casts

⁸³ "Analysis of Potential RFS Volumes for Biodiesel," Advanced Economic Solutions, August 2017.

⁸⁴ "Argus Americas Biofuels," Issue 19-229, November 26, 2019.

significant doubt on this AES projection. But even were we to assume that the projection is accurate, these impacts do not rise to the level of severe economic harm that is the criteria for EPA to consider using the general waiver authority to make further reductions to the advanced biofuel volume. As discussed further in Section IV of the final rule, EPA has considered the potential feedstock sources for the additional volume of these fuels necessary to meet the advanced biofuel volume and determined that sufficient feedstocks will be available in 2020.

Comment:

The RIN value is necessary to “bridge the gap” between the price of bean oil and heating oil to allow biodiesel producers to cover their cost of production.

Response:

We recognize that the cost of production of biodiesel (and renewable diesel) is higher than the price of the petroleum fuels they displace. In such situations the RIN value (along with other federal, state, and local incentives) is intended to incentivize the production of these fuels when it would not otherwise be economical to so.

Comment:

A commenter cited the WASDE forecast and claimed that 3.6 billion gallons of biodiesel and renewable diesel could be produced from vegetable oil produced in the U.S. The commenter further claimed that additional volumes of biodiesel and renewable diesel could be produced from new feedstock production and currently available lipids.

Response:

EPA is aware of this WASDE projection and has used the October 2019 WASDE report as the basis for our projection of domestic vegetable oil production in 2020. As discussed in Section IV of the final rule, it would not be appropriate to assume that the entire volume of U.S. vegetable oil production in 2020 was used to produce biodiesel and renewable diesel. Our projection of the volume of these fuels that can be produced in 2020 without further diverting feedstocks and biofuel from existing sources can be found in Section IV of the final rule.

Comment:

EPA could increase the available feedstocks that could be used to produce advanced biodiesel and renewable diesel by approving new pathways for jatropha and carinata oil.

Response:

These feedstocks have not currently been evaluated by EPA. If EPA determines that biodiesel and renewable diesel produced using these feedstocks meets the 50% GHG reduction required to qualify as an advanced biofuel (as well as all other regulatory requirements) we will consider these feedstocks in future rulemakings.

Comment:

Feedstock prices are falling, so feedstock availability cannot be a factor that is constraining biodiesel and renewable diesel production.

Response:

We recognize that prices for soybean oil, as well as other vegetable oils and feedstocks that can be used to produce biodiesel and renewable diesel are lower than in previous years. This price reduction appears to be primarily the result of a significant increase in the production of vegetable oils over this time. While production of soybean oil and other advanced feedstocks have increased in recent years, production of palm oil has also significantly increased over this time period. Since, as noted by several commenters and discussed in Section IV of the final rule and in a memorandum to the docket,⁸⁵ vegetable oils that can be used to produce advanced biodiesel and renewable diesel are generally a byproduct or coproduct of crops primarily grown for other purposes, increased demand for vegetable oil is unlikely to result in the increased production of advanced biofuel feedstocks. Palm oil, conversely, is the primary product of palm plantations and generally has a lower cost of production than other vegetable oils. Thus, while increases in the production of biodiesel and renewable diesel beyond the levels in this final rule may not cause problematic shortages of vegetable oils, they would likely result in increased global palm oil production.⁸⁶ We further note that despite these price decreases, biodiesel and renewable diesel continue to have a significantly higher cost than petroleum based diesel.

Comment:

Renderers supply 29% of all biodiesel feedstock (used cooking oil and animal fat). Feedstock availability is expected to grow with increased livestock and poultry output, which is growing at a rate of 2.3% per year according to USDA data. Poultry is increasingly moving to an all vegetarian diet, which increases the availability of animal fats that could be used to produce biodiesel and renewable diesel.

Response:

We recognize that the availability of animal fats is likely to increase with increased livestock output. Changes in the feed formulations for livestock and poultry may result in further increases to the supply of animal fats and used cooking oil available for biofuel production. In this final rule we have projected an increase in the quantity of animal fats and used cooking oil in 2020 that is sufficient to produce an additional 46 million gallons of biodiesel and renewable diesel based on the observed rate of growth in these feedstocks in previous years.

⁸⁵ “Endangered Species Act No Effect Finding and Determination on Severe Environmental Harm under General Waiver Authority,” memorandum to docket EPA-HQ-OAR-2018-0167.

⁸⁶ If biodiesel and renewable diesel production ultimately results in the increased production of palm oil, it is expected to have fewer environmental benefits. See the draft GHG assessment of palm oil biodiesel and renewable diesel at 77 FR 4300 (January 27, 2012).

4.2.2.5 Impact of Tax Credit

Commenters that provided comment on this topic include but are not limited to: 0171, 0213, 0293, 0301.

Comment:

Multiple commenters stated that the tax credit is independent from the RFS program and should not be considered as it has no impact on the available supply of advanced biodiesel and renewable diesel.

Response:

While EPA continues to believe that the availability of the tax credit can impact the availability of biodiesel and renewable diesel by providing a certain and fixed incentive for these fuels, whether or not the tax credit is renewed for 2020 does not impact the advanced biofuel volume in this rule. As discussed in Section IV of the final rule, we have decided to reduce the advanced biofuel volume by the maximum amount allowable. The status of the tax credit could have an impact on the cost of biodiesel and renewable diesel to consumers, and the high costs of advanced biofuels are one of the reasons we have decided to reduce the advanced biofuel volume by the maximum amount allowable. However, EPA is primarily concerned in the high societal costs of advanced biofuels, which are not impacted by the status of the tax credit, as tax credits merely shift who in the marketplace pays the high cost of the advanced biofuel. Tax credits can result in significant transfer payments between parties, but they do not eliminate or reduce societal costs. In any event, as we explain in Section IV.B.3 of the final rule, the status of the tax credit also does not affect our projection of the reasonably attainable volume of advanced biodiesel and renewable diesel, or our conclusion that 2.83 billion gallons of advanced biodiesel and renewable diesel is attainable.

Comment:

The tax credit does not impact the price of biodiesel, but rather is a value component that serves to lower the RIN price as it provides an additional incentive for the blending of biodiesel and renewable diesel. The market has placed a probability on the availability of a retroactive tax credit reinstatement.

Response:

The market has and continues to factor the presence or lack thereof of the tax credit into the price of biodiesel. Regardless of what impact it may have, as discussed in the previous response, the status of the tax credit does not affect our projection of the reasonably attainable or attainable volume of advanced biodiesel and renewable diesel in 2020.

4.2.3 Other Advanced Biofuel

EPA did not receive any comments on this topic.

4.3 Advanced Volume that Can Be Supplied and Used

Commenters that provided comment on this topic include but are not limited to: 0717.

Comment:

One stakeholder said that EPA had increased the BBD standard to 2.43 without increasing the advanced standard, thereby reducing the market for non-cellulosic, non-BBD advanced biofuel.

Response:

The increase in the 2020 BBD standard to 2.43 billion gallons from the 2019 volume requirement of 2.1 billion gallons was effectuated through a rulemaking promulgated on December 11, 2018, and our justification for that increase is contained in that rule.⁸⁷ The increase was justified in part on the fact that the non-cellulosic portion of the 2019 advanced biofuel volume requirement in both the statute and our final rule was increased by 500 million ethanol-equivalent gallons. The biodiesel-equivalent of 500 million ethanol-equivalent gallons is 330 million gallons, which is the increase that we established in for the 2020 BBD volume requirement. As described in that rule:

“This increase, in conjunction with the statutory increase of 500 million gallons of non-cellulosic advanced biofuel in 2019, would preserve a gap for “other” advanced biofuels, that is the difference between the advanced biofuel volume and the sum of the cellulosic biofuel and BBD volumes. This would allow other advanced biofuels to continue to compete with excess volumes of BBD for market share under the advanced biofuel standard, while also supporting further growth in the BBD industry.” (83 FR 63738)

We recognize that the increase in the BBD volume requirement to 2.43 billion gallons applied in 2020 while the increase in the non-cellulosic portion of the advanced biofuel volume requirement applied in 2019. This is the result of the statutory requirement that the BBD volume requirement be set 14 months ahead of the applicable year, while the other three volume requirements must be set by November 30, effectively 1 month ahead of the applicable year. However, when comparing the 2020 volume requirements to the 2018 volume requirements, the non-cellulosic, non-BBD portion of the advanced biofuel volume requirement remains the same at 0.85 billion gallons. As we explain in Section VI of the final rule, the use of other (non-cellulosic, non-BBD) advanced biofuels in recent years has been a small fraction of this amount, and we believe the remaining gap is sufficient to allow the development and increased production of other advanced biofuels to still be incentivized.

⁸⁷ 83 FR 63704 (December 11, 2018).

4.4 Proposed Advanced Biofuel Requirement

Commenters that provided comment on this topic include but are not limited to: 0117, 0153, 0164, 0171, 0177, 0186, 0191, 0192, 0196, 0197, 0201, 0202, 0207, 0212, 0213, 0291, 0293, 0298, 0299, 0301, 0302, 0311, 0313, 0320, 0323, 0324, 0328, 0337, 0539, 0541.

Comment:

One commenter said that the advanced biofuel volume requirement should be reduced below the proposed level of 5.04 billion gallons, to the level that is reasonably attainable, using the general waiver authority.

Response:

We do not believe that further reductions below the level achieved through the full use of the cellulosic waiver authority are warranted for 2020. The general waiver authority is not triggered by the increased likelihood of feedstock or fuel diversions, which is the focus of the reasonably attainable analysis. This analysis, moreover, was developed by EPA in evaluating the cellulosic waiver authority, which grants EPA broad discretion to consider various factors. The general waiver authority, by contrast, is triggered by specific findings of inadequate domestic supply, severe environmental harm, or severe economic harm. See Section 2.1 of this document for further discussion of the general waiver authority.

Comment:

One commenter stated that the 2020 advanced biofuel volume requirement should be based on the sum of cellulosic biofuel, the BBD volume requirement (rather than attainable or reasonably attainable BBD), and other advanced, which leads to 4.285 billion gallons.

Response:

Our determination of the appropriate volume requirement for advanced biofuel for 2020 includes a consideration of the volume of advanced biodiesel and renewable that is attainable. As described in Section IV of the final rule, our analysis concluded that significantly more than 2.43 billion gallons of such fuels - 2.8 billion gallons - is in fact attainable in 2020. By contrast, 2.43 billion gallons of BBD is not the most that could be expected to be supplied in 2020, but rather is a level that provides support to the BBD industry while simultaneously providing an opportunity additional volumes of advanced biodiesel and renewable diesel to compete with other advanced biofuels under the advanced biofuel standard. Nothing in the statute obligates EPA to limit the opportunity for BBD to that required by the BBD standard. It is appropriate for BBD to compete with other advanced biofuels in meeting the non-cellulosic, non-BBD portion of the advanced standard.

Comment:

Several commenters stated that the advanced biofuel standard for 2019 should be higher than 5.04 billion gallons because there exists sufficient biodiesel and renewable diesel production capacity and sufficient feedstocks to reach a higher level.

Response:

We acknowledge that total domestic production capacity for biodiesel and renewable diesel is considerably higher than actual production in recent years (as discussed further in Section 4.2.2.1 of this document), and that sufficient feedstocks exist to permit an advanced biofuel volume requirement higher than 5.09 billion gallons (the updated value for the final rule) to be reached in 2020. However, as volume requirements increase, so also do the challenges associated with meeting those volume requirements. We believe that it is important to take these challenges into account when making a determination of the appropriate volume requirements to set. Moreover, we have the authority under the cellulosic waiver authority to consider factors other than production capacity and the total amount of qualifying feedstock that is produced. As described in Section IV of the final rule, we have taken into account the increased potential for feedstock/fuel diversions as volumes increase, and its associated market and environmental impacts, the higher costs, and the reduced benefits. Based on these additional considerations, we determined that an advanced biofuel volume requirement resulting from the full use of the cellulosic waiver authority is appropriate.

Comment:

One commenter stated that by not allowing advanced biofuel to partially backfill for the shortfall in cellulosic biofuel, future investments in advanced biofuel will suffer.

Response:

As discussed in Section IV of the final rule, based on a consideration of a variety of factors including the attainability of advanced biofuel volumes, costs, and potential feedstock and fuel diversions, we have determined that a partial backfilling would not be appropriate for 2020. However, we note that the portion of the advanced biofuel standard that is not required to be cellulosic biofuel or BBD can be met with any advanced biofuel. In 2020, this portion will be 0.85 billion gallons. This volume represents a market opportunity for new and innovative advanced biofuels. The applicable standards in the last several years have included a similar implied volume requirement for non-cellulosic, non-BBD advanced biofuel, creating opportunities for ongoing investments in advanced biofuels.

Comment:

One commenter stated that the refusal to partially backfill for the shortfall in cellulosic biofuel means that EPA is ignoring the statute's overall goal of increasing the use of renewable fuels. EPA cannot use costs to limit the advanced biofuel standard since doing so runs counter to the statute's goal of increasing volumes that would otherwise not occur. Also, setting the non-

cellulosic portion of the advanced biofuel volume requirement for 2020 at the same level it was in 2019 is also inconsistent with Congressional intent to increase volumes over time.

Response:

The statute does not provide an increase in non-cellulosic advanced biofuels from 2019 to 2020, but instead only provides for an increase in cellulosic biofuel. Had Congress intended for this category to increase for 2020, they could have required it. While the statute provides EPA with the flexibility to allow some backfilling of the cellulosic shortfall with other advanced biofuel as the commenter suggests by waiving the advanced biofuel and total renewable fuel volumes by a lesser amount than the cellulosic volume, the statute does not require this and does not command this at all costs. Rather, Congress explicitly provided mechanisms for reducing the volume target in certain conditions. The cellulosic waiver authority provides EPA with broad discretion in the factors it may consider, including diversion of feedstocks, impacts on other markets, GHG emissions, and costs.

Comment:

Several commenters stated that EPA had not considered whether more than 5.04 billion gallons of advanced biofuel was attainable, but instead had simply proposed to set the 2020 advanced biofuel volume requirement at the minimum permitted under the cellulosic waiver authority.

Response:

Attainability is not the sole criterion on which we make our determination under the broad discretion provided under the cellulosic waiver authority. Rather, we considered additional factors such as the impact of the required volumes on feedstock and fuel diversions, as well as costs and benefits. As a result, we determined that the volume requirement that was both attainable and appropriate to require was 5.09 billion gallons, the lowest level permitted under the cellulosic waiver authority.

Comment:

One commenter stated that EPA's refusal to increase advanced biofuel volumes when such volumes are available forgoes environmental, economic, and energy security benefits.

Response:

The commenter did not provide any data or analysis to support the foregone benefits claimed. We continue to believe that it is appropriate to set the final advanced biofuel volume requirement using the maximum reduction permitted under the cellulosic waiver authority in light of a consideration of the increased likelihood for feedstock/fuel diversions and increased costs, and, factors that we are legally permitted to consider under this authority.

Comment:

Several stakeholders said that the proposed 2020 advanced biofuel volume requirement should be increased by 500 million gallons to account for the increase in the BBD volume requirement from 2.1 billion gallons in 2019 to 2.43 billion gallons in 2020.

Response:

As explained in Section IV of the final rule, we are establishing the advanced biofuel requirement by exercising the cellulosic waiver to the maximum extent permissible. The cellulosic waiver does not require us to increase the advanced biofuel standard based on corresponding increases to the BBD volume, which is established under an entirely separate statutory authority. Moreover, in the 2019 final rule, we promulgated the 330 million gallon increase in the 2020 BBD volume at the same time as the 500 million gallon increase in the 2019 non-cellulosic advanced volume.⁸⁸ As we explained in that rule, the 2020 BBD increase was keyed to the 2019 non-cellulosic advanced increase, and a desire to preserve market space for other advanced biofuels. Seeing as there is no increase in the 2020 non-cellulosic advanced volume, applying the same methodology would entail flatlining the BBD volume in 2021 in this rule. We explain this further in Section VI of the final rule.

Comment:

Several stakeholders said that the advanced biofuel volume requirement should be higher to provide support to domestic biodiesel producers.

Response:

Under the cellulosic waiver authority, we can consider a variety of factors in determining the appropriate volume requirement for advanced biofuel. While we can consider support to biofuel industries, we can also consider other factors such as costs and potential feedstock/fuel diversions. As described in Section IV of the final rule, a consideration of multiple factors has led us to conclude that the statutory volume target for advanced biofuel should be reduced by the maximum amount permitted under the cellulosic waiver authority.

In the rulemaking which established the 2019 standards, we increased the 2020 volume requirement for BBD to 2.43 billion gallons, in part to support the biodiesel production industry in 2020. Given that the advanced biofuel volume requirement for 2020 will be 5.10 billion gallons and the cellulosic biofuel volume requirement will be 0.60 billion gallons, this means that the biodiesel industry has an additional 0.57 billion gallons (0.85 billion RINs) of potential market in 2020 above the level required by the BBD standard. Thus, the advanced biofuel volume requirement represents substantial support to the biodiesel industry even beyond the BBD standard.

See also responses to comments about biodiesel production capacity in Section 4.2.2.2 of this

⁸⁸ 83 FR 63734, December 11, 2018.

document.

Comment:

Several stakeholders said that EPA should increase the advanced biofuel volume requirement above the proposed level to account for small refinery exemptions that have occurred in the past. One stakeholder said that the non-cellulosic portion of the advanced biofuel volume requirement should be raised from 4.5 to 5.5 billion gallons for this purpose.

Response:

See Section 8.2 of this document for our response to comments regarding how we account for SREs.

5. Total Renewable Fuel and Conventional Renewable Fuel

5.1 Ethanol

5.1.1 E10 Blendwall and Total Gasoline Demand

Commenters that provided comment on this topic include but are not limited to: 0118, 0153, 0276, 0324.

Comment:

Some commenters repeated their views from previous annual standard-setting rulemakings regarding the existence and nature of the E10 blendwall. For instance, some questioned the existence of an ethanol blendwall and claimed it is an idea invented by obligated parties to convince EPA to lower their blending obligations. Others stated that the blendwall is a firm barrier that cannot or should not be crossed.

Response:

Our view of the E10 blendwall falls between the two opposing viewpoints expressed by refiners and ethanol proponents. We believe that there are real constraints on the ability of the market to exceed a pool-wide ethanol content of 10%. However, by “constraints” we do not mean a firm barrier but rather the transition from mild resistance (if any) below 10% ethanol to more significant obstacles above 10% ethanol. Moreover, these constraints do not have the same significance at all levels above 10% ethanol. This gradual nature of the impacts of the constraints is due to the fact that small increases in ethanol volumes above 10% are likely to be possible with changes in RIN prices, while larger increases are only possible with changes to infrastructure that cannot occur as quickly. The transition from mild resistance to significant obstacles occurs by degrees rather than all at once and overcoming the constraints will likely require different solutions over different time periods. It is difficult to identify the precise boundary between volumes that can be achieved with mild difficulty in 2020 and those that likely cannot realistically be achieved over the next year. Ultimately the market will determine the extent to which compliance with the annual standards is achieved through the use of greater volumes of ethanol or other, non-ethanol renewable fuels. In recent years additional biodiesel and renewable diesel, together with smaller increases in E15 and E85, have provided additional biofuel volumes in excess of the E10 blendwall.

In short, the E10 blendwall is not the barrier that some commenters believe it to be, but neither are increases in pool-wide ethanol concentrations above 10% unlimited in the 2020 timeframe as other commenters have suggested. The final 2020 volume requirement for total renewable fuel can help to create some incentive for use of E15 and E85, but the volumes of E15 and/or E85 that would be needed to reach the statutory targets in the absence of increases in non-ethanol biofuels are not achievable in 2020.

Another reason that the E10 blendwall is not the barrier that some commenters make it out to be is that it is focused solely on ethanol. Many of the comments on both sides of the debate focus on

ethanol, but there is nothing in the statute or the RFS program that requires the use of ethanol. The advanced biofuel and total renewable fuel standards can and have been met with other biofuels as well, especially biodiesel and renewable diesel. The E10 blendwall may create a challenge toward increasing volumes of ethanol, but growth in other biofuels is not only possible but expected within the capabilities of their markets.

Comment:

One commenter stated that exceeding the blendwall will mean higher costs and harm to the economy, and that refiners unable to acquire sufficient RINs will face fines or will be forced to reduce their obligation by reducing production of gasoline and/or diesel for domestic use.

Response:

As discussed in Section 5.1.2 of this document, the U.S. exceeded the E10 blendwall in 2016 through 2018, but there has been no indication of harm to the economy as a result, and commenters provided no evidence of such harm to the economy in those three years. Similarly, commenters provided no evidence that exceeding the blendwall in those years precluded refiners from acquiring sufficient RINs so as to face fines, or induced refiners to reduce the production of gasoline or diesel for domestic use. Since our assessment of the market impacts of the final 2020 volume requirements presumes that the ethanol concentration will be no higher in 2020 than it was in 2017, concerns about potential impacts on the economy of exceeding the E10 blendwall are unwarranted.⁸⁹

Our determinations about the market's ability to use biofuels — that 5.09 billion gallons of advanced biofuel is attainable in 2020 and that the market can make available 20.09 billion gallons of total renewable in 2020 — mean that we expect there will be a sufficient number of valid RINs available for all obligated parties to comply with the applicable standards. Moreover, as we discuss in Section II.B of the final rule, to the extent the market falls short of using these volumes, obligated parties can rely on the carryover RIN bank to satisfy their obligations. Other compliance flexibilities, such as the carryforward deficit provision and small refinery exemptions, also exist. As a result, we do not expect any obligated parties to be unable to acquire sufficient RINs for compliance.

⁸⁹ “Updated market impacts of biofuels in 2020,” memorandum from David Korotney to docket EPA-HQ-OAR-2019-0136.

5.1.2 Exceeding the E10 Blendwall

Commenters that provided comment on this topic include but are not limited to: 0193, 0211, 0279, 0299, 0324, 0326, 0718.

Comment:

A number of commenters, particularly refiners, argued that the 2019 volume requirements should be set in such a way that the pool-wide ethanol content will be no higher than 9.7%. They based their preferred approach on the premise that E15 and E85 cannot contribute meaningfully to higher ethanol consumption, and that there is ongoing demand for E0 (gasoline containing no ethanol) at a level of at least 3% of the total gasoline pool.

Response:

As we said in previous annual standard-setting rules, we do not find the arguments that the pool-wide ethanol content cannot be higher than 10% to be compelling. As other commenters pointed out, the nationwide average ethanol concentration has been above 10.00% for the last three years. Moreover, despite concerns raised by those advocating 9.7% ethanol, there is no indication that exceeding the blendwall in 2016 through 2018 created severe economic harm for any State, region, or the U.S., which would be necessary to support use of the general waiver authority to lower the statutory volume targets down to such a level.

While we agree that use of E15 and E85 in 2020 cannot enable the market to achieve the statutory target for total renewable fuel, they can make meaningful contributions in 2020. The final 2020 volume requirement for total renewable fuel creates the opportunity for the market, should it so choose, to exceed a pool-wide ethanol concentration of greater than 10% as already occurred in 2016 through 2018 without forcing the use of E15 and/or E85 in vehicles and engines for which they were not designed as a number of commenters feared.

Comment:

One commenter said that, by requiring more than 9.7% ethanol, EPA is forcing consumers to use higher ethanol blends which they do not want.

Response:

The RFS program includes no requirements for the use of ethanol, and every retail service station offering a higher ethanol blend such as E15 or E85 also offers E0 and/or E10. Thus, consumers will continue to have the choice not to use higher ethanol blends.

Comment:

Several stakeholders said that exceeding the E10 blendwall will cause RIN prices to go up and will create excess volatility in the RIN market, and that this creates high costs for refiners. One stakeholder said that high RIN prices would threaten jobs.

Response:

There is a significant difference in the cost of blending ethanol to make E10 (typically less costly than gasoline without ethanol) versus blending ethanol to make E15/E85 (typically much more costly than gasoline without ethanol) as described in response to comments in Section 5.1.1 of this document. As a result of this dynamic, RIN prices (in particular, D6 RINs as they represent the bulk of ethanol blending) will tend to be higher if the market's response to an implied conventional volume requirement above the E10 blendwall is to increase the use of E15/E85. However, the market will determine how much ethanol is consumed versus non-ethanol biofuels such as biodiesel and renewable diesel in order to meet the applicable volume requirements and may or may not choose to use ethanol in excess of the E10 blendwall. Moreover, RIN prices are the result of many other factors which are unpredictable, creating fluctuations in the market. For instance, the market has exceeded the E10 blendwall in years 2016 - 2018, but RIN prices have varied significantly during this time period as shown in Figure VI.B.2-1 of the final rule. Regardless, however, the evidence has shown that refiners are able to pass through the cost of compliance with the RFS program to consumers, including the prices that they pay for RINs.⁹⁰ As a result, we do not believe that high RIN prices will have a direct impact on employment within the fuels industry.

See also responses to comments on RIN prices in Section 7.1.3 of this document.

Comment:

One commenter said that exceeding the E10 blendwall will compromise the integrity of underground storage tanks and will have negative effects on automobiles.

Response:

Retailers are responsible for ensuring that the equipment used to store and dispense fuel has been certified for use with the particular gasoline-ethanol blends they are offering. EPA has also implemented regulations prohibiting the use of higher ethanol blends in certain vehicles and to mitigate misfueling. More specifically, E15 is prohibited from being used in vehicles older than model year 2001 and in all nonroad engines, and E85 is permitted only to be used in FFVs. Misfueling mitigation regulations were implemented to help ensure that E15 is only used in approved vehicles.⁹¹

See also responses to comments concerning the impacts of E15 on underground storage tanks and engines in Section 5.1.6 of this document.

⁹⁰ See further discussion in "Denial of Petitions for Rulemaking to Change the RFS Point of Obligation," EPA-420-R-17-008, November 2017.

⁹¹ 76 FR 44406 (July 25, 2011)

Comment:

One stakeholder said that Congress intended the conventional volume to be filled only with E10, and cited statements from Senator Thune during debate on the bill that was to become EISA.

Response:

As stated in previous annual standard-setting rules, we are aware that the gasoline demand projections available in 2007 projected considerably higher future total gasoline demand than has actually occurred. However, there are no legislative records indicating a general sense of Congress that the implied conventional renewable fuel volume requirement was intended to be met with no more than 10% ethanol. For instance, we are not aware of language from a House or Senate committee report specifically addressing this issue. The statements from Senator Thune which are quoted by the stakeholder are focused on the use of E10 in conventional vehicles and exclude consideration of E85 used in FFVs. Moreover, E15 was not approved for use in MY2001 and later vehicles until 2011, so Congressional debates on the RFS2 program in 2007 and earlier could not have accounted for this later approval. More generally, EPA interprets the statute based on its text, read in light of its context, structure, and purpose. While the legislative history can also inform our understanding of the statute, the views of a single Senator are of limited weight, particularly where other members of Congress may have expressed differing views.

Comment:

One stakeholder said that EPA had inappropriately redefined the 15-billion-gallon cap on ethanol as an “implied mandate” for conventional biofuel, an interpretation of the RFS that is not grounded in the statute and the nested nature of its requirements.

Response:

We recognize that the conventional volume is not a mandate under the statute. Indeed, in some past years, advanced biofuels have been used to satisfy the implied conventional portion of the total renewable fuel standard, in excess of that required by the advanced standard. We have used the term “implied mandate” or its equivalent as a label of convenience, not a redefinition, recognizing the common treatment of the conventional volume by many stakeholders as effectively operating like a mandate.

Comment:

One stakeholder said that it is not feasible to have more than 10% ethanol because most cars can only tolerate up to 10%.

Response:

While all cars can use gasoline containing up to 10% ethanol, cars built in 2001 and later are legally permitted by EPA to use E15, and flex-fuel vehicles can use E85. As a result, the

poolwide average ethanol content can be higher than 10% without requiring all cars to use greater than 10%.

5.1.3 Domestic Production Capacity

EPA did not receive any comments on this topic.

5.1.4 Refiner Responsibilities to Expand Ethanol Use

Commenters that provided comment on this topic include but are not limited to: 0276.

Comment:

One commenter stated that refiners are responsible for selling higher level ethanol blends, and that they have had plenty of time to put in place the necessary infrastructure.

Response:

The RFS program is structured to create a market for renewable fuels, and it is within that market system that many different interested parties contribute to maintaining and expanding the renewable fuel supply chain from producer to ultimate consumer. Obligated parties have a unique role in being required to acquire RINs that demonstrate compliance with RFS standards, but the ultimate success of the program depends on the actions of many independent market participants. We do believe that the RFS program has been working as intended to expand the use of renewable fuel despite the slower-than-expected rate of increase in cellulosic biofuels.

The regulatory structure generally places the responsibility on producers and importers of gasoline and diesel to ensure that transportation fuel sold or introduced into commerce contains the required volumes of renewable fuel. Obligated parties have a variety of options available to them, both to increase volumes in the near term (i.e., through the period being addressed by this final rule) and in the longer term. The standards that we are establishing in this action reflect both the responsibility placed on obligated parties as well as their ability to undertake the short-term activities available to them. We also expect obligated parties to be taking actions now that will help to increase renewable fuel volumes in future years. However, this general responsibility does not require obligated parties to take actions specific to E15 and/or E85 infrastructure, as the RFS program does not require any actions specific to E15 or E85, and in fact does not require any actions specific to ethanol at all. Moreover, we do not believe the statute should be interpreted to require that refiners and importers change the fundamental nature of their businesses so as to comply with RFS requirements, as this would be a far-reaching result that Congress can be expected to have clearly specified this if it was intended. For example, to the extent that commenters imply that refiners should be required to build or purchase renewable fuel production facilities, take over ownership of retail stations, produce or sell cars capable of using high-ethanol blends, or plant cropland to provide feedstock for increased renewable fuel production, we would disagree, since they would then be engaging in business practices other than those directly relevant to their position as a “refiner, importer, or blender” as specified in the statute. The primary role that obligated parties play in the RFS program is to acquire RINs, and it is this demand for RINs that in turn drives demand for renewable fuel and which should stimulate other parties to increase their activities to supply it. In so doing, obligated parties provide the funding (recouped through higher petroleum fuel prices) to subsidize renewable fuel prices so that the market is incentivized to expand renewable fuel supply.

This compliance flexibility, allowing obligated parties to either produce or blend renewable fuels themselves or to purchase RINs from a third party, has existed since the very beginning of the

program and is codified in the regulations implemented by the 2010 RFS2 rule. We have not reopened this issue in this rulemaking.

5.1.5 E0

Commenters that provided comment on this topic include but are not limited to: 0493.

Comment:

One stakeholder said that underestimates of E0 effectively increase the applicable standards above the level that can be reached in the market.

Response:

As described in a memorandum to the docket, we did not project volumes of E0 for 2020.⁹² Instead, we estimated the total volume of ethanol that we believe is reasonably attainable in 2020 based on the highest historical poolwide ethanol concentration of 10.13% (which occurred in 2017) combined with EIA's projection of total gasoline demand in 2020. See also our responses to comments in Section 5.1.7 of this document.

Even with a poolwide ethanol concentration of 10.13%, some E0 can be used so long it is balanced with a sufficient volume of E15 and/or E85. However, we are not aware of any data on nationwide consumption of E0. While this stakeholder provided data on E0 supplied in markets that it serves, indicating a strong and ongoing consumer demand for E0, we were not able to use that data to estimate E0 use for the nation as a whole.

⁹² "Updated market impacts of biofuels in 2020," memorandum from David Korotney to docket EPA-HQ-OAR-2019-0136.

5.1.6 E15

Commenters that provided comment on this topic include but are not limited to: 0118, 0197, 0270, 0276, 0299, 0312, 0324, 0326.

Comment:

One commenter stated that retail infrastructure to offer E15 is not a limiting factor in the level of E15 supply that can be achieved. This commenter quoted a study from the National Renewable Energy Laboratory (NREL) that stated that “the majority of installed tanks can store blends above E10.”

Response:

We disagree that retail infrastructure is not a limiting factor in E15 supply. Commenters representing retail stations indicated that, while it may be the case that much of the existing tankage at retail is compatible with E15, tank compatibility with E15 is not the same as being approved for E15 use. Parties storing ethanol in underground tanks in concentrations greater than 10% are required to demonstrate compatibility of their tanks with the fuel, through either a certification or listing of underground storage tank system equipment or components by a nationally recognized, independent testing laboratory for use with the fuel, written approval by the equipment or component manufacturer, or some other method that is determined by the agency to be no less protective of human health and the environment. These requirements are designed to protect against equipment failure that could lead to leaks and to satisfy insurance requirements. The use of any equipment to offer E15 that has not been demonstrated to satisfy these requirements, even if that equipment is technically compatible with E15, would pose potential liability for the retailer, including concerns related to liability for equipment damage. Few retailers would be willing to assume such liability, according to comments submitted by their national associations. This issue is of particular concern for underground storage tanks and associated hardware, as the documentation for their design and the types of materials used, and even their installation dates, is often unavailable. In sum, even if retailers’ installed tanks are technically compatible with E15, the ability of those retailers to sell E15 may be significantly limited by the ability to demonstrate such compatibility.

Comment:

The costs associated with upgrading old equipment at retail stations in order to offer E15, or installing new equipment, was a matter of disagreement among commenters. In general, commenters representing the ethanol production industry believed that the costs would be low, while those who represent the interests of retail stations believed that they would be high.

Response:

Actual costs for a retailer to offer E15 will vary depending on whether existing equipment can be recertified for E15, whether it is only pumps/dispensers that must be upgraded versus underground storage tanks and/or other hardware, the number of dispensers at a given retail

station that the retailer wants to be able to offer E15, whether it is a new station or existing station modification, and other factors. However, based on expenditures for USDA's BIP program, the average retail station upgrade costs about \$140,000 (approximately \$200 million in total funds to upgrade about 1,400 stations).⁹³

Comment:

One commenter stated that EPA failed to consider the small number of retail stations offering E15 and the small number of vehicles warranted to use E15.

Response:

We did not discuss these issues in the proposal because we were not making a projection of E15 sales volumes for 2020. We do not believe that any consideration of the number of retail stations offering E15 or the number of vehicles warranted to use E15 would have changed our proposal or the approach we have taken in the final rule. However, we did discuss these issues generally in a memorandum to the docket, in the context of projecting the volume of ethanol that we believe the market can make available in 2020.⁹⁴

Comment:

One stakeholder said that E15 sales volumes cannot increase fast enough to have a significant impact on the volume requirements. Another stakeholder said that E15 cannot fill the gap between the E10 blendwall and the 15 billion gallon implied volume requirement for conventional renewable fuel.

Response:

As stated earlier, we did not project specific volumes of E15 that would be used in 2020, but instead relied on an estimate of the poolwide average ethanol concentration for 2020, based on that from 2017. As a result, we did not rely on significant increases in E15 volumes in finding that the market could make available the 20.09 billion gallon volume requirement. Furthermore, as also stated earlier, there is no requirement that the 15 billion gallon implied volume for conventional renewable fuel be met entirely, or even at all, with ethanol.

Comment:

One stakeholder said that the proposal failed to mention the significant increases in E15 that will result from the 1psi RVP waiver for E15 that was approved on June 10, 2019.

⁹³ The BIP program provided about \$100 million in total federal grants, covering about 50% of the costs of the upgrades. State grants, funding provided by the Prime the Pump program, and private funding supplied the remaining 50%.

⁹⁴ "Market impacts of biofuels in 2020," memorandum from David Korotney to docket EPA-HQ-OAR-2019-0136.

Response:

In a memorandum to the docket, we explained that we were not estimating the volume of E15 that might be used in 2020 due to the difficulty in making such projections, and due to the fact that it is the total ethanol volume rather than the volumes of individual gasoline-ethanol blends which is of primary relevance in determining the total volume of renewable fuel that the market can make available.⁹⁵ We continue to believe that using the maximum ethanol concentration reached in a previous year - 10.13% in 2017 - is an appropriate basis for estimating the volume of ethanol that the market can make available in 2020.

In the June 10 final rule which approved the use of the 1psi RVP waiver for E15, we did indicate our belief that, based on the experience of E15 in areas that can already use E15 year-round (i.e., reformulated gasoline areas), it was unlikely that providing the 1psi waiver to E15 would lead to a substantial increase in E15 use. Since the July 29 proposal we have investigated this issue more closely. Using monthly E15 retail sales data from Minnesota, we estimated that between 2015 and 2018 the annual per-station sales of E15 would have been about 16% higher had the 1psi waiver been available for E15.⁹⁶ A 16% increase in E15 use in 2020 due to the 1psi waiver for E15 is unlikely to have a meaningful impact on total ethanol use. However, it is unclear how representative the Minnesota data is of the nation as a whole, and this analysis does not take into account potential changes in infrastructure investment that might occur as a result of increased opportunities to sell E15.

Comment:

One stakeholder said that there is insufficient distribution and retail infrastructure for E15 to make a meaningful contribution to the total volume of ethanol consumed.

Response:

In the July 29 proposal, we discussed the constraints on E15 use resulting from distribution and retail infrastructure not designed or certified for E15. However, we also said that it was not necessary to estimate E15 volumes that might be used in 2020 in light of the fact that the total available ethanol volume could be projected from the highest historical ethanol concentration and a projection of total gasoline energy demand for 2020.

⁹⁵ "Market impacts of biofuels in 2020," memorandum from David Korotney to docket EPA-HQ-OAR-2019-0136.

⁹⁶ "Estimating the impacts of the 1psi waiver for E15," memorandum from David Korotney to docket EPA-HQ-OAR-2019-0136.

5.1.7 E85

Commenters that provided comment on this topic include but are not limited to: 0197, 0276, 0299, 0312, 0324, 0718.

Comment:

One stakeholder said that E85 use will increase if EPA increases the conventional volume requirement above 15 billion gallons.

Response:

The use of E85 could be expected to increase if the price discount of E85 in comparison to E10 increased. However, commenters provided no new analysis of the future E85 price discount that would occur under the influence of higher RFS volume requirements. Moreover, consistent with this stakeholder's suggested incentive of volume requirements that drive ethanol use above the E10 blendwall, the market has had opportunities to increase the use of E85 significantly in previous years but has not done so; the implied conventional biofuel volume requirement has been 15 billion gallons for several years, while the E10 blendwall being considerably less. We estimate that E85 use in 2018 reached only 306 million gallons and total ethanol use only 14.6 billion gallons.

Furthermore, since the RFS program does not require the use of ethanol, the market will determine whether compliance with the applicable standards beyond the blendwall will occur as a result of increased E15 and E85 use, or primarily through the use of non-ethanol renewable fuels such as biodiesel and renewable diesel as has occurred historically.

Comment:

One commenter stated that EPA's continued reference to so-called constraints on E85 use creates confusion and should only be done in the context of the general waiver authority. Another commenter said that EPA should not be considering ethanol consumption at all because such considerations run counter to the purpose of the RFS program to force volumes up.

Response:

We continue to believe that constraints on the use of higher ethanol blends such as E15 and E85 are real, as described in Section 5.1.1 of this document, in a memorandum to the docket describing potential market impacts of the applicable 2020 standards,⁹⁷ in previous annual rulemakings, and in the 2019 rulemaking extending the 1 psi RVP waiver to E15.⁹⁸ Commenters provided no new information to indicate otherwise. Regardless, EPA believes that ethanol consumption is a valid consideration in assessing the economic impacts of the standards. We

⁹⁷ "Updated market impacts of biofuels in 2020," memorandum from David Korotney to docket EPA-HQ-OAR-2018-0167.

⁹⁸ 84 FR 26980

acknowledge that we are precluded from considering demand-side factors in determining inadequate domestic supply, but we have not exercised this authority.

Comment:

One stakeholder said that it is unreasonable for EPA to use E85 projections from EIA's Annual Energy Outlook as a basis for the 2020 standards since EIA has always significantly overpredicted E85 use.

Response:

We did not use projections from EIA's Annual Energy Outlook in any capacity in the July 29 proposal or this final rule. Moreover, we did not project volumes of E85 that might be consumed in 2020. While we did provide a preliminary estimate of E85 consumption in 2018, this estimate was EPA's own, based on the number of retail stations offering E85 and E85 price discount data.^{99,100} This estimate of E85 use in 2018 was referenced in the discussion of low historical E85 use generally, but was not used in the specific context of projecting total ethanol use in 2020. We used only the maximum historical ethanol concentration - 10.13% achieved in 2017 - in combination with the total projected gasoline energy demand from EIA's Short-Term Energy Outlook to estimate total ethanol use in 2020.

Comment:

One stakeholder said that EPA's use of an ethanol concentration of 10.13% to project total ethanol use in 2020 assumes no growth in E15 or E85 in 2020, and that doing so is inappropriate because the number of retail stations offering these higher ethanol blends are expanding.

Response:

Although we projected volumes of E0, E15, and E85 in past annual standard-setting rulemakings, we did not do so for the 2018 and 2019 rulemakings and did not do so for the July 29 proposal for the 2020 standards or this final rule. Due to the paucity of data on actual use of these blends and the difficulty in making projections of their use for the future, we determined that a more robust approach to estimating total ethanol consumption in the following year would combine an estimate of the average ethanol concentration with the projected gasoline energy demand from EIA. As described in a memorandum to the docket, in assessing whether the market can make 20.09 billion gallons available in 2020, we believe that the market is capable of reaching an ethanol concentration in 2020 that is at least as high as the highest level that has actually been reached by the market in the past.¹⁰¹ This occurred in 2017 when the national, annual ethanol concentration was estimated to be 10.13%. Insofar as our assessment concludes

⁹⁹ "Preliminary estimate of E85 consumption in 2018," memorandum from David Korotney to docket EPA-HQ-OAR-2019-0136.

¹⁰⁰ For this final rule, the 2018 E85 consumption estimate has been updated. See "Final estimate of E85 consumption in 2018," memorandum from David Korotney to docket EPA-HQ-OAR-2019-0136.

¹⁰¹ "Updated market impacts of biofuels in 2020," memorandum from David Korotney to docket EPA-HQ-OAR-2019-0136.

that the market can achieve 20.09 billion gallons of total renewable fuel assuming 10.13% ethanol, then it can also achieve 20.09 billion gallons of total renewable fuel using a higher ethanol concentration.

We note that the ethanol concentration in 2018 was 10.07%, lower than the level in 2017 and lower than the 10.13% level we believe the market can make available in 2020.¹⁰² As a result, meeting the assumed ethanol concentration of 10.13% in 2020 would require an increase in the proportional use of E15 and/or E85 compared to 2018, assuming no change in E0 consumption.

Comment:

One stakeholder said that the low demand for E85 represents a market barrier to increasing ethanol use above the E10 blendwall. Another stakeholder said that E85 cannot help the market get above the E10 blendwall because there are too few FFVs and FFV owners prefer E10.

Response:

Historical E85 demand has been very low in comparison to total gasoline consumption. However, EIA consumption data indicates that total ethanol concentration has exceeded 10.00% for several years in a row, indicating that ethanol consumption above the E10 blendwall has occurred through a combination of E10, E15, and E85 (along with ongoing E0). Thus, the low volumes of E85 demand do not represent a barrier to exceeding the E10 blendwall.

¹⁰² Based on ethanol and gasoline consumption from the August 2019 STEO.

5.1.8 Other Comments Related to Ethanol

EPA did not receive any comments on this topic.

5.2 Biodiesel and Renewable Diesel

5.2.1 Infrastructure for Distributing, Blending, and Dispensing

Commenters that provided comment on this topic include but are not limited to: 0171, 0293.

Comment:

Multiple commenters stated that there are no infrastructure or blending limitations to higher volumes of biodiesel.

Response:

As discussed in Section IV of the final rule, EPA does not anticipate that the necessary distribution and blending infrastructure will constrain the use of biodiesel or renewable diesel in 2020.

5.2.2 Vehicles That Can Use It

Commenters that provided comment on this topic include but are not limited to: 0211.

Comment:

Achieving the 3.2 billion gallons of biodiesel and renewable diesel projected to be used to meet the total renewable fuel volume for 2020 will exceed the 5% limit for many engines.

Response:

While EPA continues to note that there are a significant number of vehicles for which biodiesel blends above B5 are not recommended by the manufacturer, the ability of vehicles to consume biodiesel and renewable diesel is highly unlikely to constrain the use of these fuels in 2020.

There are a number situations in which biodiesel and/or renewable diesel are used at levels above 5% or used in qualifying uses other than on-highway diesel fuel that we expect will also allow diesel blends containing 5% or less biodiesel to be widely available in 2020. As noted in previous rules, an increasing number of large truck stops are selling biodiesel blends ranging from B10-B20. Increasing volumes of renewable diesel, which is chemically similar to petroleum diesel, are expected to be supplied in 2020, reducing the volume of biodiesel that is projected to be needed. Finally, volumes of biodiesel and renewable diesel are regularly used as heating oil and jet fuel which qualifies under the RFS program, further reducing the need to blend biodiesel into diesel fuel at levels above 5% to meet the advanced biofuel and total renewable fuel volumes for 2020.

5.2.3 Cold Temperature Impacts

EPA did not receive any comments on this topic.

5.2.4 Production Capacity

Commenters that provided comment on this topic include but are not limited to: 0164.

A number of commenters discussed the production capacity for biodiesel and renewable diesel. These comments were generally focused on the ability of the market to supply sufficient volumes of advanced biodiesel and renewable diesel to satisfy the advanced biofuel volume for 2019. Responses to comments addressing biodiesel and renewable diesel production capacity can be found in Section 4.2.2.2 of this document.

Comment:

Additional production capacity is available to achieve higher volumes of biodiesel and renewable diesel.

Response:

We do not expect the production capacity for biodiesel and renewable diesel to limit the volume of these fuels supplied in 2020.

5.2.5 Feedstock Availability

A number of commenters discussed the availability of feedstocks that can be used to produce biodiesel and renewable diesel. These comments were generally focused on the availability of feedstocks that could be used to produce advanced biodiesel and renewable diesel to satisfy the advanced biofuel volume for 2019. Responses to comments addressing biodiesel and renewable diesel production capacity can be found in Section 4.2.2.4 of this document.

5.2.6 Imports of Conventional Biodiesel and Renewable Diesel

A number of commenters discussed the availability of and need for biodiesel and renewable diesel imports to meet the proposed advanced biofuel and total renewable fuel volumes for 2020. Responses to comments addressing biodiesel and renewable diesel production capacity can be found in Section 4.2.2.3 of this document.

Comment:

One stakeholder said that due to ongoing barriers to significant increases in ethanol blending as well as limits in domestic biofuel production, the proposed volume requirements create a de facto mandate for the importation of foreign biofuels, particularly biodiesel.

Response:

Under the statute, both domestic and foreign sources of biofuel can be used to meet the applicable volume requirements. As a result, we consider both sources in our assessment of available volumes. In a memorandum to the docket, we have acknowledged that ethanol use is unlikely to reach the 15 billion gallon implied volume requirement for conventional renewable fuel, and that the shortfall will most likely be composed of biodiesel and renewable diesel.¹⁰³ However, once the applicable standards are set, there is no requirement for biofuels to be imported if domestic supply is sufficient.

¹⁰³ “Updated market impacts of biofuels in 2020,” memorandum from David Korotney to docket EPA-HQ-OAR-2019-0136.

5.2.7 Consumer Response

EPA did not receive any comments on this topic.

5.2.8 Total Volume Achievable

Commenters that provided comment on this topic include but are not limited to: 0211.

This section includes comments related to the total volume of biodiesel and renewable diesel achievable in 2019. For a discussion of the reasonably attainable and attainable volumes of advanced biodiesel and renewable diesel see Section IV of the final rule and Section 4.2.2 of this document. For a discussion of the BBD standard for 2020, see Section VI of the final rule and Section 6 of this document.

Comment:

The total renewable fuel volume needs to be reduced to avoid potentially dramatic consequences in the biodiesel and renewable diesel feedstock markets. The 3.2 billion gallons of biodiesel and renewable diesel projected to be used to meet the total renewable fuel volume for 2020 is much larger than the 2.44 billion gallons supplied in 2018. Historical monthly generation of D4 and D5 RINs has almost never reached an annualized level of 3.2 billion gallons.

Response:

EPA disagrees with commenters that 3.2 billion gallons of biodiesel and renewable diesel (including both advanced and conventional biodiesel and renewable diesel) could not be supplied to the U.S. in 2020, or that supplying these volumes would result in dramatic consequences in the feedstock markets. First, we note that the commenters projection of the volume of these fuels is overly pessimistic. Based on data through September 2019 and taking into account the seasonality of the supply of biodiesel and renewable diesel, we currently expect that approximately 2.74 billion gallons of biodiesel and renewable diesel will be supplied in 2019. Further support for this projection is found in a memorandum to the docket.¹⁰⁴ In addition, as discussed in further detail in Section IV of the final rule, we project that a volume of 2.83 billion gallons of advanced biodiesel and renewable diesel is attainable in 2020. We have not, however, calculated the maximum reasonably achievable volume of advanced biodiesel and renewable diesel for 2020, which would be higher than the attainable volume of 2.83 billion gallons. Even if additional volumes of advanced biodiesel and renewable diesel are not available, significant volumes of conventional biodiesel and renewable diesel are produced globally and could be used to supply the total renewable fuel volume for 2020.

Finally, we note that because we have used the cellulosic waiver authority to reduce the advanced biofuel and total renewable fuel volumes by the maximum amount, further reductions to the total renewable fuel volume would require the use of an additional waiver authority. As we explain in Section II of the final rule and Section 2 of this document, we do not believe exercise of our other waiver authorities is warranted.

¹⁰⁴ “Projecting Advanced Biofuel Production and Imports for 2019 (November 2019)” Memorandum from Dallas Burkholder to EPA Docket EPA-HQ-OAR-2019-0136. We currently do not expect any conventional biodiesel or renewable diesel to be used in the U.S. in 2019.

5.3 Determination of Standards

5.3.1 Total Renewable Fuel Volume

EPA did not receive any comments on this topic.

5.3.2 Conventional Renewable Fuel / Corn-Ethanol “Mandate”

Commenters that provided comment on this topic include but are not limited to: 0278, 0299, 0337.

Comment:

Several commenters stated that the implied volume requirement for conventional renewable fuel should be set at a level reflecting the E10 blendwall.

Response:

These comments conflate the implied conventional renewable fuel volume requirement with ethanol. The two are not the same. As discussed further in a memorandum to the docket,¹⁰⁵ the market has historically made available, and will likely make available in 2020, significant volumes of non-ethanol conventional renewable fuel, primarily but not limited to biodiesel and renewable diesel. Moreover, as described earlier in this section and in the memorandum to the docket, the market achieved 10.13% poolwide ethanol concentration in 2017. We believe that E15 and E85 can continue to supplement E10 to go above 10 percent market-wide. Finally, there is no conventional renewable fuel standard under the statute, but rather advanced biofuel and total renewable fuel standards that differ in the statute by 15 billion gallons in 2020. If more advanced biofuel volumes are used than required by the 2020 standard, then less than 15 billion gallons of conventional renewable fuel will be needed to meet the total renewable fuel standard.

Comment:

Many commenters, regardless of their views on whether the E10 blendwall can or should be a consideration in the determination of applicable volume requirements, made the implicit assumption in their comments that the total volume of ethanol that would be used was identical to the volume of non-advanced (i.e., conventional) renewable fuel that would be necessary.

Response:

Not only is this assumption incorrect, but it oversimplifies the true nature of the standards and the process of determining appropriate levels for those standards. Significant volumes of ethanol may be used to meet the advanced biofuel volume requirement. It is also likely that a portion of the renewable fuel pool that is not required to be advanced biofuel will be non-ethanol as evidenced by production and imports of conventional biodiesel and renewable diesel in the past. Thus, it is inappropriate and misleading to assume that the conventional renewable fuel volume is identical to the volume of the ethanol that would be needed.

¹⁰⁵ “Updated market impacts of biofuels in 2020,” memorandum from David Korotney to docket EPA-HQ-OAR-2019-0136.

Comment:

Stakeholders differed on whether there is sufficient conventional renewable fuel to reach 15 billion gallons. Some stakeholders pointed to the fact that ethanol volumes cannot reach 15 billion gallons in 2020.

Response:

It is inappropriate to base the determination of the appropriate implied volume requirement for conventional renewable fuel on ethanol alone since there are several non-ethanol conventional renewable fuels that qualify as conventional renewable fuel. Thus, while it is unlikely that ethanol use could reach 15 billion gallons in 2020, we have determined that there are sufficient volumes of conventional biodiesel and renewable diesel and other renewable fuels available to permit an implied volume requirement for conventional renewable fuel of 15 billion gallons to be reached.

Comment:

One commenter stated that EPA should reduce the conventional volume mandate to reduce animal feed prices and to improve the quality of animal feed.

Response:

There is no conventional volume mandate in the statute; rather the implied conventional portion of the total renewable fuel standard can be met with conventional as well as advanced biofuels. Moreover, while corn-ethanol is currently the predominant form of conventional renewable fuel, further reduction of the 2020 biofuel volumes is unlikely to impact corn ethanol production in U.S. As described in our assessment of impacts under the Endangered Species Act, E10 is likely to continue to be produced regardless of the level of the implied volume requirement for conventional renewable fuel, and significant quantities of ethanol are expected to be exported.¹⁰⁶ As a result, there would be essentially no impact of a lower implied conventional renewable fuel volume requirement on corn used to produce ethanol, and thus no corresponding impact on the prices or quality of corn-based animal feed, contrary to the commenter's premises. Regardless, further reductions to the total renewable fuel volume are possibly only by exercising the general waiver authority, and in Section II.A.2 of the final rule and in response to comments in Section 2 of this document, we have found that doing so would be inappropriate.

We note that corn prices are considerably lower now than they were in 2011 - 2013, implying that animal feed that is based on corn is likewise currently selling at a low price.¹⁰⁷ On this basis, it would appear that farmers who purchase corn-based animal feed are not currently suffering a level of harm that can be attributed to the implied conventional renewable fuel volume requirement under the RFS program.

¹⁰⁶ "Endangered Species Act No Effect Finding for the 2020 Final Rule," memorandum from EPA staff to docket EPA-HQ-OAR-2019-0136.

¹⁰⁷ "USDA historical corn prices," available in docket EPA-HQ-OAR-2019-0136.

Comment:

One stakeholder said that corn yields are expected to decrease in 2020 according to USDA's World Agriculture Supply and Demand Estimate (WASDE), contrary to EPA's expectations.

Response:

On page 36784 of the July 29 proposal, EPA indicated that production of corn oil and soybean oil were likely to increase "... as crop yields, oil extraction rates, and demand for the primary products increase in 2020." This statement was meant to convey an expectation that historical trends (including the fact that corn yields have generally increased over time) would continue into the future. It was not intended to reference a specific projection for the year 2020, notwithstanding that the sentence included the phrase "in 2020." This phrase has been omitted for the final rule.

We acknowledge that the October WASDE report projects corn yields in the 2019/2020 marketing year will be 168.4 bushels per harvested acre, down from the estimate of 176.4 for the 2018/2019 marketing year. However, we do not believe that this fact meaningfully affects our determination that an implied conventional renewable fuel volume requirement of 15 billion gallons is appropriate. As described in a memorandum to the docket, we expect that ethanol used to help meet the implied conventional renewable fuel volume requirement will exceed the E10 blendwall by a small amount but will fall far short of 15 billion gallons.¹⁰⁸ If the implied conventional renewable fuel volume requirement were lower than 15 billion gallons, E10 would continue to be used.¹⁰⁹

Comment:

One stakeholder said that there are no environmental benefits for 15 billion gallons of conventional renewable fuel because volumes in excess of the E10 blendwall will be filled with imported biodiesel.

Response:

While environmental impacts are a valid consideration under the cellulosic waiver authority, we are already reducing volumes by the maximum permissible amount under that authority. Further reductions would need to occur under the general waiver authority which allows for waivers based on severe environmental harm. However, as described in responses to comments in Section 2.1.3, we do not believe that there is severe environmental harm associated with the total renewable fuel volume requirement. Therefore, we do not believe that further reductions using the severe environmental harm prong of the general waiver authority are warranted.

¹⁰⁸ "Updated market impacts of biofuels in 2020," memorandum from David Korotney to docket EPA-HQ-OAR-2019-0136.

¹⁰⁹ "Endangered Species Act No Effect Finding for the 2020 Final Rule," memorandum from EPA staff to docket EPA-HQ-OAR-2019-0136.

Comment:

One stakeholder said that the proposal for 15 billion gallons of conventional renewable fuel departed from promises that were made by President Trump for greater than 15 billion gallons.

Response:

As described in Section VII.B of the final rule, EPA's approach ensures that the renewable fuel volumes actually used in 2020 will be the same as the final renewable fuel volume requirements. This includes the 15 billion gallon implied volume requirement for conventional renewable fuel. As we explain in a memorandum to the docket, we believe that a combination of conventional ethanol and other biofuels, notably biodiesel and renewable diesel, will contribute to this 15 billion gallon implied conventional volume.¹¹⁰

¹¹⁰ "Updated market impacts of biofuels in 2020," memorandum from David Korotney to docket EPA-HQ-OAR-2019-0136.

5.3.3 Other Comments Related to the Determination of Standards

Commenters that provided comment on this topic include but are not limited to: 0212.

Comment:

One stakeholder pointed to the fact that biodiesel is typically the marginal biofuel used to meet the implied conventional renewable fuel volume requirement and cited a study from Energy Ventures Analysis (EVA) which concluded that eliminating the implied conventional volume requirement would save consumers \$3.7 billion in 2025 and \$5.3 billion in 2030 since biodiesel in excess of that needed to meet the advanced biofuel volume requirement would no longer be needed.

Response:

Cost is one of several factors that we considered in determining the appropriate reduction to make in the advanced biofuel and total renewable fuel volume requirements under the cellulosic waiver authority, and biodiesel is considerably more costly than petroleum diesel. Since we made the maximum permissible reduction under that authority, further reductions would have required the use of the general waiver authority which allows for waivers based on severe economic harm. However, no stakeholder made a compelling case for severe economic harm associated with the total renewable fuel volume requirement. See also responses to comments on use of the severe economic harm prong of the general waiver authority in Section 2.1.2 of this document.

With regard to the substance of the EVA study cited by this stakeholder, we note first that the values cited by the stakeholder (\$3.7 and \$5.3 billion) are in error according to one of the authors of the study.¹¹¹ More importantly, we do not believe that the specific conclusions that the study reaches are directly applicable to the volume requirements under consideration in this rulemaking. The EVA study examined three scenarios: the complete elimination of the RFS program, a 5% increase in total renewable fuel volumes (but not advanced biofuel), and the elimination of only the implied conventional renewable fuel volume requirements. The point of reference was EIA's Reference Case, and the years examined were 2025 and 2030. None of these scenarios directly represents the volumes or volume changes included in the July 29 proposal. Moreover, the EVA study does not permit the separation of cost impacts for reductions in biodiesel from cost impacts of other changes that occur simultaneously.

While the specific modeling scenarios may not be directly applicable to the 2020 volumes under consideration in this rulemaking, we note that there is some consistency between our own analyses and those from the EVA study in terms of the higher cost of biodiesel in comparison to the petroleum diesel that it replaces. We have taken costs into consideration in our determination that the advanced biofuel volume requirement should be reduced by the maximum amount permissible under the cellulosic waiver authority. We have not, however, made further

¹¹¹ Personal communication with Michael Schaal.

reductions under the severe economic harm prong of the general waiver authority as described above.

6. BBD Volume for 2021

6.1 General

Commenters that provided comment on this topic include but are not limited to: 0164, 0171, 0177, 0186, 0196, 0211, 0212, 0213, 0270, 0288, 0291, 0293, 0300, 0302, 0311, 0313, 0320, 0324, 0328, 0451, 0539, 0541.

Comment:

Some commenters supported our proposed volume of 2.43 billion gallons in 2021. Some commenters also suggested EPA could support further growth in the BBD industry. Some commenters suggested EPA should set the BBD standard higher, including greater than 3 billion gallons. Some pointed to the attainable volume of advanced biodiesel and renewable diesel (2.8 billion gallons) as an appropriate volume for the BBD standard. Some commenters supported a higher standard, particularly in light of the granting of SREs. Other commenters suggested that EPA should set a BBD standard that does not increase over the 2019 BBD standard. Others suggested EPA should reduce the standard due to cost concerns.

Response:

Our discussion of the BBD volume for 2021, including our consideration of volumes both higher and lower than the volume in this final rule can be found in Section VI of the final rule and a memorandum to the docket.¹¹² We have chosen to maintain the 2021 BBD volume at the same volume as the 2020 BBD volume. We continue to believe that the advanced volume, when set for 2021, will drive BBD use, and therefore, a higher or lower BBD volume is unlikely to result in different volumes of BBD use. In the long-term, however, leaving adequate room for growth of other advanced biofuels could have a beneficial impact on certain statutory factors. We do not find that it would be appropriate to increase the BBD standard in light of SREs. As described in Section 8.2 of this document and Section VII of the final rule, we are taking action today to project the exempt volume of gasoline and diesel due to SREs, which will reduce the impact of SREs on the applicable volumes going forward and better ensure that the renewable fuel volumes are actually used.

Comment:

Some commenters suggested we should set the BBD standard to reflect domestically produced biodiesel. Some commenters also pointed to additional uncertainties in the biodiesel market including countervailing duties and the lack of a tax credit.

¹¹² “Final Statutory Factors Assessment for the 2020 Biomass Based Diesel (BBD) Applicable Volume.” memorandum from EPA Staff to EPA docket EPA-HQ-OAR-2018-0167.

Response:

We do not believe that it would be appropriate to set the BBD standard to only reflect domestic production of BBD. The RFS program contemplates the use of imported biofuel and does not discriminate against such imports.¹¹³ Given that imported biofuels can be used to satisfy the renewable fuel standards, it is appropriate for EPA to consider their availability in setting the BBD standard. We have also historically considered the availability of imported biofuels in the exercise of our discretionary waiver authorities. See, e.g., Section IV of the final rule (in exercising the cellulosic waiver authority, considering imports of advanced biodiesel and renewable diesel) and Section 2.1.1 of this document (considering imports in declining to exercise the general waiver authority). While there are uncertainties in the market, we still find that the volume we are establishing today is appropriate in light of those uncertainties. Those uncertainties also existed in 2019 when EPA established the 2020 BBD standard.

Comment:

A commenter suggested we should set the volume considering the removal of tariffs to ensure that there are no negative price implications.

Response:

We have generally considered the impacts of trade related issues, but do not find that they justify a different volume. Based on experience in years past, the production and international trade of biodiesel and its feedstocks around the world provides sufficient flexibility to accommodate changing trade related issues with some countries.

¹¹³ See, e.g., CAA section 211(o)(5)(A); 40 CFR 80.1426.

6.2 Supporting the BBD Industry

Commenters that provided comment on this topic include but are not limited to: 0186, 0288, 0291, 0301, 0539.

Comment:

Some commenters suggested that the 14-month lead time for setting the BBD standard provides a unique signal to producers and investors and allows the market certainty about the amount of BBD required and time for investments to meet the standard. They suggested this incentive justifies a higher BBD volume. They also suggested that because of the 14-month lead time provided in the statute, the BBD volume should be used to drive BBD use, rather than the advanced standard. Some suggested that in order to accomplish Congress's goals in supporting the industry, EPA must set the volume above past production. Commenters suggested that increasing the volume would encourage expansion of efficient sources of supply.

Response:

EPA acknowledges this unique aspect of the BBD volume, but still believes a volume of 2.43 billion appropriately provides a floor for guaranteed BBD volume, while also providing space for other advanced biofuels to compete in the market. Based on our review of the data, and the nested nature of the BBD standard within the advanced standard, we conclude that the advanced standard continues to drive the ultimate volume of BBD supplied. For the reasons discussed in the final rule, the docket memorandum on the BBD factors, and Section 6.3 of this document, we believe that it is more appropriate to continue to use the advanced biofuel standard to drive BBD demand, which allows space for incentivizing other advanced biofuels to compete with BBD, rather than seeking to set the BBD standard to drive BBD demand.

6.3 Ensuring Opportunities for Other Advanced Biofuels

Commenters that provided comment on this topic include but are not limited to: 0186, 0313.

Comment:

Some commenters suggested that the goal to ensure opportunities for other advanced biofuels is not required by the statute and is ineffective.

Another commenter suggested that instead of setting a lower BBD standard for 2021 to preserve space for advanced biofuels, EPA could allow for a higher advanced volume when it determines the advanced biofuel volume for 2021 to create space for other advanced biofuels. They suggested that EPA should look at the statutory factors and determine the volume that is warranted under those without consideration of other advanced biofuels.

Response:

While ensuring opportunities for other advanced biofuel is not required by the statute, we disagree that it is ineffective or unwarranted. The statutory volumes for BBD and advanced biofuel in 2011 and 2012 appear to reflect a desire by Congress to preserve space for advanced biofuels other than BBD. As we explain in Section VI.B of the final rule, since 2011, EPA has consistently preserved space for other advanced biofuels. This has historically allowed for other advanced biofuels to be used to meet the advanced standard. As we explain further in a memorandum to the docket,¹¹⁴ these other advanced biofuels may have more beneficial impacts when considering some of the factors articulated in CAA section 211(o)(2)(B)(ii), and in the long term, we believe it is appropriate to continue to allow for space for their use. Congress specifically directed growth in BBD only through 2012, leaving development of volume targets for BBD to EPA for later years while also specifying substantial growth in the cellulosic and general advanced categories through 2022. We believe that Congress clearly intended for EPA to consider the nested nature of the RFS requirements when determining the appropriate volume requirement for BBD. We note that Congress could have set ambitious targets for BBD for years after 2012, as it did for cellulosic biofuel, but did not do so. Within the statutory volumes of advanced biofuels for 2019, the statute specifies 8.5 billion gallons of cellulosic biofuel and a minimum volume requirement of 1.0 billion gallons of BBD, with the remainder left unspecified – providing space for the market to develop technologies and advanced biofuels not known at the time by Congress. Due to the success of the BBD industry, and to provide continued support, we raised the BBD standard to more than double the minimum specified by Congress to 2.1 billion gallons for 2018 and 2019 and raised it to 2.43 billion gallons for 2020 and 2021.

When viewed from this perspective, BBD can be seen as competing for investment dollars with other types of advanced biofuels for participation as advanced biofuels in the RFS program. In addition to the long-term impact of our action in establishing the BBD volume requirements, there is also the potential for short-term impacts during the compliance years in question. Therefore, by setting the BBD volume requirement at a level lower than the advanced biofuel

¹¹⁴ “Final Statutory Factors Assessment for the 2021 Biomass Based Diesel (BBD) Applicable Volume.” memorandum from EPA Staff to EPA docket EPA-HQ-OAR-2019-0136.

volume requirement (and lower than the expected production of BBD to satisfy the advanced biofuel requirement), we are allowing the potential for some competition between BBD and other advanced biofuels to satisfy the advanced biofuel volume standard. We believe that this competition will also help to encourage, over the long term, the development and production of a variety of advanced biofuels that will be needed for the long-term growth of RFS volumes. However, in the short term it could also result in lower cost advanced biofuels for consumers.

We believe our final 2021 BBD volume requirement strikes the appropriate balance between providing a market environment where the development of other advanced biofuels is incentivized, while also maintaining support for the BBD industry. Based on our review of the data, and the nested nature of the BBD standard within the advanced standard, we conclude that the advanced standard continues to drive the ultimate volume of BBD supplied. Given the success of the industry in the past few years, as well as the substantial increases in the BBD volume being driven by the advanced standard, we have determined that a volume requirement greater than 2.43 billion gallons for BBD in 2021 is not necessary to provide support for the BBD industry. Setting the BBD standard in this manner continues to allow a considerable portion of the advanced biofuel volume to be satisfied by either additional gallons of BBD or by other unspecified and potentially less costly types of qualifying advanced biofuels.

In response to comments that EPA could set a higher advanced volume in 2021 to create space for other advanced biofuels rather than setting a lower BBD standard, we do not believe that this approach would be appropriate. Because other advanced biofuels currently take up a small portion of the market, it is the market signal that we are preserving space for these fuels that allows for their use while also ensuring that we are not setting a standard that cannot be met. If we were to take the commenter's approach, we could potentially end up setting an advanced biofuel volume that could not be met because the other advanced biofuels may not end up being available to meet the standard in 2021. Our approach allows for development of other advanced biofuels, or additional BBD if those fuels do not appear in the market.

Regarding commenters' suggestion that we should set the BBD volume without considering the relationship between BBD and other advanced biofuels, we disagree. The statute directs EPA to review "the implementation of the program" as well as to consider the impacts of "renewable fuels." "[T]he program" refers to the RFS program, and both "the program" and "renewable fuels" generally include advanced biofuels. In establishing the BBD volume, the advanced biofuel volume part of "the program" and "renewable fuels" is both relevant and important. As we explain in this document and in Section VI of the final rule, BBD use and production has historically been driven by the advanced biofuels standard. This is an important market reality. Thus, in reviewing the program and analyzing the statutory factors, as they apply to BBD, we reasonably consider the relationship between BBD and advanced biofuels.

Comment:

Some commenters suggested that EPA need not create "intra-program competition" between BBD and other advanced and should instead grow all categories of renewable fuel consistent with congressional intent.

Response:

EPA is not creating “intra-program competition”, but rather allowing what was created in the statutory structure to continue. We have determined that both the advanced biofuel volume for 2020 and the BBD volume for 2021 established in this rulemaking are appropriate as discussed in Sections IV and VI of the final rule. Additional growth at this time is not warranted.

6.4 Consideration of Statutory Factors (BBD)

6.4.1 General Comments on the Consideration of Statutory Factors

Commenters that provided comment on this topic include but are not limited to: 0213, 0293, 0302.

Comment:

Commenters suggested that EPA must assess the impact of each of the six factors for BBD before determining the BBD volume, and that such an assessment would lead to higher BBD volumes.

Response:

The statute provides that EPA shall determine the applicable volume of BBD based on a review of implementation of the program and consideration of the six factors. It does not dictate that one assessment must be done first. Therefore, we continue use as our primary assessment a review of implementation of the program and find that it is the advanced biofuel requirement that will drive the use of BBD. We continue to perform our assessment of the six factors as a long-term assessment.

Comment:

A commenter suggested that by comparing BBD to advanced biofuel in evaluating the statutory factors, EPA is not furthering the goal of the RFS to “increase the production of clean renewable fuels.”

Response:

As discussed in Section 1.1 of this document, we believe that this rule continues to support the goals of EISA and EPAct. We find that the comparison between advanced biofuels and BBD is appropriate as discussed in Section VI of the final rule, and the memorandum “Final Statutory Factors Assessment for the 2021 Biomass Based Diesel (BBD) Applicable Volume,” available in the docket for this action.

Comment:

Commenters suggested that because several of the factors articulated in CAA section 211(o)(2)(B)(ii)(I)–(VI) refer to domestic impacts, EPA should only consider domestic volumes of fuel when setting standards. They suggested that EPA should not consider imports when setting volumes.

Response:

While some of the statutory factors do include domestic impacts, we do not believe that it would be appropriate to only include domestic volumes when setting the standards. Both imported and domestically-produced BBD qualify for the standard, and we believe it is appropriate to consider both types when setting the standard.

6.4.2 Consideration of the Review of the Program to Date

Commenters that provided comment on this topic include but are not limited to: 0202.

Comment:

A commenter suggested that because the biodiesel industry has consistently exceeded the BBD volume requirement, EPA should increase the BBD volume for 2021.

Response:

As discussed in Section VI of the final rule, the BBD volume has exceeded the advanced volume and in setting the BBD volume for 2021 we have considered that fact. However, we do not find that BBD exceeding the standard is justification for an increase in the volume due to the desire to preserve space for other advanced biofuels.

6.4.3 Environmental Impacts (Air Quality, Climate Change, Conversion of Wetlands, Ecosystems, Wildlife Habitat, Water Quality, Water Supply)

Responses to comments addressing environmental impacts can be found in Section 7.2 of this document.

6.4.4 Energy Security Impacts

Commenters that provided comment on this topic include but are not limited to: 0164, 0171, 0177, 0213, 0293, 0302, 0324, 0328.

Comment:

Numerous commenters lauded the energy security benefits for the U.S. associated with increases in the use of biodiesel as a result of the RFS program. They suggested that increasing biodiesel reduces the U.S.'s oil imports and contributes to U.S. energy independence and security. Commenters also suggested that the wider use of biodiesel in transportation fuel provides a hedging function and helps to diversify fuel supplies in U.S. motor fuel markets, moderating motor fuel prices while shielding U.S. consumers from potential world oil price spikes.

Response:

We agree that increases in the use of biodiesel can contribute to U.S. energy independence and security. As we explain in Section VI of the final rule, the BBD standard is nested within the advanced biofuel standard, and the use and production of BBD is driven by the advanced biofuel volume, not the BBD volume. Consequently, changes to the BBD standard itself will not impact the energy security position of the U.S. The production of renewable fuels supports one of the goals of the RFS program by improving U.S. energy independence and energy security through diversification of U.S. transportation fuels and displacement of imported petroleum. Renewable fuels, including biodiesel, that displace petroleum are less likely to be subject to periodic supply disruptions (i.e., significant crop yield changes principally due to weather related events) than petroleum. Also, renewable fuel supply disruptions from weather events are not likely to be correlated with oil supply disruptions, which are usually triggered by geopolitical events such as military incursions. Additional details on the energy security benefits associated with the full implementation of the RFS program are included in the March 2010 final RFS2 rulemaking.¹¹⁵ For more discussion on the energy security impacts of renewable fuels, see Section 7.1.2 of this document.

Comment:

One commenter suggested that using more foreign renewable fuel such as biodiesel to meet the RFS renewable fuel volumes reduces the energy security position of the U.S. According to this commenter, domestic (i.e., U.S.) production of transportation fuel is the securest form of liquid energy and, also, furthers U.S. energy independence. This commenter suggested that encouraging renewable fuel imported into the U.S. such as biodiesel as a result of the RFS creates an unjustified incentive for foreign renewable production.

Also, this commenter suggested that even if imported renewable fuel such as biodiesel can be said to diversify the U.S. supply of transportation fuels, this ignores the possible disruption of foreign renewable fuel supplies and the greater energy security benefits of using domestically-

¹¹⁵ U.S. EPA. February 2010. RFS2 Regulatory Impact Analysis. EPA-420-R-10-006.

produced renewable fuels. The commenter suggested that EPA should not implement the RFS in a manner that encourages more foreign renewable fuels (e.g., biodiesel) at the expense of American-produced fuels in the name of energy security.

Response:

As we explain in Section VI of the final rule, the BBD standard is nested within the advanced biofuel standard, and the use and production of BBD is driven by the advanced biofuel volume, not the BBD volume. Consequently, changes to the BBD standard itself will not impact the energy security position of the U.S. The RFS has twin goals of U.S. energy independence and energy security. Although the wider use of imported renewable fuels, such as biodiesel, as a result of the RFS does not contribute to energy independence, it still supports the goal of energy security. Renewable fuels that displace petroleum are less likely to be subject to periodic supply disruptions (i.e., significant crop yield changes principally due to weather related events) than petroleum. Also, supply disruptions in the production of renewable fuels from weather events are not likely to be correlated with oil supply disruptions, which are usually triggered by geopolitical events such as military incursions. Thus, both domestically and imported renewable fuels have energy security benefits, as they both reduce the U.S.' reliance on imported petroleum-based fuels. For more discussion on the energy security impacts of renewable fuels, see Section 7.1.2 of this document.

6.4.5 Expected Rate of Production of Biofuels

Commenters that provided comment on this topic include but are not limited to: 0171, 0202, 0213, 0293, 0301, 0302, 0337, 0541.

Comment:

Multiple commenters stated that EPA should set the BBD volume for 2021 to drive further production and use of biodiesel closer to the production capacity of 4.1 billion gallons. One commenter similarly stated that EPA should increase the BBD volume for 2021 to 2.73 billion gallons to reflect the additional production capacity that is being built.

Response:

We recognize that sufficient biodiesel and renewable diesel production capacity exists, both domestically and globally, to produce significantly higher volumes of biodiesel and renewable diesel than the 2.43 billion gallon BBD volume EPA established for 2021. As discussed in greater detail in Section VI of the final rule and earlier in Section 6 of this document, the statute requires that EPA analyze a wide range of factors in establishing the BBD volume. While we have considered the available production capacity in establishing the BBD volume for 2021, we do not believe it would be appropriate to consider this factor alone in establishing the 2021 BBD volume.

Comment:

EPA is directed by the statute to base the BBD volume on the projected volume of domestically produced and imported BBD that will be consumed in 2021.

Response:

The statute does not direct EPA to set the BBD volume at the projected volume of domestically produced and imported BBD that will be consumed, but rather directs EPA to analyze and consider a number of factors that cover a wide range of issues (see Section VI of the final rule and earlier in Section 6 of this document for more on this issue).

Comment:

A commenter projected domestic biodiesel production in 2019 at 1.73 billion gallons and notes EIA's reported domestic biodiesel production capacity of 2.54 billion gallons. The commenter stated that the BBD volume should be based on domestic production only, and that the proposed volume is too high.

Response:

We do not believe that the statutory factors constrain EPA to considering only domestically produced BBD when establishing the BBD volume. However, even were we to only consider

domestically produced BBD, we also disagree with the commenter that 2.43 billion gallons of BBD in 2021 is unreasonably high. The commenter's projection of domestically produced BBD in 2019 appears to be based only on biodiesel production data (thus ignoring the significant volumes of renewable diesel expected to be produced) and does not appear to account for seasonal production trends. Based on data through September 2019, we currently project that domestic BBD production will be approximately 2.32 billion gallons in 2018, approximately 180 million gallons higher than in 2018. Domestic production of these fuels would have to increase by approximately 55 million gallons per year in 2020 and 2021 to reach 2.43 billion gallons in 2021. This is well below the historical growth rate for domestically produced BBD.

6.4.6 Impact of Renewable Fuels on Infrastructure in the U.S. (Deliverability of Materials, Goods, Renewable Fuels, and Other Products) and Sufficiency of Infrastructure to Deliver and Use Renewable Fuel

Commenters that provided comment on this topic include but are not limited to: 0171, 0213, 0293, 0302.

Comment:

Multiple commenters stated that there is sufficient infrastructure to distribute and use 3.2 billion gallons of biodiesel and renewable diesel, which is significantly higher than the proposed BBD volume for 2021.

Response:

We acknowledge that there is sufficient distribution infrastructure to distribute a higher volume of biodiesel and renewable diesel, including the 3.2 billion gallons mentioned by the commenters. The BBD volume for 2021 is based on our analysis of many different factors, as directed by the statute.

6.4.7 Impact on Transportation Fuel Prices and the Cost to Transport Goods

Commenters that provided comment on this topic include but are not limited to: 0171, 0212, 0213, 0293, 0301, 0302, 0324.

Comment:

Multiple commenters noted that according to EPA's cost assessment in the 2010 RFS rule increased use of biofuels, including biodiesel, will result in cost savings for consumers.

Response:

The cost assessment in EPA's 2010 RFS rule is not an appropriate representation of the cost of BBD in 2021. First, the 2010 cost assessment included the impact of all biofuels projected to be produced in 2022, not just the impact of BBD. Notably this included significant volumes of cellulosic diesel which were projected to be produced at low costs in comparison to petroleum diesel based on much higher projected crude oil prices than we are experiencing today. More importantly, EPA now has more recent information on which to project the cost of biodiesel relative to petroleum diesel in 2020. Based on this cost assessment, we project that soybean biodiesel (which we expect to be the marginal gallon of biodiesel produced in 2020) will cost \$1.25 more per gallon than petroleum diesel in 2020. These costs are presented in the cost impacts memorandum.¹¹⁶ While these illustrative costs do not address 2021 (they address costs in 2020), they are informative for 2021.

Comment:

One commenter noted that biodiesel, including excess biodiesel to meet the advanced biofuel and total renewable fuel volume requirements, drive the cost of the RFS program. Biodiesel consistently costs more than \$0.50 more than petroleum diesel. Another commenter stated that EPA should reduce the BBD volume to the statutory minimum of one billion gallons due to the high cost of BBD.

Response:

While we do not anticipate that the 2021 BBD volume will directly impact the volume of BBD used in the U.S. in 2021 (since the volume of this fuel will be driven by the advanced biofuel standard), we acknowledge that current renewable fuels, in particular BBD, are generally more expensive than the petroleum fuels on an energy equivalent basis, and therefore increasing renewable fuel use is expected to result in an increase in the cost of transportation fuel and cost to transport goods in 2020 and 2021. Despite the higher expected costs of renewable fuels in these years, we believe the 2021 BBD standard in this final rule is appropriate in light of the statutory direction in EISA.

¹¹⁶ "Cost Impacts of the Final 2020 Annual Renewable Fuel Standards", Memorandum from Michael Shelby, Dallas Burkholder, and Aaron Sobel available in docket EPA-HQ-OAR-2019-0136.

In a memorandum to the docket, we provide an illustrative cost estimate for soybean oil biodiesel. In the memorandum, EPA finds that in 2020 soybean biodiesel will cost \$1.25/gallon more than diesel fuel that it replaces. More detail on this analysis can be found in the memo to the docket titled, “Illustrative Costs Impact of the Final Annual RFS2 Standards, 2020.”¹¹⁷ These costs estimates are based on projected market conditions, and it is quite likely that market conditions will vary over time. While these illustrative costs do not address 2021 (they address BBD costs in 2020), they are informative for 2021.

Comment:

EPA’s concerns about the high costs of advanced biofuels ignore the benefits. The commenter presents modeling results for scenarios that increase the advanced biofuel volume to 5.42 billion gallons in 2020 and 5.92 billion gallons in 2021. This modeling estimated that these volume increases would result in an increase of just over \$0.02 per pound of biodiesel feedstock. The commenter noted that soybean oil prices have been falling since 2011, and that these price increases could be offset by the impact of the ongoing trade war with China.

Response:

We recognize that higher feedstock prices are beneficial to feedstock producers. These higher feedstock prices, however, in turn represent higher costs to industries that use these feedstocks (including both the biofuel industry and other users of these feedstocks), including diesel fuel, which ultimately result in higher prices for consumers. We do not believe the benefits of higher feedstock prices to feedstock producers justify a higher BBD volume for 2021.

Comment:

BBD increases the supply of fuel transportation fuel, which inherently decreases the price of transportation fuel.

Response:

While it is generally true that increasing the supply of fuel decreases the price of fuel, this is not the case if the supply is being increased due to a mandate for a fuel that would otherwise not be used due to its higher cost, as is the case for additional volumes of BBD. As discussed in a memorandum to the docket, soybean biodiesel is estimated to cost \$1.25 per gallon more than petroleum diesel in 2020.¹¹⁸ Increasing the required volume of this fuel would increase the average cost of diesel fuel to consumers.

Comment:

Biodiesel is more expensive than diesel fuel to produce and will only be blended into the diesel fuel supply if incentives or other subsidies make it cost effective to do so.

¹¹⁷ Ibid.

¹¹⁸ Ibid.

Response:

EPA's estimate for the cost of production of biodiesel in 2020 is currently significantly higher than EIA's projected price for diesel fuel in 2020. As discussed in a memorandum to the docket, soybean biodiesel is estimated to cost \$1.25 per gallon more than diesel fuel in 2020.¹¹⁹ Because of the higher cost of production of biodiesel, we do not expect that significant volumes of BBD would be used in the market absent the incentives provided by the RFS program, or other federal, state, or local programs.

¹¹⁹ Ibid.

6.4.8 Impacts on Other Factors (Jobs, Price and Supply of Agricultural Goods, Rural Economic Development, Food Prices)

Commenters that provided comment on this topic include but are not limited to: 0117, 0164, 0171, 0177, 0213, 0291, 0293, 0302, 0328.

Comment:

Several commenters suggested biodiesel plants are closing due to lack of renewable fuel demand as a result of the decisions made by EPA on how to implement the RFS annual fuel volumes. For example, one commenter pointed to several large biodiesel facilities that have closed recently. This commenter suggested that the small refinery exemptions of the RFS were a major factor contributing to the biodiesel plant closings.

Response:

Biorefinery shutdowns are caused by many different factors. In any particular case, it is unlikely that a single factor can be identified as the sole or even primary cause of a biorefinery shutdown. Moreover, instances of individual facility shutdowns are not necessarily a reflection of poor market demand as a whole. U.S. production of biodiesel and renewable diesel has continued to rise over time, and the standards under the RFS program for advanced biofuel and BBD have never decreased from one year to the next. Thus, any biodiesel refinery closures can only be the result of other market factors that are in play. Available information (such as the current price for D4 and D5 RINs) indicates that the RFS program is one factor that does help to drive BBD volumes (in addition to the CARB LCFS program, tax credits, trade policies, crude oil prices, soy oil prices, etc.), and that the 2020 final annual RFS standards will result in the higher use and production of BBD than in the absence of the RFS program requirements. Following the increase in biodiesel production in recent years, the market is continuing to consolidate with older, smaller facilities closing, larger facilities expanding, and larger companies taking over smaller companies. Given the wide range in size and technologies across biodiesel and renewable diesel facilities, and the influence of factors like the fluctuating presence of the blenders tax credit, this market has been going through a maturation process. For example, at present there are a number of large renewable diesel production facilities that are in financing, construction, startup, and/or expansion. Comments specific to SREs are addressed in Section 8.2 of this document.

Comment:

One commenter cited a study by LMC International that the U.S. BBD industry currently supports more than 65,600 jobs, \$2.5 billion in wages, and \$17 billion in total economic impact throughout its supply chain in the U.S. The commenter also cited the same study by LMC International that estimated that three billion gallons of biomass-based biodiesel would generate over 79,000 U.S. jobs, \$3 billion in wages paid, and \$20.4 billion in total U.S. economic impact. The commenter suggested that because BBD feedstocks are co-products of the meal portion of crops used for food, BBD volumes lower input prices for food production. The commenter concluded that an increase in the BBD RFS RVOs provide benefits to U.S. in terms of employment and rural development. Another commenter suggested that increasing the use of

biodiesel promotes rural development. The commenter referenced a biodiesel plant in Iowa that employs 24 full-time employees with wages and benefits totaling \$1.75 million annually. In addition, the plant employs 28 contract haulers with payments to the contractors of \$1.9 million annually. According to the commenter, spending by workers at this biodiesel plant contributes to the employment of hairdressers, insurance sales representatives and waiters at local restaurants in the town where the biodiesel plant is located. This increased spending in the town where the BBD plant is located promotes rural development.

Response:

As we explain in Section VI of the final rule, the BBD standard is nested within the advanced biofuel standard, and the use and production of BBD is driven by the advanced biofuel volume, not the BBD volume. Consequently, changes to the BBD standard itself will not impact on employment, rural development in the U.S., or food production. EPA recognizes that greater use of biodiesel has economic impacts that benefit various U.S. agricultural sectors, while causing adverse effects on other U.S. agricultural and non-agricultural sectors. EPA does not believe that these potential impacts warrant a higher or lower BBD standard. For example, greater use of biodiesel may result in more employment in the biodiesel industry but at the expense of employment in industries that produce other (i.e., non-BBD) advanced biofuels. We believe our final 2021 BBD volume requirement continues to provide support for continued rural economic development, employment and incomes while striking the appropriate balance between providing a market environment where the development of other advanced biofuels is incentivized and maintaining support for the BBD industry. Based on our review of the data, and the nested nature of the BBD standard within the advanced standard, we conclude that the advanced standard continues to drive the ultimate volume of BBD supplied.

7. Economic and Environmental Impacts

7.1 Economic Impacts and Considerations

7.1.1 Illustrative Costs of the Program

Commenters that provided comment on this topic include but are not limited to: 0192, 0197, 0211, 0212.

Comment:

One commenter suggested that EPA only addressed costs to the refiners of the 2020 annual RFS rule, ignoring reduced costs to consumers. In addition, this commenter suggested that the use of ethanol to meet the 2020 annual RFS renewable fuel provides a cost-effective means of meeting octane requirements. In addition, this commenter suggested that EPA failed to assess the benefits that result from increasing the 2020 annual RFS volume requirements.

Response:

EPA's illustrative cost estimates for the final 2020 annual RFS rule represent the increase in cellulosic biofuel using CNG/LNG derived from landfill gas over the finalized 2019 volumes. The costs of using CNG/LNG derived from landfill gas compared to fossil-fuel derived natural gas are modest. EPA estimates the impact of the renewable fuels on costs at the wholesale level. EPA agrees with the commenter that up to the E10 blendwall, ethanol is a cost-effective means of meeting the RFS renewable fuel volumes, and, also octane requirements. The use of E15 and E85, as well as biodiesel and renewable diesel, however, tends to be more expensive than the use of the petroleum fuels they replace. The costs of compliance with the RFS program are passed through to consumers in the prices they pay for fuel.

EPA estimated GHG, energy security, air quality impacts, and benefits in the 2010 RFS2 final rule assuming full implementation of the statutory volumes in 2022. In this action, EPA provided only an illustrative cost analysis for the rule and did not try to quantify the benefits.¹²⁰ EPA continues to believe that long-term costs and benefits of the RFS program are not well suited to being analyzed on a piecemeal annual basis. We have, however, considered both costs and benefits in exercising the cellulosic waiver authority (Section IV of the final rule), in establishing the 2021 BBD volume (Section VI of the final rule), and in evaluating the exercise of our general waiver authorities, particularly the severe economic harm authority (Section 2 of this document).

Comment:

One commenter submitted comments, and a study by de Gorter, suggesting that the RFS program becomes more costly as RFS renewable fuel volumes are increased.¹²¹ The paper by de Gorter

¹²⁰ "Cost Impacts of the Final 2019 Annual Renewable Fuel Standards," Memorandum from Michael Shelby, Dallas Burkholder, and Aaron Sobel available in docket EPA-HQ-OAR-2018-0167.

¹²¹ de Gorter, H., The Social Costs and Burdens of Potential Future RFS Policies, Cornell University June 2019.

focuses upon the impacts of the RFS program at or above the ethanol blendwall. According to de Gorter, upon saturating the gasoline pool with E10 gasoline, additional RFS requirements are likely to be met with biodiesel. de Gorter's analysis finds that increasing the use of biodiesel is costly. According to de Gorter, diesel fuel consumers are disproportionately impacted with increased renewable fuel volumes as a result of the RFS. Also, because diesel fuel is largely consumed by trucks and trains, the increased costs of transportation fuel as a result of the RFS can lead to higher prices for consumers. Combining RFS volumes with declining fuel demand projected by EIA, the de Gorter study finds that annual welfare costs of the RFS renewable fuel volumes could reach \$17 billion by 2022 and \$30 billion by 2027.

Response:

EPA's illustrative costs estimates for the 2020 annual RFS rule represent the increase in cellulosic biofuel using CNG/LNG derived from landfill gas. The costs of using CNG/LNG derived from landfill gas compared to fossil-fuel derived natural gas are modest. There are no increases in the advanced or conventional portions of the 2020 annual RFS standard, so there are no costs associated with using renewable fuels that can comply with these portions of the final 2020 annual RFS standards. The costs of compliance with the RFS program are passed through to consumers in the prices they pay for fuel. While biodiesel is often more expensive than petroleum-based diesel and is likely to be used to meet a portion of the standards we are establishing, we do not believe this expense rises to the levels required to exercise the general waiver authority, as described in Section 2 of this document. We have, however, relied upon this factor in establishing the 2021 BBD volume, choosing to leave space for other, non-BBD advanced biofuels to incent the commercialization of less expensive advanced biofuels. In addition, the study is of limited relevance as today's action only establishes standards for 2020 and the BBD volume for 2021, and not standards or volumes for subsequent years through 2022 or 2027.

7.1.2 Energy Security

Commenters that provided comment on this topic include but are not limited to: 0288, 0299, 0718.

Comment:

Numerous commenters lauded the energy security benefits for the U.S. associated with increases in renewable fuels as a result of the RFS program. They suggested that increasing renewable fuels, such as ethanol and biodiesel, reduce U.S. oil imports, and contribute to U.S. energy independence and security. Commenters also suggested that renewable fuels provide a hedging function and diversify fuel supplies in U.S. motor fuel markets, helping to moderate motor fuel prices while shielding U.S. consumers from potential world oil price spikes.

Response:

The production of renewable fuels supports one of the goals of the RFS program by improving the U.S.'s energy independence and energy security through diversification of U.S. transportation fuels and displacement of imported petroleum. Renewable fuels that displace petroleum are less likely to be subject to periodic supply disruptions (i.e., significant crop yield changes principally due to weather related events) than petroleum. Also, supply disruptions in renewable fuels from weather events are not likely to be correlated with oil supply disruptions, which are usually triggered by geopolitical events such as military incursions. Additional details on the energy security benefits associated with the full implemented of the RFS program are included in the March 2010 final RFS2 rulemaking.¹²² For more discussion on the energy security impacts of using BBD, see Section 6.4.4 of this document.

Comment:

One commenter suggested that using more foreign renewable fuel to meet the 2020 RFS renewable fuel volumes reduces the energy security position of the U.S. According to this commenter, domestic (i.e., U.S.) production of transportation fuel is the securest form of liquid energy and, also, furthers U.S. energy independence. This commenter suggested that encouraging renewable fuel imported into the U.S. as a result of the RFS creates an unjustified incentive for foreign renewable production.

Also, this commenter suggested that even if imported renewable fuel can be said to diversify the U.S. supply of transportation fuels, this ignores the possible disruption of foreign renewable fuel supplies, and the greater energy security benefits of using domestically-produced renewable fuels. The commenter suggested that EPA should not implement the RFS in a manner that encourages more foreign renewable fuels (e.g., biodiesel) at the expense of American-produced fuels in the name of energy security.

¹²² U.S. EPA. February 2010. RFS2 Regulatory Impact Analysis. EPA-420-R-10-006.

Response:

The RFS has twin goals of U.S. energy independence and energy security. From the standpoint of U.S. energy independence, the wider use of imported renewable fuels as a result of the RFS moves the U.S. away from this goal. With respect to energy security, renewable fuels that displace petroleum are less likely to be subject to periodic supply disruptions (i.e., significant crop yield changes principally due to weather related events) than petroleum. Also, supply disruptions from weather events in the production of renewable fuels are not likely to be correlated with oil supply disruptions, which are usually triggered by geopolitical events such as military incursions. Thus, both domestically and imported renewable fuels have energy security benefits, as they both reduce U.S. reliance on imported petroleum-based fuels. For more discussion on the energy security impacts of using BBD, see Section 6.4.4 of this document.

In exercising the cellulosic waiver authority, EPA has also considered the potential for advanced feedstock and biofuel switching, and its impacts on energy security and market disruptions (see Section IV of the final rule). The statute, as implemented by EPA's regulations, does not preclude the use of foreign produced biofuels for RFS compliance. Both qualifying foreign and domestically produced biofuels can be used to comply. We established this policy in the 2010 RFS2 regulations and have not reexamined it in this rulemaking. Contrary to the commenter's claim, today's rulemaking does not implement the RFS program in a way that favors foreign biofuels at the expense of domestic ones.

Comment:

One commenter noted that the U.S. is not importing as much foreign oil as it has in past decade. According to the commenter, since the RFS indiscriminately reduces demand for oil

from both domestic and foreign producers, most of the burden has fallen on foreign producers when the U.S. was importing most of its oil. The commenter points out that this is no longer the case due to the growth in domestic (i.e., U.S.) oil production. According to the commenter, this means that the RFS replaces domestic oil production more than foreign production. This indirectly helps foreign oil firms since it reduces the potential strength of domestic oil firms.

Response:

We acknowledge that since the RFS program was established by Congress, the U.S. has become much less dependent on foreign sources of oil. In fact, we are now exporting large quantities of oil and refined products, offsetting much, or all, of our oil imports. The growth in biofuel use is a part of that story, but certainly the revolution in U.S. tight oil production has been key. To the extent that biofuel use continues to grow in the U.S., it may displace U.S. production of conventional fuels as the commenter suggests. However, the statute does not differentiate between foreign and domestic gasoline and diesel production when it comes to identifying obligated volumes under the RFS program. Regardless, for 2020, the RFS annual rule does not change the non-cellulosic advanced and conventional renewable fuel requirements from the 2019 rule. The sole increase in renewable fuel volumes is attributable to the increase in landfill biogas. Therefore, relative to 2019, there are not likely to be impacts on oil production as a result of this

final 2020 RFS annual rule. Thus, the final 2020 RFS annual rule will not significantly influence the competitive position of U.S. oil firms in comparison to foreign oil firms. In any event, further reductions to the volumes would require the use of the general waiver authority, and we are declining to do so as explained in Section 2 of this document.

7.1.3 Impacts of Standards on RIN Prices

Commenters that provided comment on this topic include but are not limited to: 0129, 0212, 0320, 0326, 0337, 0718.

Comment:

RIN prices should be zero and should only rise if refiners don't comply with their blending obligations. EPA should not intervene to lower RIN prices.

Response:

EPA disagrees with this commenter's assessment of RIN prices. Because many renewable fuels, including biodiesel, renewable diesel, and ethanol blended at levels above 10%, cost more to produce than the petroleum fuels they displace, some incentive is required to bring these fuels into the transportation fuel pool. Under the current RFS program RINs incentivize the blending of renewable fuels, and generally represent the marginal cost of blending additional volumes of renewable fuel. While the actions in this final rule (such as the volumes we are establishing for 2020) are expected to impact RIN prices, the justification for the volumes established in this rule are explained in the final rule preamble and elsewhere in this document. EPA has not established these volumes in an effort to achieve a pre-determined RIN price.

Comment:

One commenter stated that the proposed volumes would cause D6 RIN prices to rise to the price of D4 RINs as excess biodiesel/renewable diesel would be needed to meet the volume requirement. Another commenter similarly stated that the proposed volumes could result in higher RIN prices (greater than \$1). A commenter stated that a conventional volume requirement of 15 billion gallons will trigger a spike in RIN prices and create economic harm.

Response:

In previous years we have observed time periods when the price of D6 RINs was approximately equal to the price of D4 RINs, as well as time periods when both D6 and D4 RINs exceeded \$1 per RIN. This is generally the case when the cost of the marginal gallon of conventional renewable fuel is equal to or higher than the cost of the marginal gallon of BBD. In these cases, excess volumes of BBD (beyond what is needed to satisfy the BBD and advanced biofuel volumes) are supplied to help meet the total renewable fuel volume. It is possible that these market circumstances may occur in 2020, especially if sales of higher level ethanol blends such as E15 and E85 continue to be modest. Further discussion of the relationship between D4 and D6 RIN prices is in Section VI of the final rule.

We do not, however, believe that higher D6 RIN costs (or RIN costs more generally) will result in excessive costs to refiners. EPA has examined the available market data and concluded that refiners recover the cost of the RINs they acquire through the higher market prices for the

petroleum fuels they produce which reflect RIN prices.¹²³ Higher RIN costs, therefore, do not constitute severe economic harm to refiners (or the state or regions in which refineries are located), and is not a sufficient basis for reducing the total renewable fuel volume for 2020 using the general waiver authority. For a further discussion of the general waiver authority, see Section II of the final rule and Section 2 of this document.

Comment:

EPA's decisions on small refinery exemptions have resulted in lower prices for RINs and ethanol.

Response:

SREs granted in previous years reduced the demand for RINs, and thus likely had an impact on RIN prices. See Section VII of the final rule and Section 8.2 of this document for further discussion of accounting for future SREs in the percentage standards. See Section 5 of this document for a discussion of the expected impact of this rule on ethanol prices.

Comment:

High RIN prices cause inequity among fuel retailers, as terminal operators who own retail stations can use RIN values to lower retail prices.

Response:

EPA examined whether high RIN prices disadvantaged small fuel retailers, or conversely provide a competitive advantage to large retailers who blended renewable fuels. Based on the available data, EPA determined that high RIN prices did not disadvantage small retailers relative to larger retailers or terminal operators that acquired RINs by blending renewable fuels.¹²⁴ Commenters did not present any new evidence or arguments in this rule that would cause EPA to question the conclusions reached in the point of obligation decision document.

¹²³ See "Denial of Petitions for Rulemaking to Change the RFS Point of Obligation," EPA-420-R-17-008, November 2017.

¹²⁴ See "Denial of Petitions for Rulemaking to Change the RFS Point of Obligation," EPA-420-R-17-008, November 2017.

7.1.4 Impacts of Standards on Retail Fuel Prices

Commenters that provided comment on this topic include but are not limited to: 0718.

A number of commenters discussed the impact of the BBD volume for 2021 on transportation fuel prices and the cost to transport goods. Responses to comments addressing the impact of the 2021 BBD volume on transportation fuel prices and the cost to transport goods can be found in Section 6.4.7 of this document.

Comment:

The proposed standards will increase fuel costs.

Response:

The RFS program is expected to increase transportation fuel costs if the required renewable fuels have a higher cost than the petroleum fuels they displace. EPA has considered the costs of this rule in Section V of the final rule, with more detail on these costs in a memorandum to the docket.¹²⁵ As discussed in Section II of the final rule, these costs do not represent severe economic harm, and thus do not provide a basis for further reductions to the required volumes.

¹²⁵ See “Cost Impacts of the Final 2020 Annual Renewable Fuel Standards”, Memorandum from Michael Shelby, Dallas Burkholder, and Aaron Sobel available in docket EPA-HQ-OAR-2019-0136.

7.1.5 Price and Supply of Agricultural Commodities and Farm Income

Commenters that provided comment on this topic include but are not limited to: 0276, 0288, 0320, 0718.

Comment:

Numerous commenters addressed the impact of the RFS on agricultural commodities and prices (e.g., corn, soybeans) and various intermediate products such as soybean meal, a feed co-product that results from the soybean oil extraction process. Most commenters pointed out that U.S. agricultural commodity markets are oversupplied with agricultural commodities currently, resulting in low overall U.S. agricultural commodity prices. For example, one commenter pointed out that crop prices in the U.S. have been relatively low in recent years. This commenter stated that corn prices averaged \$4.70 per bushel between 2006 and 2013. Since then, corn prices have declined to \$3.70 per bushel in 2014 and are expected to remain at \$3.60 per bushel for the 2018/2019 marketing year. According to this commenter, the price of corn will be well below the average cost of production of \$4.24 per bushel estimated by USDA. These commenters argued that higher renewable fuel volumes can easily be accommodated by U.S. agricultural commodity markets currently without undue commodity price impacts. Numerous commenters asserted that maintaining an implied volume for conventional renewable fuel at 15 billion gallons provides a firm base of support for ethanol production and corn prices.

Response:

This action only reduces the volume requirements under the cellulosic waiver authority due to a shortfall in the production of cellulosic biofuels. As a result, the volumes being finalized in this action represent the full implied statutory volumes of conventional renewable fuels and non-cellulosic advanced biofuels contained in the statutory RFS tables, including 15 billion gallons of implied conventional renewable fuel.

EPA recognizes that major U.S. agricultural commodity prices have been relatively low in recent years and that U.S. agricultural commodity prices are projected to increase only modestly in the near term. For example, soybean futures prices for July 2020 are \$9.38/bushel.¹²⁶ Corn futures prices, in the same time frame, July 2020, are \$3.90/bushel.¹²⁷ A variety of factors have contributed to the oversupply of U.S. agricultural commodities. The recent trade actions between the U.S.-China are a significant contributing factor to low U.S. agricultural commodity prices currently. For more discussion on this topic, see “Endangered Species Act No Effect Finding for the 2020 Final Rule,” memorandum to docket EPA-HQ-OAR-2019-0136.

¹²⁶ See “Soybean Futures Prices 2020,” available in the docket for this action

¹²⁷ See “Corn Futures Prices 2020,” available in the docket in this action.

Comment:

Another commenter cited a report by LMC International suggesting that global protein demand (i.e., meat) will result in increases in soy meal demand over the next decade.¹²⁸ Since soy oil production is a by-product of soy meal production, soy oil production will increase as well. Thus, according to this commenter, global protein demand will cause extra supply of soy oil, which will depress soy oil prices. Also, as the commenter notes, soybean oil prices have significantly declined while at the same time that advanced biofuel and BBD volumes under the RFS have grown. According to the commenter, soybean oil prices were 56 cents per pound in May 2011 when the RFS BBD volume was 800 million gallons, compared to just 28 cents per pound in June 2019 when the RFS BBD volume was 2.1 billion gallons. Further, according to the commenter, the ongoing trade war with China has exacerbated the glut of soybean oil in the U.S. In addition, the commenter pointed to a variety of factors: new feedstocks such as CoverCress, rising soybean yields and improved corn oil extraction efficiencies, that will result in increased supplies of feedstocks for biodiesel. According the commenter, all of these factors suggest that agricultural commodity markets can accommodate an increase in the RFS renewable fuel volumes.

Response:

EPA agrees with the commenter that soy oil supplies are currently in abundance and that soy oil prices are influenced more by the overall demand for protein (i.e., meat) as opposed to the RFS renewable fuel volumes. Nevertheless, an increase in RFS renewable fuel volumes would likely increase the demand for biodiesel and renewable diesel produced from soy oil and increase the price of soy oil modestly. But since the volume requirements for non-cellulosic advanced biofuels are not being increased for 2020 (relative to 2019), we also do not expect this rule to have any impact on vegetable oils prices relative to 2019. For more discussion on this topic, see “Endangered Species Act No Effect Finding for the 2020 Final Rule,” memorandum to docket EPA-HQ-OAR-2019-0136.

Comment:

Numerous commenters pointed out that low U.S. agricultural commodity prices in the U.S. agricultural sector have led to lower U.S. agricultural sector income. Some commenters mentioned that in the most recent planting season, farmers across the Corn Belt experienced significant flooding that delayed or prevented planting for many farmers. In addition, numerous commenters pointed to the current trade actions between China and the U.S. as affecting U.S. agricultural commodity prices and lowering U.S. agricultural sector income. One commenter cited a USDA study that projects net U.S. farm income of \$69.4 billion in 2019, 40 percent below 2013 net farm income, and well below the historical average of \$90 billion between 2000 and 2017. These commenters suggested that increasing the 2020 RFS renewable fuel volumes will help to partially offset this decline in U.S. net farm income.

¹²⁸ LMC International, The Growing U.S. Soybean Oil Surplus, Paper for: National Biodiesel Board, Jefferson City, Missouri, August 2018.

Response:

EPA acknowledges that U.S. agricultural commodity prices have been lower in recent years, impacting U.S. agricultural sector income. However, agricultural commodity prices over time have shown little correlation with the RFS program, being driven by a host of market factors, including the U.S.-China trade actions. Nonetheless, we believe that our exercise of the cellulosic waiver authority to the maximum extent is justified for the reasons stated in Section IV of the final rule.

Comment:

One commenter suggested that the RFS has increased the feed costs of producing chickens adversely affecting the U.S. poultry industry. According to the commenter, broiler production in the U.S. poultry sector comprises the largest single user of corn outside of biofuels producers. The commenter asserted that the price of corn has increased with increased RFS renewable fuel volumes. In addition, the commenter suggested that the RFS fuel volumes are increasing the volatility of corn prices. The commenter suggested that weather and other factors have created an especially volatile corn market leading into the 2019/2020 marketing year. According to the commenter, this year and the coming 2019/2020 crop year, are following a similar pattern to the volatility that occurred in the market due to supply disruptions in 2008 and 2012/2013, which had significant adverse impacts on the U.S. broiler industry.

Response:

Agricultural commodity prices over time have shown little correlation with the RFS program, and, regardless, EPA does not believe that this final 2020 RFS annual rule will increase domestic ethanol production. Thus, the final 2020 RFS annual rule will not impact demand for corn to produce ethanol and, as a result, cannot be expected to have any impact on corn prices. Furthermore, corn prices in the U.S. have been relatively stable and low over the last five years. To provide some perspective, since 2014, corn prices have been below \$4.00/bushel except for a one short time period in 2019 where corn prices increased above \$4.00/bushel. Given the variety of recent factors affecting the U.S. corn market such as recent adverse weather events (i.e., flooding in the Midwestern portion of the U.S.) and the U.S.-China trade actions, it is difficult to predict whether corn prices will be more volatile in the 2019/2020 marketing year. Corn futures prices in July 2020 are \$3.90/bushel.¹²⁹

Comment:

Several commenters suggested that increased renewable fuels production (i.e., ethanol and biodiesel) as a result of the RFS has led to an increase in food prices. One commenter suggested that a large portion of America's corn is used to make ethanol and valuable crop land is diverted away from food production. According to the commenter, both urban and rural families in the U.S. have been adversely affected by food price increases from the RFS. In addition, one commenter cited multiple groups such as the Food and Agricultural Organization of the United Nations, ActionAid, World Resources Initiative, Organization for Economic Co-operation and

¹²⁹ See "Corn Futures Prices 2020," available in the docket for this action.

Development, and the World Bank that have claimed that higher food prices are a negative consequence of biofuel policies.

Response:

Agricultural commodity prices over time have shown little correlation with the RFS program, and regardless, this final 2020 RFS annual rule is not expected to result in increased ethanol production in the U.S., and thus is not expected to impact demand for corn or corn prices. Since the volume requirements for non-cellulosic advanced biofuels are not being increased for 2020 (relative to 2019), we also do not expect this rule to have any impact on vegetable oils prices as well relative to 2019. Thus, the final 2020 RFS annual rule will not impact food prices.

7.1.6 Rural Economies

Commenters that provided comment on this topic include but are not limited to: 0290, 0300, 0718.

Comment:

Numerous commenters suggested that the RFS stimulates rural economic development by increasing the demand for renewable fuels such as ethanol and biodiesel. These commenters note that the increased production of renewable fuels increases employment and income mainly in rural areas of the U.S. According to one commenter, 40 percent of the Kansas corn crop is used to make renewable fuels and the RFS has helped to stabilize regional agricultural commodity markets and net farm income in the State. The same commenter pointed out that renewable fuel processing plants in Kansas provide high-paying jobs and reinvestment into local economies. Also, a commenter pointed out that employment in the U.S. renewable fuels industry cannot be outsourced.

Response:

EPA has not undertaken a detailed analysis of the impacts of the final annual 2020 RFS standards on rural development and U.S. farm income. However, as stated above, demand in the U.S. for corn ethanol is being driven by market factors apart from the RFS program. As further stated above, we do not expect the 2020 RFS volume requirements, in particular, to impact demand or prices for corn. Similarly, since the volume requirements for non-cellulosic advanced biofuels are not being increased for 2020 (relative to 2019), we also do not expect this rule to have any impact on vegetable oils prices relative to 2019.

Comment:

One commenter suggested that the RFS does not help rural communities. This commenter asserted that when agricultural commodities are used for fuel production, that both food and fuel prices increase. These price increases adversely affect households living in rural communities and rural economies.

Response:

The 2020 final annual RFS rule does not increase the implied volumes for conventional biofuel or non-cellulosic advanced biofuels. As stated above, we do not expect that this rule will impact corn prices or vegetable oil prices.

7.1.7 Jobs and Profitability of Biofuel Producers

Commenters that provided comment on this topic include but are not limited to: 0164, 0288, 0290, 0458.

Comment:

Numerous commenters suggested that ethanol and biodiesel plants are closing due to lack of renewable fuel demand as a result of the decisions made by EPA on how to implement the RFS annual fuel volumes. For example, one commenter suggested that between 15 and 20 ethanol production facilities have shut down recently across the U.S., with dozens of other ethanol plants operating below capacity. This commenter suggested that there has been a lost market for hundreds of millions of bushels of corn and the layoff of hundreds of high-skilled, high-wage jobs in rural communities. Another commenter pointed to several large biodiesel facilities that have closed recently. This commenter suggested that the small refinery exemptions of the RFS were a major factor contributing to the biodiesel plant closings.

Response:

It is not appropriate to pinpoint RFS program decisions, and the 2020 final annual RFS rule in particular, as the cause of biorefinery shutdowns. Biorefinery shutdowns are a function of many different factors, and in any particular case, it is unlikely that a single factor can be identified as the sole or even primary cause. Moreover, instances of facility shutdowns are not necessarily a reflection of poor demand for the market as a whole. As discussed in the Endangered Species Act no-effect finding memo in the docket, we have assessed the impacts of the RFS program on corn ethanol demand, and find that the 2020 final annual RFS standards do not cause increased corn ethanol production in the United States.¹³⁰ Rather, the corn ethanol market has been, and is being driven, by other primarily economic factors such as crude oil prices, corn prices, trade policies, and federal, state, and local incentive programs, to levels well beyond the RFS program requirements. While these factors together have supported the ongoing growth in U.S. corn ethanol production, as of late they have been less favorable, leading to relatively lower levels of demand. Furthermore, following the rapid rise in ethanol production over the last 15 years, the market is continuing to consolidate in a typical market maturation process, with older, smaller facilities closing, larger facilities expanding, and larger companies taking over smaller companies, etc. While each of these actions will have impacts on the people and communities involved, they are also part of an overall growing and maturing biofuels market.

For biodiesel and renewable diesel, U.S. production of biodiesel and renewable diesel has continued to rise over time, and the standards under the RFS program for advanced biofuel and BBD have never decreased from one year to the next. Thus, any biodiesel refinery closures are unlikely to be the result of the RFS standards, but are due to other factors, including the result of the above-described market maturation dynamic at play. Unlike for corn ethanol, available information (such as the current price for D4 and D5 RINs) indicates that the RFS program is one factor that does affect the volumes of use and production of biodiesel and renewable diesel

¹³⁰ “Endangered Species Act No Effect Finding for the 2020 Final Rule,” memorandum to docket EPA-HQ-OAR-2019-0136

(in addition to the CARB LCFS program, tax credits, trade policies, crude oil prices, soy oil prices, etc.), and that the 2020 final annual RFS standards will result in their higher use and production than in the absence of the RFS program requirements. Given the wide range in size and technologies across the biodiesel and renewable diesel facilities, and the influence of factors like the fluctuating presence of the biodiesel blenders tax credit, this market has been for several years been going through a maturation process like that described above for ethanol. For example, at present there are a number of large renewable diesel production facilities that are in financing, construction, startup, and/or expansion. Comments specific to SREs are addressed in Section 8.2 of this document.

Comment:

Numerous commenters suggested that the RFS increases employment in the renewable fuels and related industries. One commenter cited a study by Urbanchuk that in 2018 the RFS supported roughly 366,000 direct, indirect and induced jobs nationwide, resulting in nearly \$25 billion in income directly and indirectly related to the ethanol sector, while “the manufacturing activity of ethanol production alone contributed nearly \$14.5 billion to the U.S. economy”.¹³¹ According to another commenter, biodiesel has revitalized many rural areas in Iowa. As an example, the commenter pointed to Western Dubuque, a town of 900 people, where biodiesel production employs 24 full-time employees, with wages and benefits totaling \$1.6 million. Much of the income from the workers at the biodiesel plant is spent in the local town, spurring more spending and employment in the town, according to the commenter. Most of the commenters suggested that reducing the RFS RVOs would reduce employment and the profitability of renewable fuels industries and related industries that supply inputs to renewable fuels producers.

Response:

EPA has not undertaken a detailed analysis of the impacts of the final annual 2020 RFS standards on employment and U.S. farm income. However, there are many drivers of biofuel use and production besides the RFS, so not all economic impacts of biofuels can be directly attributed to the RFS or to the 2020 final annual RFS standards in particular. Furthermore, while the comments on employment may provide insights into the impacts of biofuels and related industries, they do not provide a complete picture of the impact of a change in biofuel use on employment throughout the whole U.S. economy. From an economy-wide perspective, consider an example estimating the overall impacts on employment in the U.S. of an environmental requirement. When the economy is at full employment, an environmental regulation is unlikely to have much impact on net overall U.S. employment; instead, labor would primarily be shifted from one sector of the economy to another sector. On the other hand, if a regulation comes into effect during a period of high unemployment, a change in labor demand due to regulation may affect net overall U.S. employment because the labor market is not in equilibrium. In the longer run, the net effect on employment is more difficult to predict and will depend on the way in which the related industries respond to the regulatory requirements. For this reason, caution is

¹³¹ Urbanchuk, J., Contributions of the Ethanol Industry to the Economy of the United States in 2018, January 30, 2019.

needed when assessing the net employment impacts for the whole U.S. economy of an individual environmental standard such as the RFS.

7.2 Environmental Impacts and Considerations

Commenters that provided comment on this topic include but are not limited to: 0171, 0200, 0213, 0271, 0275, 0293, 0302, 0328.

Comment:

Several commenters raised concerns regarding a wide variety of environmental impacts from biofuel feedstock production such as degradation of habitat, biodiversity, wildlife, water quality, soil quality, air quality, and water supply. Several commenters expressed concerns about habitat loss and degradation due to increased biofuel crop production and pointed to EPA's 2018 Second Triennial Report to Congress as evidence that EPA has linked environmental impacts associated with agriculture to the RFS. Some of these commenters also raised concerns regarding deforestation, in countries such as Indonesia, from any potential increases in demand for palm and soy oils. Some commenters also raised concerns about the air quality impacts associated with biofuels.

Response:

Analyses completed in 2011 and updated in 2018 suggest that some of the environmental impacts from increased corn and soy production is associated with biofuels.^{132, 133, 134} As described in the 2018 Second Triennial Report to Congress, there is more evidence of negative environmental impacts associated with land use change and biofuel production than there was suggested in 2011.¹³⁵ However, the magnitude of the effect from biofuels is still unknown and has not been quantified to date. Furthermore, the more recent scientific literature cited in the 2018 Second Triennial Report to Congress continues to support the conclusion from the 2011 First Triennial Report to Congress that biofuel production and use can be achieved with minimal environmental impacts if existing conservation and best management practices for production are widely employed.^{136, 137}

¹³² U.S. EPA. December 2011. Biofuels and the Environment: First Triennial Report to Congress. EPA/600/R-10/183F.

¹³³ Committee on Economic and Environmental Impacts of Increasing Biofuels Production, National Research Council, National Academies of Science. 2011. Renewable Fuel Standard: Potential Economic and Environmental Effects of U.S. Biofuel Policy. National Academies Press. Washington, D.C.

¹³⁴ U.S. EPA. June 2018. Biofuels and the Environment: Second Triennial Report to Congress. EPA/600/R-18/195.

¹³⁵ Since 2011, there have been several advances in our understanding of land use change trends in the U.S. Three major national efforts have been published: (1) a pair of related studies quantifying cropland extensification from 2008–2012 (Lark et al. 2015; Wright et al. 2017), (2) the USDA 2012 Census of Agriculture (Census) (USDA 2014), and (3) the 2012 USDA National Resources Inventory (NRI) (USDA 2015). There have also been several regional studies documenting land use change in different parts of the country, including the Prairie Pothole Region (Johnston 2013; Johnston 2014; Reitsma et al. 2016), around the Great Lakes (Mladenoff et al. 2016), for the western cornbelt (Shao et al. 2016), for lands in the Conservation Reserve Program (CRP) (Morefield et al. 2016), and for corn/soybean farms (Wallander et al. 2011).

¹³⁶ U.S. EPA. December 2011. Biofuels and the Environment: First Triennial Report to Congress. EPA/600/R-10/183F.

¹³⁷ U.S. EPA. June 2018. Biofuels and the Environment: Second Triennial Report to Congress. EPA/600/R-18/195.

We further note that, as discussed in the docket memo entitled “Endangered Species Act No Effect Finding for the 2020 Final Rule” we determined that the 2020 RFS standards are not expected to increase the cultivation of corn or oilseed crops in the U.S., because the production of these feedstocks will be driven by other factors in 2020. In addition, the 2020 RFS standards do not require, authorize, fund or carry out the production of any specific biofuel or crop. For further details, please see the above referenced docket memo.

While some commenters believe that the connections between RFS mandates and the environmental impacts are undeniable, the science continues to tell us that quantifying such connections is very complicated. Specifically, identifying and separating the extent of negative environmental impacts attributed to the RFS program from the negative impacts due to overall land use changes requires deciphering many layers of causation that when considered together make attribution to the RFS program difficult.¹³⁸ As described in detail in the 2018 Second Triennial Report to Congress, connections between biofuel production and environmental impacts is an active area of research for many environmental endpoints such as GHGs, water quality, and land use change. This continues to be the case despite the recent research in this area that commenters submitted to the docket. When EPA examines the science in this area as a whole, there continues to be no definitive conclusions regarding RFS-caused environmental impacts.¹³⁹ EPA notes that we received one substantial comment in support of this position. The potential for impacts remains an area of interest and EPA continues to look at these impacts and track the science in these areas.

¹³⁸ *Id.*

¹³⁹ *Id.*

7.2.1 GHG Impacts

Commenters that provided comment on this topic include but are not limited to: 0271, 0288, 0297.

Comment:

Various commenters voiced their concerns about either positive or negative perceived GHG and climate impacts of biofuels, sharing multiple studies and statistics in support of their positions.

One commenter pointed to GHG reduction benefits from replacing petroleum-based gasoline with cornstarch-based ethanol in a 2017 report by ICF, contracted by USDA.¹⁴⁰ That report found greater GHG reductions from corn biofuels than EPA's analysis in the March 2010 RFS2 final rule. That same commenter also cited similar conclusions for reductions in GHG emissions from cornstarch-based ethanol based on the work of Argonne National Lab's GREET model.¹⁴¹ Additional commenters shared concerns over the CO₂ emissions released from forest clearings and burning, especially in regions with peat soil due to expansion of agricultural land that takes place in response to increased volumes of biofuel under the RFS program. One commenter asserted there is an increasing global demand for palm oil as corn oil continues to be used for fuel. Another commenter stated concerns with agriculture based GHG emissions from producing corn-based ethanol.

Response:

EPA will continue to monitor the GHG emission impacts and lifecycle determinations as we implement the program going forward. However, requests for updating biofuel lifecycle greenhouse gas results under the RFS program are beyond the scope of this annual rulemaking.

We have considered greenhouse gas impacts in establishing the BBD standards (Section VI of the final rule) as well as in assessing advanced biofuel and feedstock diversions in exercising the cellulosic waiver (Section IV of the final rule). We further discuss the greenhouse gas impacts of palm oil in Section 4.2.2 of this document.

¹⁴⁰ Mark Flugge, et al., "A Life-Cycle Analysis of the Greenhouse Gas Emissions of Corn-Based Ethanol," January 12, 2017, https://www.usda.gov/oce/climate_change/mitigation_technologies/USDAEthanolReport_20170107.pdf

¹⁴¹ Greenhouse gases, Regulated Emissions, and Energy use in Transportation (GREET). Argonne National Laboratory, DOE. <https://greet.es.anl.gov>

7.2.2 Air Quality

Commenters that provided comment on this topic include but are not limited to: 0531.

Comment:

Several commenters stated that the air quality impacts of the standards were mixed, with some asserting that the air quality impacts of biofuels were positive while others asserted that they were negative.

Response:

EPA did not conduct a new air quality impact assessment in assessing the volumes of renewable fuel that are expected to be available for this rulemaking. However, as part of the RFS2 rulemaking in 2010, EPA conducted a detailed assessment of the emissions and air quality impacts associated with an increase in production, distribution, and use of the renewable fuel volumes sufficient to meet the RFS2 (statutory) volumes, including assumed volumes of biodiesel and ethanol blends.¹⁴²

The RFS2 RIA indicated that the impact of increased biofuels (as assumed to meet the RFS2 volumes) on PM and some air toxics emissions at the tailpipe was generally favorable compared to petroleum fuels, but the impact on VOCs, NO_x, and other air toxics is generally detrimental.¹⁴³ The RFS2 RIA also indicated that the upstream impacts on emissions from production and distribution of biofuel (including biodiesel) are generally detrimental compared to petroleum fuel.¹⁴⁴ Taking tailpipe, upstream, and refueling emissions into account, the net impact on emissions from RFS2 volumes of renewable fuels was increases in the pollutants that contribute to both ambient concentrations of ozone and particulate matter as well as some air toxics. The air quality impacts, however, were highly variable from region to region and more detailed information is available in Section 3.4 of the RFS2 RIA.

More recently, the 2018 Second Triennial Report to Congress summarized existing literature on emissions and air quality impacts. The report did not identify any new information that contradicted previous conclusions. It also noted the magnitude, timing, and location of emissions changes can have complex effects on the atmospheric concentrations of criteria pollutants (e.g., ozone (O₃) and PM_{2.5}) and air toxics, the deposition of these compounds, and subsequent impacts on human and ecosystem health.

We note that given only a limited portion of biofuels use is attributable to the RFS standards, and in particular the 2020 standards, not all air quality impacts from biofuels use can be attributed to this final rule.

¹⁴² See 75 FR 14803-08 (March 26, 2010) and Chapter 3.4 of the RFS2 Regulatory Impact Analysis (EPA-420-R-10-006).

¹⁴³ U.S. EPA. February 2010. RFS2 Regulatory Impact Analysis. EPA-420-R-10-006. Table 3.2-7 and 3.2-8.

¹⁴⁴ U.S. EPA. February 2010. RFS2 Regulatory Impact Analysis. EPA-420-R-10-006. Table 3.2-2 and 3.2-3.

7.2.3 Water Quality and Quantity

Commenters that provided comment on this topic include but are not limited to: 0275, 0328.

Comment:

Some commenters suggested that soil and water quality benefit from biofuels production because sustainable agricultural production practices are utilized by feedstock and biofuel producers.

Response:

EPA acknowledges that impacts to water and soil quality can be mitigated during feedstock production when agricultural best management practices are widely employed and encourages their use.¹⁴⁵

Comment:

Several commenters raised general concerns about water quality and quantity impacts due to the expansion of crops that could be used to produce biofuels.

Response:

EPA has previously recognized the potential impacts on water use and water quality from row crops, especially corn and soy. These impacts were assessed in RFS2 and the 2011 First Triennial Report to Congress, which qualitatively assessed both potential impacts and opportunities for mitigation.¹⁴⁶ The 2018 Second Triennial Report to Congress found more evidence of negative environmental impacts associated with land use change and biofuel production than there was in 2011.¹⁴⁷ However, the magnitude of the effect from biofuels is still unknown and has not been quantified to date. Furthermore, the 2018 Second Triennial Report to Congress found that the scientific literature continues to support the conclusion from the 2011 First Triennial Report that biofuel production and use can be achieved with minimal environmental impacts if existing conservation and best management practices for production are widely employed. EPA supports the growing adoption of mitigation techniques such as no till farming and better control of fertilizer usage, and notes that further technical information on this complicated set of issues would be helpful.

While these potential impacts remain an area of interest, we do not believe that the record warrants a different approach for this action. See Section 2.1.3 of this document and “Endangered Species Act No Effect Finding for the 2020 Final Rule,” memorandum to docket EPA-HQ-OAR-2019-0136.

¹⁴⁵ U.S. EPA. June 2018. Biofuels and the Environment: Second Triennial Report to Congress. EPA/600/R-18/195.

¹⁴⁶ U.S. EPA. December 2011. Biofuels and the Environment: First Triennial Report to Congress. EPA/600/R-10/183F.

¹⁴⁷ U.S. EPA. June 2018. Biofuels and the Environment: Second Triennial Report to Congress. EPA/600/R-18/195.

Comment:

One commenter stated that the RFS program and a higher BBD standard protects water quality and enhances compliance with the Clean Water Act by increasing the amount of used cooking oil, grease, and fats collected by renderers at food service establishments such as restaurants. The commenter suggested that increasing the collection of cooking oil, grease, and fats at restaurants and other business establishments would reduce the amount of cooking oil, grease, and fats channeled into sewer systems and water treatment plants.

Response:

EPA acknowledges that fats, oils, and greases that are improperly disposed of can cause municipal water systems to malfunction and lead to public health and environmental problems. However, EPA has not conducted an analysis of the degree to which the recycling of used cooking oils and greases may mitigate the potential adverse impacts on water quality and sewer system maintenance costs for this rule. No supporting analysis was submitted with the comment.

7.2.4 Ecosystems, Wildlife Habitat, and Conversion of Wetlands

Commenters that provided comment on this topic include but are not limited to: 0271, 0275.

Comment:

Several commenters raised general concerns about ecosystem health, the loss of habitats, and impacts to wildlife and biodiversity due to the expansion of crops that could be used to produce biofuels. For example, several commenters expressed concerns about habitat loss and biodiversity degradation due to increased crop production, especially the production of corn and soy. Many of these commenters also raised concerns regarding deforestation in countries such as Indonesia, from any potential increases in demand for palm and soy oils (i.e., food-based oils). Another commenter argued that attributing environmental impacts to the RFS program, as opposed to other factors, was difficult.

Response:

EPA acknowledges that habitat loss and landscape simplification are detrimental to environmental health with potential for acute impacts in environmentally sensitive areas. However, as discussed in Section 6.4.3 of this document and in a memorandum to the docket entitled “Endangered Species Act No Effect Finding for the 2020 Final Rule” we determined that the 2020 RFS standards are not expected to increase the cultivation of corn or oilseed crops in the U.S., because the production of these feedstocks will be driven by other factors in 2020. In addition, the 2020 RFS standards do not require, authorize, fund, or carry out the production of any specific biofuel or crop. Furthermore, identifying the extent of negative environmental impacts due to overall land use changes that may be attributed to the RFS program, as opposed to other factors that may influence such conversion, is difficult, and the relative contribution of the RFS program has not been quantified to date. Since 2010, researchers have continued to explore any potential connections between biofuel production and environmental impacts. While no definitive conclusions have been made regarding RFS-caused environmental impacts, EPA continues to look at these impacts and track the science in these areas.

Comment:

A few commenters mentioned potential impacts on threatened or endangered species as part of a general list of environmental impacts, such as biodiversity and habitat loss, that commenters linked to the RFS program, specifically corn, palm oil, and soy oil production.

Response:

EPA acknowledges that habitat loss and landscape simplification are detrimental to ecosystems and could result in potential acute impacts in environmentally sensitive areas. However, as explained in a memorandum to the docket and Section 7.2.5 of this document, we do not believe

that any effects on listed species, critical habitat, or land use conversion can be attributed to this action, or that this action causes severe environmental harm.¹⁴⁸

Comment:

Two commenters called on EPA to implement the land conversion protections contained in EISA. These commenters claimed that the aggregate compliance approach does not meet the land protection mandate in the statute.

Response:

These comments are beyond the scope of this rulemaking. In this rulemaking, EPA did not propose changes to, take comment on, or otherwise reexamine our aggregate compliance policy, which was established in the March 2010 RFS2 final rulemaking.¹⁴⁹

¹⁴⁸ “Endangered Species Act No Effect Finding for the 2020 Final Rule,” memorandum to docket EPA-HQ-OAR-2019-0136.

¹⁴⁹ See 40 CFR 80.1454(g); 75 FR 14670, 14691 *et seq.*

7.2.5 Endangered Species Act

Commenters that provided comment on this topic include but are not limited to: 0271, 0275, 0312.

Comment:

Several commenters mentioned potential impacts on threatened or endangered species as part of a general list of environmental impacts, such as biodiversity and habitat loss, that commenters linked to the RFS program, specifically corn, palm oil, and soy oil production. Two commenters also raised concerns regarding deforestation in countries such as Indonesia, from any potential increases in demand for palm and soy oils (i.e., food-based oils) in the context of endangered species.

At least one commenter explained that there is no causal link between the RFS program, land use change, and any potential environmental impacts from that land use change, including potential impacts to threatened or endangered species or their habitat.

Response:

EPA acknowledges that habitat loss and landscape simplification are detrimental to ecosystems and could result in potential acute impacts in environmentally sensitive areas. EPA has not performed a comprehensive analysis of the environmental impacts of the RFS program in this action. However, as explained in a memorandum to the docket and Section 7.2.4 of this document, we do not believe that any effects on listed species, critical habitat, or land use conversion can be attributed to this action.¹⁵⁰ This position is supported by the one comment referenced above and the materials they submitted as addendums to their comment.

¹⁵⁰ “Endangered Species Act No Effect Finding for the 2020 Final Rule,” memorandum to docket EPA-HQ-OAR-2019-0136.

8. Percentage Standards

8.1 General Comments on the Percentage Standards

Commenters that provided comment on this topic include but are not limited to: 0192, 0503.

Comment:

One commenter stated that the proposed rounding of the cellulosic biofuel volume to the nearest 10 million gallons, and the associated rounding of the cellulosic biofuel percentage standard to 2 places rather than 3, should not be implemented because it results in a loss of precision and, in the specific case of the 2020 standards, results in a lower volume than EPA determined is appropriate to require.

Response:

All of the statutory volume targets, including those for cellulosic biofuel, are provided in billion gallons with two decimal places. This is the equivalent of rounding to the nearest 10 million gallons. It has been our practice since the beginning of the RFS program to use billion gallons rounded to two decimal places in specifying the volume requirements for BBD, advanced biofuel, and total renewable fuel, though in the derivation of those volumes we often use million gallons for clarity. However, due to the significantly lower volumes for cellulosic biofuel, we chose to use billion gallons rounded to three decimal places, the equivalent of rounding to the nearest 1 million gallons, in order to represent those volumes more accurately. This was appropriate so long as cellulosic volumes remained much lower than the other three categories of renewable fuel. EPA did this in our discretion; nothing in the statute specifically required three decimal places.

In the context of the 2020 rule, we are changing our approach. With the final 2020 cellulosic biofuel volume of 590 million gallons, there is less need to deviate from the rounding guidance provided by the statutory volume targets. Indeed, were we to round up or down, the maximum theoretical difference between the commenter's approach and ours is 5 million gallons. That is less than 1% of the 2020 cellulosic biofuel volume. In the specific case of the 2020 standards rounding to the nearest 10 million gallons leads to a change of 2 million gallons, or roughly 0.3% of the volume. Given the inherent uncertainties in precisely projecting the cellulosic biofuel volume, we think this level of rounding is reasonable and does not make the projection inaccurate. Moreover, although the rounding results in a slightly reduced cellulosic biofuel volume for 2020, this may not be the case in future years. Over time, we would expect this new rounding protocol to have no net effect on the volume requirement as in some years it would result in rounding up while in other years it would result in rounding down. Both in 2020 and especially over time, the impact of the rounding on the required cellulosic volume would thus be minimal.

Given this, we continue to believe that returning the approach for cellulosic biofuel to that used for the other three categories of renewable fuel is appropriate. Doing so allows us to be

consistent across all four renewable fuel categories as well as with the Congressional intent expressed in the volume tables.

Comment:

One commenter stated that the multiplier in the formula used to calculate the percentage standard for BBD should be changed from 1.5 to 1.55.

Response:

We did not solicit comment on or otherwise reexamine this aspect of the percent standards formula at 80.1405(c). Therefore, this issue is beyond the scope of the rulemaking. In addition, as discussed in Section VII.A of the final rule, we do not believe that the difference between our treatment of biodiesel + renewable diesel in the calculation of the percentage standard for BBD and our treatment of biodiesel + renewable diesel in other contexts would have a meaningful impact on our assessment of appropriate volumes to require or on the market's response to the volumes.

8.2 Accounting for Small Refinery Hardship Exemptions

Commenters that provided comment on this topic include but are not limited to: 0355, 0381, 0384, 0386, 0387, 0388, 0389, 0390, 0391, 0392, 0393, 0394, 0395, 0396, 0406, 0413, 0417, 0418, 0419, 0420, 0421, 0422, 0423, 0424, 0425, 0426, 0427, 0428, 0429, 0430, 0431, 0432, 0433, 0434, 0435, 0437, 0438, 0439, 0440, 0441, 0442, 0443, 0444, 0445, 0446, 0447, 0448, 0449, 0450, 0451, 0452, 0453, 0454, 0455, 0456, 0457, 0458, 0459, 0460, 0461, 0462, 0463, 0464, 0465, 0466, 0468, 0469, 0470, 0471, 0472, 0473, 0474, 0475, 0476, 0486, 0487, 0488, 0489, 0491, 0492, 0493, 0494, 0495, 0496, 0497, 0498, 0499, 0500, 0501, 0502, 0503, 0504, 0528, 0529, 0530, 0532, 0533, 0534, 0535, 0537, 0538, 0540, 0541, 0542, 0543, 0698, 0700, 0701, 0702, 0703, 0704, 0705, 0706, 0707, 0708, 0709, 0709, 0710, 0711, 0712, 0713, 0714, 0715, 0716, 0717, 0719, 0720, 0721, 0722, 0723, 0724, 0725, 0727, 0728, 0729, 0730, 0731, 0732, 0733, 0734, 0735, 1152, 1153, 1284, 1285, 1442, 1480, 1487, 1548, 1763, 1784, 1893, 1998, 1999, 2003, 2023, 2029, 2036, 2037, 2041.

Comment:

Many commenters (primarily renewable fuel producers) stated that EPA should provide a non-zero projection for the volume of exempt gasoline and diesel volumes in 2020. The commenters argued that EPA has a statutory obligation to “ensure” that the renewable fuel volume requirements are met, pursuant to CAA sections 211(o)(2)(A)(i) and (o)(3)(B)(i).

Conversely, many other commenters (primarily obligated parties) stated that EPA should not project future exempt volumes.

Response:

We are finalizing changes to the projected volume of exempt volumes of gasoline and diesel. Our rationale for making these changes is discussed in Section VII.B of the final rule.

Comment:

Many commenters objected to the methodology EPA proposed to use to develop the projection of exempted volumes of gasoline and diesel. The commenters stated that rather than using a 3-year average of the volumes of exemptions that DOE recommended, EPA should use a 3-year average of the actual exempted volumes (specifically, 2016-2018 rather than 2015-2017). The commenters stated that the proposed approach does not guarantee the 15 billion implied conventional biofuel mandate, as there is nothing to guarantee that EPA will actually follow DOE’s recommendations in issuing SREs, and that only by using a 3-year rolling average of actual exempted volumes would EPA be accounting for actual gallons waived.

Conversely, other commenters expressed concern that EPA’s proposed approach would result in exceeding the implied 15 billion conventional biofuel mandate.

Response:

We do not believe it would be appropriate to use a 3-year average of actual exempted volumes in making our projection of future exempted volumes of gasoline and diesel. Our objective is not to reallocate prior-year exemptions (which is what using a 3-year average of actual exemptions would accomplish) or to impose a retroactive obligation on obligated parties. Rather, we are seeking to make a projection of the volume of gasoline and diesel that we expect will be exempt in 2020, thereby ensuring that the volume standards are met. We believe that the methodology used in this final rule for projecting exempted volumes will closely match the volumes ultimately exempted from the 2020 standards and thereby accomplishes that objective, including ensuring that the 15 billion implied conventional renewable fuel standard will be met. We acknowledge that the actual exempted volume may ultimately differ from the projection, and that if it does so, the actual required volume may also differ from the volumes established in the final rule. Nonetheless, the projection is our best estimate based on the record and our intended small refinery policy for 2020. Moreover, by requiring EPA to establish prospective standards, Congress implicitly anticipated the possibility of differences between the volumes in the final rule and the actual volumes. As we stated in the 2012 final rule:

we are not required to ensure that the biofuel volumes in the statute are precisely met. We are required to use the specified volumes to set the percentage standards, but there are no provisions for ensuring that the percentage standards actually result in the specified volumes actually being consumed. This outcome is evidenced by the fact that we use projections of gasoline and diesel volume for the next year which might turn out to be too high or too low. Insofar as those projections are wrong, the percentage standards will not produce a demand for biofuels that exactly corresponds to the volumes in the statute. Thus Congress allowed for some imprecision to exist in the actual volumes of renewable fuel that are consumed as a result of the percentage standards that we set each November
....

77 FR 1340. We do not anticipate that the percentage standards we are finalizing will result in exceeding the implied conventional renewable fuel standard. Further discussion of our justification for the methodology used to make the projection of exempt volumes of gasoline and diesel, including the allowance by Congress for some imprecision in the actual required volumes of renewable fuels, is discussed in Section VII.B of the final rule.

Comment:

Many commenters supported EPA's proposed revisions to the definitions of GE_i and DE_i . However, several of these commenters requested more changes to these definitions, generally suggesting that EPA provide additional regulatory text that made it more certain how EPA was going to make its projection of the exempt volumes of gasoline and diesel (e.g., specify that the projection for year i was the average of the actual exempted volumes for years $i-2$, $i-3$, and $i-4$).

Response:

We do not believe that it is necessary or appropriate to establish by regulation the mechanism by which EPA will estimate the exempt volumes of gasoline and diesel. There is no legal requirement that EPA establish this mechanism by regulation. Moreover, doing so would remove the flexibility for EPA to adjust its methodology for estimating these volumes (without revising the regulation) should it be warranted based on new information in the future. By maintaining this flexibility, our projection of the exempt volumes of gasoline and diesel is analogous to our methodology used to project the volume of cellulosic biofuel production, which we have adjusted several times since the inception of the RFS2 program based on new information.

Comment:

Many commenters noted that EPA has the statutory authority to issue partial exemptions. Conversely, a number of other commenters stated that EPA does not have statutory authority to issue partial exemptions, as the statute only allows for an extension of the original full exemption for small refineries. These commenters often pointed to the existence of the August 9 Memorandum where EPA interpreted CAA section 211(o)(9) to only allow full relief. Commenters suggested that granting partial relief would read “extend” out of the statute.

Response:

Our response to this comment is in Section VII.B of the final rule.

Comment:

Several commenters argued that EPA does not have the statutory authority to reallocate exempted volumes, as the statute is written in such a way that it only allows for downward adjustments, and as such they opposed revising the definitions of GE_i and DE_i . At least one of these commenters also stated that even the current GE_i and DE_i terms are illegal and should be removed entirely.

Commenters suggested that because the only adjustment the statute provides regarding SREs in the context of the percentage standards is a reduction to the standards “to account for the use of renewable fuel during the previous calendar year by small refineries that are exempt,” CAA section 211(o)(3)(B)(ii)(II), EPA lacks the authority to reallocate volumes through adjustments to the percentage standard. Some suggested that this downward adjustment is the only adjustment allowed by the statute. They also point to CAA section 211(o)(5)(A)(iii) which provides for the generation of credits by small refineries, and CAA section 211(o)(9)(D) which provides that small refineries that waive their initial exemption will be assigned an RVO. They suggest that had Congress intended EPA to have the authority to account for exempt volumes, the statute would have provided for it.

Commenters claimed that EPA’s proposed approach conflicted with longstanding interpretation of the statute, under which EPA allegedly maintained that the statute does not permit reallocation of exempt volumes other than exemptions already granted at the time of the final rule.

Commenters pointed to the D.C. Circuit’s statement in *ACE* that Congress “included waiver provisions that allow EPA to lessen the [RFS] requirements in specified circumstances,” and contend that SREs are a waiver authority. They also noted that such waiver authorities meant Congress did not pursue its purpose of increased biofuel generation at all costs.

Commenters also stated that projecting future exempt volumes is unfair to non-exempt obligated parties that will have to comply with higher RVOs.

Commenters also pointed to EPA’s discussion of the statutory term “ensure” in the 2012 annual rule, where EPA stated that it need not “ensure that the biofuel volumes in the statute are precisely met,” and suggested that our approach to projecting exemptions was in conflict with that assertion.

Response:

We agree with commenters that there are specific waiver authorities provided in the statute that allow for the downward adjustment of the applicable volumes, including the general waiver authority in CAA section 211(o)(7)(A), the cellulosic waiver authority in CAA section 211(o)(7)(D) and the BBD waiver authority in CAA section 211(o)(7)(E). We also agree that the statute provides in CAA section 211(o)(3)(C)(ii) that EPA is to account for renewable fuel used by exempt small refineries and also includes other provisions regarding small refineries. However, none of these provisions specifically address whether EPA is authorized to account for a projection of exempted small refinery volumes when promulgating the percent standards so as to ensure that the volumes are met under CAA section 211(o)(2)(A)(i) and (3)(B). We explain why we are allowed to account for such volumes through the standard-setting formula in Section VII.B of the final rule. Here, we supplement that explanation by specifically addressing critiques raised by commenters.

We do not find that the exercise of our waiver authorities diminishes our ability to adjust the percentage standards to ensure that the statutory volumes are met. CAA section 211(o)(3)(B) provides that EPA is “to determine the renewable fuel obligation that ensures that the requirements of paragraph (2) are met.” EPA’s waiver authorities in CAA section 211(o)(7) allow EPA to modify the volumes in paragraph (2). They do not address how EPA is to ensure that the volumes in paragraph (2) are met through the annual standard-setting process in paragraph (3)(B), and we do not read them to imply that we are not allowed to consider exempt small refinery volumes in the standard-setting process.

Relatedly, CAA section 211(o)(3)(C)(ii) states that EPA “shall make adjustments to account for the use of renewable fuel during the previous calendar year by small refineries that are exempt under paragraph (9).” In the 2010 RFS2 rule, EPA prospectively determined that this number was zero, given that this number was expected to be very small and in any event the RIN system accounted for the use of renewable fuel by small refineries.¹⁵¹ We have not reexamined this determination in this rulemaking.

¹⁵¹ 75 FR 14717; see also 72 FR 23911 (making the same determination under RFS1); 77 FR 1340 (2012 annual rule) (reaffirming the conclusion in the RFS2 rule).

In any event, this statutory provision does not foreclose EPA's authority to account for exempted small refinery volumes to ensure that the volume are met.¹⁵² Indeed, it does not address exempted small refinery volumes at all, namely the volumes of non-renewable transportation fuels (gasoline and diesel) that are projected to be exempt from RFS obligations during the compliance year. Rather, it addresses the volumes of renewable fuels used by small refineries during the previous compliance year. These are two different issues.

Moreover, the statutory adjustment is meant to ensure that non-exempt obligated parties are not redundantly required to ensure the use of renewable fuels already used by small refineries but not accounted for by the RFS program. Thus, we stated that “[a]ccounting for this volume of renewable fuel would reduce the total volume of renewable fuel use required of others, and thus directionally would reduce the percentage standards.”¹⁵³ By contrast, the formula terms GE_i and DE_i are meant to ensure that the volumes of renewable fuels required by EPA are met (i.e., when small refineries do not use renewable fuel because of their exemptions, the terms GE_i and DE_i ensure that the renewable fuel is used by non-exempt obligated parties). The two provisions do not conflict and in fact both ensure the use of the renewable fuel volumes in CAA section 211(o)(2), the former by ensuring that renewable fuels used by small refineries not participating in the RFS2 program are nonetheless accounted for, and the latter by ensuring that renewable fuels not ensured by exempt small refineries are ensured by other, non-exempt refineries.

The other small refinery provisions also do not preclude EPA from accounting for exempted volumes in the standard-setting process. CAA section 211(o)(5)(A)(iii) and (o)(9)(C) address the generation of credits by non-exempt small refineries, while (o)(9)(D) simply allows small refineries to waive the statutory exemptions provided by Congress and based on the DOE study. None of these provisions address the annual standard-setting process at all, much less the specific issue of whether EPA can account for exempted volumes in setting the standards.

To the extent commenters are suggesting that Congress needed to explicitly provide for this adjustment in the statute for EPA to implement it, we disagree. The statute provides EPA broad authority to implement the RFS program and the corresponding percentage standards with which obligated parties must comply.¹⁵⁴ This includes adjusting those percentage standards to account for SREs that are projected to be granted in the relevant compliance year. As with many other aspects of the RFS program, Congress delegated to EPA the authority to determine how to address this detail in implementing the program.¹⁵⁵

Some commenters argued that EPA's approach to projecting exempt volumes is impermissible under the statute, but also argue that EPA's prior approach, which only accounted for exempt volumes associated with SREs granted prior to establishing the percentage standard, “was correct.”¹⁵⁶ However, if EPA lacks statutory authority to consider exempted volumes at all in the

¹⁵² We acknowledge that the statutory adjustment at CAA section 211(o)(3)(C)(ii) suggests that other adjustments for small refineries in the standard-setting process are not statutorily mandated. However, that does not mean, as we explain in the text, that EPA lacks authority to make other adjustments.

¹⁵³ 75 FR 14717.

¹⁵⁴ CAA sections 211(o)(2)(A)(i), (o)(3)(B), 301(a); *Chevron v. NRDC*.

¹⁵⁵ See generally 75 FR 14670 (promulgating regulations to implement EISA and filling numerous gaps left by Congress).

¹⁵⁶ See comments from API, Appendix 1 p. 6, Docket Item No. EPA-HQ-OAR-2019-0136-0721.

annual rule, it is difficult to understand how this could be. The statute does not indicate EPA can consider SREs granted prior to the final rule, but not SREs granted thereafter. Indeed, the statute does not address this timing issue at all, indicating that EPA may adopt any reasonable approach such as the one we are finalizing today.

Moreover, commenters are simply wrong that EPA's prior interpretation was that the statute prohibited us from accounting for small refinery exemptions granted after the annual rule. Rather, we previously said that we did not think it appropriate to reconsider the final rule based on subsequently granted small refinery exemptions. But today we are not reconsidering a final rule setting the percentage standards, but rather projecting exempted volumes in the final rule. We further address the prior interpretation in Section VII.B of the final rule.

We also disagree with commenters who claim that SREs are a waiver authority. The waiver authorities provided in CAA section 211(o)(7) allow EPA to directly reduce the volumes under paragraph (2). However, the small refinery exemption provision at CAA section 211(o)(9) does not directly reduce the applicable volumes, but rather authorizes EPA to grant exemptions to particular refineries. To the extent these exemptions affect the actual volumes of renewable fuel utilized in the market, the statute does not address how EPA should address this issue, allowing EPA to adopt the reasonable approach we are finalizing today.

We agree with commenters that Congress did not pursue increased biofuel generation at all costs. Indeed, EPA has reduced the statutorily required volumes in today's final rule pursuant to our cellulosic waiver authority. However, this does not address the specific issue of projecting exempt volumes.

For those commenters that suggested that it is unfair to non-exempt obligated parties to have to comply with higher RVOs, we note that biofuel groups have also argued that it is "unfair" for biofuel demand to be reduced when EPA grants SREs without accounting for them in setting the standards. We have weighed these concerns and concluded that the approach set forth in the final rule reasonably balances them and, consistent with the statute, ensures that the renewable fuel volumes are actually used.

In response to comments regarding EPA's statements in the 2012 annual rule, see Section VII.B.2 of the final rule.

Comment:

A commenter suggested that EPA's decision to account for exempt gasoline and diesel in the percentage formula through the formula terms GE_i and DE_i , without making adjustments for renewable fuel used by small refineries under CAA section 211(o)(3)(C)(ii) is inconsistent with the text of the statute.

Another commenter suggested that CAA section 211(o)(3)(C)(ii) is the basis for EPA's prior approach of only accounting for small refinery exemptions that were granted at the time of setting the percentage standard, and not projecting exempt gasoline and diesel.

Response:

CAA section 211(o)(3)(C)(ii) does require that EPA make adjustments to the percentage standards to account for renewable fuel used by exempt small refineries in the prior year. As explained above, in the 2010 RFS2 rule, EPA prospectively determined that this number was zero, given that this number was expected to be very small and in any event the RIN system accounted for the use of renewable fuel by small refineries.¹⁵⁷ We have not reexamined this determination in this rulemaking.

The second commenter is incorrect. CAA section 211(o)(3)(C)(ii) has not been used by EPA to justify our prior policy regarding accounting for SREs in the percentage standards. See, e.g., 77 FR 1340.

Comment:

Commenters claim that EPA's approach to accounting for SREs deviates from its longstanding interpretation. Commenters claim that EPA's justification for the change is insufficient and factually inaccurate. Some allege that EPA only offers one reason for its change in course: that exempt volumes are projected to constitute a significant portion of the total volume of obligated volume, and that this was not true in early years of the program. They claim that EPA exempted 24 SREs in 2011 and 2012 and did not reallocate the required volumes associated with those exemptions. They also pointed to EPA's decision in the 2018 RVO to maintain its prior approach, despite having granted an allegedly significant number of exemptions by that time.

Response:

EPA agrees that this final rule represents a change in the policy to accounting for exempted small refinery volumes in the annual rule. We have clearly explained the reasons for this change in Section VII.B of the final rule. As a general matter, commenters seem to be suggesting that EPA cannot change its policy approach in this annual rule because in prior annual rules we also allegedly did not account for significant exempted volumes. This argument misunderstands the law, under which EPA may change its policies by recognizing that it is doing so and providing a reasoned explanation for the change.¹⁵⁸ That is, to the extent that commenters are claiming that EPA cannot take a different policy position in 2020 relative to past years just because we also exempted small refinery volumes in those years, that position is legally incorrect. To the contrary, "the agency must consider varying interpretations and the wisdom of its policy on a continuing basis, for example, in response to changed factual circumstances, or a change in administrations."¹⁵⁹ In this final rule, we have done so, for the reasons articulated in Section VII.B of the final rule and in this document.

¹⁵⁷ 75 FR 14717; see also 72 FR 23911 (making the same determination under RFS1); 77 FR 1340 (2012 annual rule) (reaffirming the conclusion in the RFS2 rule).

¹⁵⁸ See *F.C.C. v. Fox Television Stations, Inc.*, 556 U.S. 502, 514-16 (2009).

¹⁵⁹ *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 981 (2005) (internal citation and formatting omitted).

Commenters are incorrect to suggest that EPA provided only one reason for its change in policy; both the supplemental proposal and the final rule provide numerous reasons, multiple of which commenters themselves address in their submissions and which are discussed in Section VII.B of the final rule. One other notable reason is that we have a prospective policy approach to SREs for the 2020 compliance year at the time of this rule, whereas we lacked such a prospective policy approach in recent annual rules. In any event, commenters wrongly claim that EPA expected equally significant volumes of exemptions in prior years (such as in 2011, 2012, and 2019) but nonetheless refused to account for them in establishing the standards. This claim is incorrect for three reasons.

First, in early years of the program, all (in 2010) or most (in 2012) of the volumes were exempted prior to the final rule, and therefore EPA did account for such volumes in establishing the standards. Second, in other years, such as 2011 and 2013-17, at the time of the final rule, EPA expected relatively limited volumes to be exempted following the final rule. Third, by the time of the 2018 and 2019 final rules, exempted volumes were beginning to rise, but EPA nonetheless chose, in its discretion, to retain its prior approach in those rules. By the time of the 2020 rule, however, changing circumstances—as described in Section VII.B of the final rule including the significant increase in exempted volumes over a period of multiple years as well as our articulation of our prospective SRE policy—persuaded us reconsider and revise our approach. Generally, we believe that EPA’s dynamic responses satisfy the Supreme Court’s admonition that “the agency must consider varying interpretations and the wisdom of its policy on a continuing basis, for example, in response to changed factual circumstances, or a change in administrations.”¹⁶⁰

We explain now in more detail the evolution for our policy in response to the commenters’ specific assertions about specific past annual rules. We do so not to reexamine prior rulemakings, but merely to explain in response to comment why we have provided an adequate explanation for this rule’s change in policy regarding how we account for exempted volumes. In the 2010 RFS2 rule, EPA assigned a percentage to gasoline and diesel expected to be produced by exempt small refineries.¹⁶¹ Doing so was straightforward because the statute in CAA section 211(o)(9)(A) provided that all small refineries would be exempt through 2010. That is, EPA accounted for the entire exempted volume of gasoline and diesel associated with SREs for 2010 in the final rule.

For the 2011 final rule, at the time EPA promulgated the percentage standards, DOE had issued a study in accordance with CAA section 211(o)(9)(B) that found that no small refineries were likely to suffer disproportionate economic hardship. The Senate Appropriations Committee then “directed [DOE] to reopen and reassess the Small Refineries Exemption Study.” At the time of the final 2011 annual rule, DOE had not published its revised study. Therefore, based on the record then before it, EPA did not account for any small refinery exemptions in the 2011 final rule.¹⁶² This is in contrast to this final rule, where we anticipate significant exempted volumes based on our intended approach to adjudicating 2020 SREs.

¹⁶⁰ *Nat’l Cable, supra.*

¹⁶¹ 75 FR 14716-17.

¹⁶² 75 FR 76790, 76804-5 (December 9, 2010).

After the 2011 final rule, DOE published a second study, which found that 13 small refineries would suffer disproportionate economic hardship, and thus EPA provided those small refineries with a two-year exemption as provided by the statute. Subsequently, EPA also granted two-year exemptions to 8 additional small refineries for 2011 and 2012. All those exemptions were accounted for in setting the 2012 percentage standards.¹⁶³ EPA later granted 3 more SREs which were not accounted for in the 2012 percentage standards. In total, 24 small refinery exemptions were granted in 2011 and 2012, and the vast majority of these were accounted for in the 2012 final rule.

For the 2013-17 final rules, EPA did not expect significant exempted volumes at the time of those final rules, and commenters do not claim to the contrary. For the 2018 final rule, the commenter notes that “EPA had already granted 19 small refinery exemptions for the 2016 compliance year, and may have already decided on its approach to the 2017 compliance year. Yet EPA again declined to change its position.” However, there is a significant difference between having granted 19 exemptions for 2016 by the time of the 2018 final rule and having granted 31 exemptions for 2018 by the time of this final rule. Indeed, the exempted volumes are starkly different (7.84 billion versus 13.42 billion gallons of gasoline and diesel).

In addition, for both the 2018 and 2019 final rules, EPA had not yet decided its general policy approach to adjudicating SREs for those years, as we have now done for the 2020 SREs in this final rule. That, together with our additional experience of a relatively higher number of SRE grants and associated exempt volume in recent years, and the other factors described in Section VII of the final rule, persuaded us to adopt a different approach for this final rule.

We also note that commenters often use the term “reallocation” to describe EPA’s action in this rulemaking. This term is imprecise and does not accurately represent what we are doing in this action. In past rulemakings, we have discussed and sought comment on whether it would be appropriate to set the percentage standards prior to the start of the compliance year in accordance with CAA section 211(o)(3) and later modify the percentage standards to account for SREs that may be granted afterwards. Within the context of a notice and comment rulemaking process, we previously said that periodic revisions to the standards would be “inconsistent with the statutory text.”¹⁶⁴ However, we are not modifying the percentage standards to account for SREs after setting the percentage standards in November of the prior year. Nor are our standards meant to account for SREs granted in past years. Instead we are projecting the exempt volume of gasoline and diesel associated with 2020 SREs and utilizing those projections to adjust the percentage standards prior to the beginning of the compliance year. Thus, we are not “reallocating” burdens previously borne by exempt refineries onto non-exempt refineries. Rather, we are accounting for a projection the exempted volume to ensure that the renewable fuel volumes are met.

¹⁶³ *Id.* See also “Accounting for Volumes of Gasoline and Diesel from Exempt Small Refineries in the Calculation of 2012 Standards Under the Renewable Fuel Standard (RFS) Program,” Docket Item No. EPA-HQ-OAR-2010-0133-0211.

¹⁶⁴ 75 FR 76804 (December 9, 2010).

Comment:

Commenters suggested that our statements that we are able to project the aggregate exempted volume are disingenuous because doing so is still the sum of individual exemptions. They state that we could have also done so in prior years.

Response:

We disagree. Of course, it is always possible to make a projection; the question is how reasonable or good that projection is. As we explain Section VII.B of the final rule, several factors allow us to project the exempted volume reasonably and with greater confidence in this final rule relative to prior final rules.

Comment:

Commenters suggested that our statements that we can adjust the standards if the projections are inaccurate is inconsistent with the statute, particularly where EPA's approach is likely to require subsequent adjustments to the standards. Relatedly, commenters asserted that EPA's approach deprived obligated parties of the certainty that they need to make decisions about compliance.

Response:

As commenters point out, the statute does require EPA to set annual standards by November 30 of the preceding year. We do not intend to adjust the 2020 percentage standards after this rulemaking. As we explain in Section VII.B of the final rule, our approach is intended to ensure that the final volumes are used. Therefore, it is not "likely" to result in adjustment of the standards after the fact. Nor do we expect that EPA's subsequent grant of 2020 SREs would cause us to revise the standard or otherwise alter the compliance burden of non-exempt obligated parties.

We are aware that commenters claim EPA cannot reconsider an already-issued standard. This claim is highly questionable. Where appropriate, it appears that EPA may make subsequent adjustments to the standards based on our inherent authority to reconsider or amend a rulemaking. Additionally, our statutory waiver authorities under CAA section 211(o)(7)(A) and (E) appear to allow EPA to adjust the applicable volumes even after we have promulgated the standards. Further, the D.C. Circuit's caselaw authorizes EPA to impose retroactive RFS standards. Were EPA to consider retroactively adjusting any standards due to new information about SRE decisions (or for any other reason), we would act consistent with our statutory authorities and with the D.C. Circuit's caselaw, under which we would consider the burdens of a retroactive action on the market. We note, moreover, that EPA has previously revised an already-issued standard.¹⁶⁵ Nonetheless, we need not definitively resolve this issue as we are not revising an already-issued standard in today's final rule.

¹⁶⁵ See 79 FR 25025 (retroactively revising the 2013 cellulosic biofuel standard).

Comment:

Commenters claim that EPA's new approach to exempted small refinery volumes would upset reliance interests and contradict previous EPA findings.

Response:

Commenters' claim that EPA's actions unjustifiably upset reliance interests is erroneous. In the first place, even where serious reliance interests are present, EPA may still change its policy based on a reasoned explanation of the change.¹⁶⁶ EPA has provided such a reasoned explanation, even under the "further justification" demanded in cases of serious reliance interests. In this document as well as in Section VII.B of the final rule, EPA clearly explains the reasons for its change in policy as well as the changing facts and circumstances that support its new policy. Nothing more is required.

Moreover, commenters do not explain with reasonable specificity what their serious reliance interests are. In any event, no such serious reliance interests are present. The statute authorizes EPA to promulgate annual volumes and standards that change from year to year, and EPA also has broad authority to promulgate and revise its implementing regulations. Stakeholders generally lack serious reliance interests in EPA's annual standards or the mechanism for establishing those standards.¹⁶⁷ EPA has never indicated that its prior policy to accounting for SREs would never be changed. Indeed, EPA has solicited comment on this issue multiple times since its inception, including as recently as in the 2018 final rule.

Comment:

Commenters argued that EPA's approach to exempt small refinery volumes could end up setting compliance standards that are unachievable for obligated parties.

Response:

As we explain in Sections III and IV of the final rule and "Updated market impacts of biofuels in 2020," we believe that the market can make available the volumes we are finalizing today. We acknowledge that it is theoretically possible for greater biofuel volumes to be required should our projection overestimate the exempted volume. We do not think, however, that this will happen as we are projecting the exempted volume based on our approach to 2020 SRE petitions. Rather, we anticipate that our approach to small refinery exemptions will ensure that the volumes established in this final rule are actually used.

Moreover, even if greater volumes are ultimately required, we do not think this will result in unachievable standards. For one, the volumes of advanced and total renewable fuels we analyzed in Sections III and IV of the final rule are not the maximum achievable volumes, and the market

¹⁶⁶ See *F.C.C. v. Fox Television Stations, Inc.*, 556 U.S. 502, 516 (2009).

¹⁶⁷ See *Monroe Energy*, 750 F.3d at 920 (rejecting claim that oil refiners had a "legally settled expectation" in EPA's exercise of its waiver authorities); *AFPM*, 937 F.3d 577–78 (finding it far from obvious that biofuel producers had serious reliance interests in the annual volumes).

may make additional volumes available. Moreover, there exists a significant bank of carryover RINs (currently estimated at 3.48 billion total RINs), as well as cellulosic waiver credits, that can help meet any shortfall in actual production. In addition, obligated parties can also carry forward a deficit into the following year.

Comment:

Commenters suggested that EPA's SRE policy is unstable and unpredictable, and thus cannot form the basis of a projection.

Response:

We agree with the commenter that EPA's SRE policies have changed over time. Moreover, the exempt volume of gasoline and diesel due to SREs has fluctuated over the years, and that is precisely why we have taken a 3-year average. This is a reasonable approach as a 3-year average accounts for the variability in number of petitions, volumes of gasoline and diesel, changing circumstances for small refineries, changes in EPA's policies, and other factors that change from year to year. We take a 3-year average of the exempt volume of gasoline and diesel had EPA followed DOE's recommendation as following DOE's recommendation is our prospective approach to SREs, beginning in 2019 and applying in 2020.

Underlying commenters' claim is the notion that unless EPA can project the exempted volume with perfect precision, any projection is arbitrary and capricious. This is simply false. All projections contain inherent uncertainty, including the projections mandated by Congress to implement the RFS program.¹⁶⁸ In projecting the exempted small refinery volume, EPA has made a reasonable projection. We have carefully considered all the information and analysis before us (including this commenters' concerns), acknowledged factual uncertainties, and identified the considerations we found persuasive.

Comment:

Commenters suggested that EPA's supplemental proposal completely ignored consideration that the proposed percentage standards may result in exceeding the blendwall of 10% poolwide ethanol content.

Response:

Commenters misunderstand EPA's action. In increasing the percentage standard to account for the exempt volume of gasoline and diesel, EPA is not modifying the applicable volumes that EPA found to be available as discussed in Sections III and IV of the final rule, Sections 3-5 of this document, as well as the "Updated market impacts of biofuels in 2020" ("Market Impacts Memo"), available in the docket. EPA's analysis in those sections assume that the full volumes established by this rulemaking will be used. Our approach to projecting exempt volumes is also

¹⁶⁸ See, e.g., CAA section 211(o)(3)(A), (B)(ii)(II), (o)(7)(D)(i).

aimed at ensuring that the full volumes will be used. The market is capable of making those full volumes available.

Commenters are also wrong that EPA ignored the existence of the blendwall. To the contrary, EPA provides ample discussion of the blendwall in the Market Impacts Memo, the analogous docket memorandum to the July 29 proposal, and Section 5 of this document. As EPA explains further in those documents, the market exceeded 10% poolwide ethanol concentration in 2017 and 2018. We expect the market to be able to do so in 2020 as well. Moreover, notwithstanding difficulty in increasing ethanol concentration significantly above 10% in 2020, the market is capable of meeting the total renewable fuel standard through additional use of biodiesel and renewable diesel, which are not constrained by the blendwall.

Comment:

Commenters suggested that “reallocation of [BBD] volumes is unlawful,” stating that the increase in the BBD percentage standard by 0.09%, requires reconsideration of the statutory factors in CAA section 211(o)(2)(B)(ii).

Response:

We do not agree that our adjustments to the percentage standards require reconsideration of the statutory factors for BBD. The statutory factors apply in determining the “applicable volume[]” of BBD, which is unchanged in this action. CAA section 211(o)(2)(B)(ii). As further explained in the above response, the adjustments to the percentage standard are intended to ensure an applicable volume of 2.43 billion gallons, that is, the 2020 BBD volume that EPA analyzed in the 2019 final rule. There is thus no need to do another analysis.

In addition, the BBD standard is nonbinding; it is the advanced standard, not the BBD standard, that is driving BBD use and production. Even with an increase in the BBD percentage standard, this will not drive BBD use or production, and therefore would not impact the statutory factors. For further explanation of the role of the advanced and BBD standard in driving BBD use, see Section VI of the final rule, Section 6 of this document, and the analogous portions of last year’s final rulemaking.

Comment:

Commenters suggested that reallocation violates due process, the CAA and the APA because SRE adjudications are done in secret. They suggested that the parties who are bearing an increased burden due to the higher percentage standards were unable to participate in the SRE proceedings, and will be unable to do so going forward, and that this violates due process.

Commenters suggested that EPA acted in violation of the APA sections 555(b) and 552(a)(2). They claim that Section 555(b) provides obligated parties the right to participate in small refinery petition proceedings. They also claim that under section 552(a)(2) EPA cannot rely on past SRE decisions because some of those opinions were unpublished, and therefore cannot be “relied on, used or cited as precedent” without “actual and timely notice.” Commenters claim that they

would participate in future SRE proceedings (and would have participated in past proceedings) had EPA provided them the opportunity to do so.

Commenters also suggested that by relying on SRE decisions which are subject to CBI protections EPA is not including its “factual, legal and policy considerations” as part of the rulemaking record as required under the CAA. Commenters suggested that by failing to include the past SRE decision documents in the administrative record, EPA has not provided interested parties the opportunity to comment on the basis for projecting exempt volumes in future compliance years.

Response:

The commenters appear to be conflating the projection established in this final rule with past and future SRE decisions. For the projection, which has a direct impact on the stringency of the standard for non-exempt obligated parties, we set forth our approach to SREs for 2020 in the supplemental proposal, thus allowing obligated parties the opportunity to comment and engage with the agency on that approach. Indeed, EPA provided the full procedures set forth in CAA section 307(d), including public notice and a public hearing followed by a thirty-day comment period. Thus, we are not acting without notice or opportunity to participate. Interested parties can and have commented on this action. We also intend to continue to provide information on the exempt volume of gasoline and diesel associated with SREs when they are granted in our online dashboard at <https://www.epa.gov/fuels-registration-reporting-and-compliance-help/rfs-small-refinery-exemptions>.

Commenters are wrong that just because the projected exempt volume is based on the aggregate sum of DOE recommendations for past SRE petitions, EPA is required to allow third parties to participate in SRE proceedings. First as a general matter, today’s action, including our response to comments, does not resolve any SRE petitions, reexamine previously adjudicated SRE petitions, or reexamine the regulation governing the process for adjudicating SRE petitions at 40 CFR 80.1441. This rulemaking is therefore not the proper forum for commenting on these actions, or for making collateral attacks on them. Comments regarding these other actions are beyond the scope of the rulemaking.

Second, EPA has broad discretion to determine the scope of its rulemaking.¹⁶⁹ Nothing requires us to reexamine past SRE decisions or to resolve pending ones in today’s rule, or by extension, to provide additional process associated with such proceedings. Indeed, the statute contemplates EPA’s adjudicating SRE petitions outside of the annual rulemaking, as it authorizes such petitions “at any time” and requires EPA to act on them within 90 days, while prescribing that EPA must issue the annual rule by November 30 of the preceding year.¹⁷⁰

To the extent the commenter is seeking to reopen all past SRE adjudications for 2016-18 compliance years, that would be unprecedented and could cause undue retroactive effects. We are not aware of any legal principle that states merely because an agency relies on aggregate

¹⁶⁹ See *Alon Ref. Krotz Springs, Inc. v. Evtl. Prot. Agency*, 936 F.3d 628, 659 (D.C. Cir. 2019).

¹⁷⁰ CAA section 211(o)(9)(B)(i), (iii), (3)(B)(i).

information about past adjudications in a rulemaking, it must necessarily reopen all those adjudications and subject them to rulemaking procedures.

To the extent the commenter is asking us to reopen our regulatory process for adjudicating SRE decisions, set forth at 40 CFR 80.1441, we decline to do so in this rulemaking. We have not reexamined this regulation. But commenters who believe they merit greater participation in SRE proceedings may file an administrative petition to amend 40 CFR 80.1441. We note, however, the basic administrative principle that any adjudication may affect multiple persons not directly impacted by the agency decision, but this does not mean all such persons have the right to participate in the adjudicatory process.¹⁷¹

Third, commenters' specific arguments based on the Due Process Clause, APA sections 552(a)(2) and 555, and CAA section 307(d), are unfounded. Generally, none of these sections require EPA to expand the scope of this rulemaking to include reexamination of 40 CFR 80.1441, past SRE decisions, or pending SRE petitions. And none of them require this rulemaking to also disclose past SRE decisions or provide the public the opportunity to participate in future SRE proceedings.

Beginning with the Due Process Clause, it is questionable whether the Due Process Clause requires EPA to do anything in this rulemaking beyond the generous procedures already afforded by CAA section 307(d). We are aware of no caselaw reaching such a result. Moreover, this rulemaking imposes standards applicable to all non-exempt obligated parties, and therefore is not the kind of "quasi-judicial determination by which a very small number of persons are exceptionally affected, in each case upon individual grounds" that might warrant additional procedures under the Due Process Clause.¹⁷²

The APA similarly does not require a different outcome. As relied upon by commenters, section 552(a)(2) states "A final order, opinion, statement of policy, interpretation, or staff manual or instruction that affects a member of the public may be relied on, used, or cited as precedent by an agency against a party other than an agency only if it has been indexed and either made available or published as provided by this paragraph; or the party has actual and timely notice of the terms thereof." EPA, however, is not relying on, using, or citing as precedent past SRE decisions against the commenters. Rather, EPA is relying on aggregate data about past SREs to derive the percent standards, which are applicable to obligated parties. Both this aggregate data and the percent standards have been published in the Federal Register, in supplemental proposal and in this final rule. Moreover, section 552 explicitly states that it "does not apply to matters that are trade secrets and commercial or financial information obtained from a person and privileged or confidential," and EPA is required to treat CBI claimed by small refineries as such until it makes a final determination. See 40 CFR part 2 subpart B. We note that even some commenters that

¹⁷¹ See *Pension Ben. Guar. Corp. v. LTV Corp.*, 496 U.S. 633, 655 (1990) (the "minimal requirements" for informal adjudications are established in APA, 5 USC § 555); *Avia Dynamics, Inc. v. F.A.A.*, 641 F.3d 515, 520 (D.C. Cir. 2011) (informal adjudications are not subject to notice-and-comment requirements), or to seek judicial review of the adjudication, see *Conf. Grp., LLC v. FCC*, 720 F.3d 957, 963 (D.C. Cir. 2013).

¹⁷² *Vermont Yankee Nuclear Power Corp. v. Nat. Res. Def. Council, Inc.*, 435 U.S. 519, 542 (1978); see also *Bi-Metallic Investment Co. v. State Board of Equalization*, 239 U.S. 441, 446 (1915).

raise this issue agree that EPA should act pursuant to its regulations and not disclose claimed CBI.

APA section 555(b) is even less helpful to commenters. As relied upon by commenters, that section states “So far as the orderly conduct of public business permits, an interested person may appear before an agency or its responsible employees for the presentation, adjustment, or determination of an issue, request, or controversy in a proceeding, whether interlocutory, summary, or otherwise, or in connection with an agency function.” However, EPA has provided notice with opportunity for a public hearing and for comment, as required by CAA section 307(d). APA section 555(b) requires nothing more of EPA, and in fact it requires much less.¹⁷³

EPA has also complied with CAA section 307(d) in issuing this rulemaking. We provided notice of this rulemaking—including the methodology and data underlying the projection of the exempt volume—a public hearing, and an opportunity for comment. We also relied on, but have not publicly released, a record containing the data relating to individual small refineries. This data underlies the calculation of the projection but is claimed CBI in its entirety. Therefore, we placed a placeholder document into the docket for this action in lieu of the actual record.

Nonetheless, in order to provide additional transparency to stakeholders, we explain in more detail what this record contains, to supplement the explanation already provided in Section VII.B of the final rule. This record lists, for each small refinery petitioner for each compliance year from 2015–18:

- Its production of gasoline, diesel, and gasoline + diesel (in barrels per day and million gallons for the year) based on information from each petition for each compliance year;
- Its calculated total RVO (in millions of RINs);
- DOE’s recommended relief (0%, 50%, or 100%) for it; and
- Its exempted volumes of gasoline, diesel, gasoline + diesel, and total RVO based on DOE’s recommended relief (gasoline production * recommended relief; diesel production * recommended relief; gasoline + diesel production * recommended relief; and total RVO * recommended relief).

The record also sums the exempted volumes based on DOE’s recommended relief for each year. This aggregate information is contained in preamble to the final rule, as well as in the preamble to the supplemental proposal. With respect to 2016–18 SREs, we relied upon this aggregate information to calculate the projected exempt volume for 2020. We did not consider or rely upon EPA’s actual decisions on SREs for 2016–18. Thus, our past SRE decisions are not part of the record for this rulemaking, and do not belong in the docket.¹⁷⁴ As we explain in the Section VII.B of the final rule, the aim of our projection is not to reallocate exempted volumes that we granted in those past years, but rather to project exemptions in the future. For that limited

¹⁷³ See Koch & Murphy, 2 Admin. L. & Prac. § 5:20 (3d ed. Feb. 2019) (this provision does not afford any “interested person” a right to intervene); Litwak, A Guide to Federal Agency Adjudication 74 (2d ed. 2012) (“Absent a statute or rule providing for a right to intervene, the question of intervention is left to the agency’s discretion.”).

¹⁷⁴ See *Am. Trucking Ass’ns v. EPA*, 283 F.3d 355, 372 (D.C. Cir. 2002).

purpose, we used the historical data described above, not data from actual 2016–18 SRE decisions.

We also do not think it violates CAA section 307(d) for us to redact the data we did use as it was claimed as CBI. Indeed, this is a common practice, including in our RFS annual rules. For example, in this rule and in past annual rules, EPA has considered information submitted by cellulosic biofuel producers in projecting the available volume of cellulosic biofuel. Pursuant to EPA’s CBI regulations, 40 CFR part 2 subpart B, EPA does not disclose that information when the producers claim it is confidential.¹⁷⁵ That is analogous to what we are doing here for the above-described record.

In sum, contrary to commenters’ assertions, we have included in this final action the relevant factual, legal and policy considerations underlying our decision to project small refinery exemptions for 2020 while still protecting information claimed as CBI by small refineries. We have provided estimates of past exempt volumes, which inform our calculation of the relevant projection. We have also described our approach for adjudicating SREs in 2020, and our justification for making a projection of the exempt gasoline and diesel in calculating the percentage standards.

Comment:

One commenter suggested that EPA provide a true-up mechanism to account for over- or under-projection of SREs at the end of each compliance year.

Response:

We continue to believe that the statute is best read to require a percentage standard established prior to the beginning of the compliance year.¹⁷⁶ Additionally, our projection of exempt gasoline and diesel provides a reasonable basis for a projection of SREs. A “true-up” after the compliance year has passed would not further renewable fuel use during the compliance year. It would also introduce uncertainty into the program over the predictability and reliability of the percentage standards. As we have previously stated, a regulatory scheme that contemplates regular revisions to established standards is not appropriate:

the Act is best interpreted to require issuance of a single annual standard in November that is applicable in the following calendar year, thereby providing advance notice and certainty to obligated parties regarding their regulatory requirements. Periodic revisions to the standards to reflect waivers issued to small refineries or refiners would be inconsistent with the statutory text, and would introduce an undesirable level of uncertainty for obligated parties.

77 FR 1340. One true-up idea raised by some commenters relates to the treatment of carryover RINs which is discussed at length in Section 2.4 of this document.

¹⁷⁵ See *Alon Ref. Krotz Springs, Inc. v. Evtl. Prot. Agency*, 936 F.3d 628, 661 (D.C. Cir. 2019).

¹⁷⁶ See CAA section 211(o)(3)(B).

Comment:

Several commenters stated that by increasing the percentage standards, the market may be unable to comply with the increased demand for RINs as small refineries will still be purchasing RINs throughout the year assuming they will have to comply since EPA does not typically issue exemptions until after the compliance year is over. This, they argue, will likely cause a drawdown in the carryover RIN bank, resulting in increased RIN costs and fuel prices.

Response:

We acknowledge that to the extent that all obligated parties (including small refineries which may later be exempted) comply with their 2020 RVOs on an ongoing basis throughout the year, EPA's approach to accounting for projected exemptions would increase demand for renewable fuels during the year. Even were this to occur, we do not believe this would make compliance unachievable. The current size of the carryover RIN bank (3.48 billion RINs) is large enough to sufficiently ensure that the market will be able to comply with the 2020 percentage standards, regardless of the actions by small refineries during the compliance year. Even in the extreme situation where EPA grants no SREs for 2020, the existing RIN bank is significantly larger than the 770 million RIN increase to the renewable fuel volumes resulting from the projection. The same is true for advanced and cellulosic biofuel; additionally, for cellulosic biofuel, obligated parties can rely on cellulosic waiver credits as well. We further discuss this issue in Section 2.4 of this document.

We do not speculate on whether RIN prices, which are affected by many factors, will rise or fall as a result of the annual volume standards, nor is today's rulemaking based on commenters' speculation about the impact of this action on RIN prices. Fluctuations in the prices of RINs, which are traded on a highly competitive market, are normal.

However, it is our intent to issue decisions on SRE petitions before the annual compliance deadline, at least to the extent that small refineries petition for relief within 90 days prior to the deadline.¹⁷⁷

Comment:

Some commenters further suggested that because EPA may grant 2020 SREs after the 2020 calendar year, its approach to accounting for projected SREs would require obligated parties to ensure additional volumes beyond what is required in the final rule during 2020. They claimed that this would result in a "redundant obligation," which CAA section 211(o)(3)(C)(i) directs EPA to avoid.

Response:

As we explain in Section VII.B of the final rule, the statute directs EPA to issue prospective standards to ensure the applicable volumes. Although our intention is to ensure the applicable

¹⁷⁷ See CAA section 211(o)(9)(B)(iii).

volumes, no more and no less, we acknowledge that greater or lesser volumes could potentially be used. This is a natural consequence of the prospective statutory scheme established by Congress. In addition, the statute contemplates that small refineries can apply for an exemption “at any time,” indicating that Congress contemplated the possibility of a small refinery seeking and receiving relief after it had already complied.

The commenters rely on CAA section 211(o)(3)(C)(i), but do not explain with reasonable specificity what they think this provision means or why it prohibits EPA’s approach to projecting exempt volumes. In any event, we note that while we have not definitively interpreted this provision and need not do so today, it could be read to address an entirely different issue: that an obligated party ought not be required to satisfy the RFS standards more than once for the same volume of gasoline and diesel. We are, of course, not requiring that result.

But regardless of how this provision is interpreted, the commenters’ concern is unfounded. We acknowledge that it is possible that additional compliance (beyond the renewable fuel volumes in this final rule) could occur during the course of the compliance year due to timing of SRE decisions. But once EPA grants 2020 SREs, any RINs that are ultimately not needed for compliance would still be available for trading or use by another party or for carryover into the next year. As such, all renewable fuel use is properly accounted for, and no “redundant obligations” are imposed.

Comment:

Many commenters expressed overall opposition to the implementation of the small refinery exemption program and suggested changes to how EPA evaluates SRE petitions. Some of these commenters generally claimed that any challenges to EPA’s SRE policies were within the scope of the rulemaking, even if EPA did not specifically reopen that aspect of the policy in this rule. Commenters raised three reasons: EPA has reopened the entire SRE policy by soliciting comment on some aspects of it, or the entire SRE policy is an important aspect of the problem regarding how EPA reallocates small refinery exemptions, or EPA has constructively reopened the entire SRE policy under the D.C. Circuit’s caselaw.

Response:

In this response, we generally respond to commenters’ arguments that EPA’s small refinery policies are within the scope of this action. Later responses address in more detail comments about specific aspects of our small refinery policy.

In this action, we are not adjudicating any SRE petitions, and thus we are not applying the statutory provisions in the context of any exemption decisions. To the extent commenters are attacking any particular exemption decision, it is beyond the scope of the action. To the extent commenters are suggesting that our projection is erroneous because it depends upon an unlawful SRE policy, the comment is also beyond the scope of the action to the extent EPA did not reopen the issue. EPA did reopen the issue of our authority to grant partial relief, and we have responded to comments on this issue. We did not, however, reopen any other aspect of our SRE policy. Those issues are thus beyond the scope of this rule. EPA has broad authority to determine the

scope of the rulemaking and may generally rely upon its prior rules or policies without subjecting them to reexamination.

Commenters wrongly claim that the entire SRE policy is nonetheless within the scope of this rulemaking for three reasons. We address each of the critiques in turn with respect to the SRE policy as a whole. In subsequent responses, we also address these critiques with respect to specific aspects of the SRE policy that commenters allege are within the scope of the rule.

First, just because EPA solicited comment on other aspects of the small refinery policy does not reopen aspects that we did not solicit comment on. Commenters' argument has no logical ending point. For instance, we also solicited comment on discrete changes to multiple framework regulations in this rulemaking. That does not mean that all framework regulations, as promulgated in the 2010 RFS2 rule and subsequent rules, are now reopened.¹⁷⁸

Second, commenters are wrong that because the SRE policy is allegedly “an important aspect of the problem” regarding how EPA projects small refinery exemptions, it necessarily falls within the scope of the rulemaking. As with the first argument, this has no logical ending point. Just because something is relevant to the current rulemaking does not mean that EPA cannot rely on rules or policies established in past proceedings without reexamining them.

Third, EPA did not constructively reopen the entire SRE policy. Commenters claim that EPA is newly proposing to convert SREs into additional burden on obligated parties, totally roughly 770 million RINs in 2020 alone, causing a significant change in the regulatory landscape that could not have been reasonably anticipated, and thereby constructively reopening the entire SRE policy. We disagree.

We do not think this change in how we account for SREs — choosing to account for SREs granted after the final rule in addition to those granted before the final rule — constitutes the kind of unanticipated “sea change” to the basic regulatory scheme that constructively reopens old rules. *Nat'l Biodiesel Bd. v. EPA*, 843 F.3d 1010, 1017 (D.C. Cir. 2016). This is especially because we also accounted for significant exempted volumes under the old regulation, as in 2010 and 2012. For example, in the 2010 final rule, EPA accounted for exempt gasoline and diesel, amounting to 11.9% of the gasoline pool and 15.2% of the diesel pool. We also accounted for significant exempted volumes in establishing the 2012 standards.

¹⁷⁸ An issue is not reopened when EPA “in a later rulemaking restates the policy or otherwise addresses the issue again without altering the original decision,” *Nat'l Ass'n of Reversionary Prop. Owners v. Surface Transp. Bd.*, 158 F.3d 135, 141 (D.C. Cir. 1998), applies the rule to new facts, *see Am. Rd. & Transp. Builders Ass'n v. EPA*, 705 F.3d 453, 458 (D.C. Cir. 2013), or takes action on “related aspects” of “a broad subject,” *NRDC*, 571 F.3d at 1266. Rather, EPA reopens an issue only where it “has—either explicitly or implicitly—undertaken to reexamine its former choice,” *Nat'l Biodiesel Bd. v. EPA*, 843 F.3d 1010, 1017 (D.C. Cir. 2016): when “the entire context demonstrates that the agency ha[s] undertaken a serious, substantive reconsideration” of the specific issue. *Id.* (quotation marks omitted; alterations in original); *see also NARPO*, 158 F.3d at 142 (Permitting any affected rule to be reopened for purposes of judicial review by a rulemaking that does not directly concern that rule would stretch the notion of final agency action beyond recognition).

In addition, EPA's policy for accounting for SREs in the annual standards is not a premise of our SRE policies, such that revision to the former "inextricably" requires reopening of the latter.¹⁷⁹

Moreover, we also do not think the change is one that could not have been reasonably anticipated prior to today's rule.¹⁸⁰ Notably, in the 2018 final rule, EPA also solicited comment on how to consider exempted volumes in the annual rule at that time, reopening this issue then. Although EPA ultimately chose to adhere to its prior approach, it could have chosen to finalize an approach similar to what we are finalizing today so as to account for significant exempted volumes in setting the standards.

Finally, for EPA to constructively reopen an issue, commenters must suffer an onerous burden from the regulation that they seek to reopen. *Sierra Club*, 551 F.3d at 1026. As we explain in Section 2 of this document, we do not believe that higher annual standards impose an onerous burden on these commenters. Notably, refiners are able to pass through their RFS compliance costs to their customers.

In sum, these comments are not within the scope of the rulemaking. However, given that commenters forcibly press these claims and some uncertainty in the governing caselaw, EPA also chooses to respond on the merits to some of these comments. The merits responses are not intended to reopen the issue; however, should a reviewing court find an issue to be newly judicially reviewable for any reason, EPA is providing this response in the record for purposes of defending its action.

Comment:

Commenters suggested that EPA has abused its discretion by developing the SRE policy via adjudications and relying on those adjudications to increase the applicable percentage standard for obligated parties.

Response:

As we explain above, comments on past SRE adjudications and the regulatory process for adjudicating SREs in 40 CFR 80.1441 are beyond the scope of today's action.

In addition, the commenter seems to be suggesting that because EPA allegedly relied on past SRE adjudications in this rulemaking, those past adjudications were arbitrary and capricious, and EPA should have used rulemaking to resolve past SRE petitions. We are aware no principle indicating that an adjudication that is otherwise reasonable later becomes arbitrary and capricious because of the agency's reliance on it in a subsequent rulemaking. In any event, as we have stated above, we are not relying on past SRE decisions to project the exempted volume. We are only relying on volumes of gasoline and diesel information submitted to us by small refinery petitioners and DOE's recommended relief regarding such petitions.

¹⁷⁹ *Sierra Club*, 551 F.3d at 1025-26.

¹⁸⁰ *Id.*

Comment:

Several commenters stated that in order to receive an “extension” of its exemption, a refinery must have received the exemption continuously since the original exemption for all small refineries expired in 2010. A commenter claimed that the 2014 rule does not address the issue of whether “the extension” must be continuous in nature, and instead addresses the definition of “small refinery.”

Response:

As explained above, this issue is not within the scope of the rulemaking. We resolved this issue in a 2014 final rule modifying 40 CFR 80.1441, and we have not reexamined this issue in this rulemaking.

In the 2014 final rule, we added 40 CFR 80.1441(e)(2)(iii), which revised the eligibility criteria for small refinery hardship relief. That regulation states: “In order to qualify for an extension of its small refinery exemption, a refinery must meet the definition of ‘small refinery’ in § 80.1401 for the most recent full calendar year prior to seeking an extension and must be projected to meet the definition of ‘small refinery’ in § 80.1401 for the year or years for which an exemption is sought.” The regulation does not require small refineries to have received a continuous exemption, or even to have been continuously eligible for exemptions. Rather, so long as the small refinery met the definition of “small refinery” in the relevant years and demonstrated disproportionate economic hardship, relief was available.¹⁸¹

Commenters’ claim that the 2014 final rule did not address the statutory term “the extension,” but instead only addressed the statutory term “small refinery” is incorrect. EPA construed both terms in promulgating the regulatory amendment. Indeed, the term “extension” appears at least six times in the section of the preamble explaining the amendment.¹⁸²

Thus, the 2014 final rule resolved this issue of EPA’s authority to grant exemptions to small refineries that had not been continuously eligible for relief. EPA’s projection in this rulemaking is based upon the regulatory framework as established in that final rule and earlier rules. This issue is beyond the scope of this rulemaking.

Nonetheless, we provide a merits response for the reasons stated above. On the merits, we disagree with commenters’ claims that EPA may not extend relief to small refineries who have not continuously received relief since the commencement of the RFS program. Our interpretation of the statutory language, which allows EPA “to extend” or “make available”¹⁸³ an exemption is permissible under the CAA and *Chevron v. NRDC*. The CAA states that a “small refinery may at any time petition [EPA] for an extension of the exemption under [CAA section 211(o)(9)(A)] for

¹⁸¹ See 79 FR 42152 (specifically rejecting EPA’s proposed approach that small refineries would need to have been continuously eligible in every year since 2006 to be eligible for relief).

¹⁸² See, e.g., 79 FR 42152 (explaining that a primary motive for the amendment was that “we no longer believe that it is appropriate that refineries satisfying the 75,000 bpd threshold in 2006 should be eligible for *extensions* to their small refinery RFS exemption if they no longer meet the 75,000 bpd threshold” (emphasis added)).

¹⁸³ Webster’s New Third International Dictionary 804 (1986).

the reason of disproportionate economic hardship.” CAA section 211(o)(9)(B)(i). The definition of “small refinery,” CAA section 211(o)(K)(1), requires only that a facility meet a specified throughput threshold “for a calendar year.” In the RFS1 and RFS2 regulations regarding SREs, we did not opine on whether an exemption needed to be continuous.¹⁸⁴ In 2014, EPA revised its interpretation of this language to allow eligibility to be determined based on throughput during the desired exemption period and the year immediately preceding the petition, and specifically rejected an inquiry focused on throughput from 2006 and all subsequent years.¹⁸⁵

Our 2014 interpretation of the eligibility criterion appropriately focuses on the operative phrase in the “small refinery” definition: “for a calendar year.” If Congress meant that a small refinery must be both eligible for, and received, a small refinery exemption continuously since 2006, it would have at least required that the definition’s throughput threshold not be exceeded for the current and all preceding years or otherwise indicated a date certain. In other definitions in the RFS, Congress used specific, identifiable dates to establish eligibility cut-offs.¹⁸⁶

We also note that the statute permits EPA to grant SREs “at any time.”¹⁸⁷ Here, the statute uses “any” to authorize an exemption of a recurring, annual compliance obligation, to a party that must show eligibility based on its performance “for a calendar year.” Thus, the phrase “at any time” naturally refers to “any” one of the annual compliance periods and does not require continuous receipt of the exemption in prior years.

This reading does not conflict with Congress’s use of the phrase “temporary exemption” in CAA section 211(o)(9)(A). As an initial matter, the word “temporary” appears in the heading of a different subparagraph, addressing the initial blanket exemption and those based on DOE’s 2011 Study, which apply for specified “calendar” years. CAA section 211(o)(9)(B), governing small refinery petitions, does not contain the word “temporary.” Regardless, small refineries seeking the exemption under CAA section 211(o)(9)(B) must apply each compliance year and EPA typically grants exemptions for only the identified compliance year. Thus, like the exemptions under CAA section 211(o)(9)(A), the exemptions EPA grants under (o)(9)(B) are of limited duration and therefore temporary.¹⁸⁸

That “extension” requires continuousness is not supported by the plain text of the statute. If Congress had intended to so strictly limit the phrase “at any time,” it would have used unambiguously restrictive language, not the word “extension.” “Extend” means “to make available (as a fund or privilege) often in response to an explicit or implied request; GRANT.”

¹⁸⁴ See 72 FR 23924-23926 (May 1, 2007), 75 FR 14735-14737 (March 26, 2010).

¹⁸⁵ §80.1441(e)(2)(iii).

¹⁸⁶ See, e.g., CAA section 211(o)(1)(I) (defining “renewable biomass” as “Planted crops and crop residue harvested from agricultural land cleared or cultivated at any time prior to December 19, 2007”), CAA section 211(o)(2)(A)(i) (requiring that “renewable fuel produced from new facilities that commence construction after December 19, 2007, achieves” sufficient greenhouse gas reductions).

¹⁸⁷ CAA section 211(o)(9)(B).

¹⁸⁸ Although EPA previously “regarded as eligible for the hardship relief only those refineries that received the initial statutory exemption” under 42 U.S.C. § 7545(o)(9)(A)(i), EPA has changed its view. EPA’s current interpretation is consistent with a natural reading of the text at §80.1441(e)(2)(iii), as amended in 2014, which focuses on the small refinery’s throughput for the desired exemption period, regardless of whether it qualified for or received the blanket exemption.

Webster’s New Third International Dictionary 804 (1986). The RFS requirements impose annual compliance obligations. Small refineries may petition EPA to extend—i.e., make available—the exemption that Congress permitted in the opening years of the program. Our 2014 regulation gives effect to the ordinary meaning of both the word “extension” and the phrase “at any time.”¹⁸⁹ Commenters suggested that our reliance on the definition of “extend” is misplaced because the statute uses the term “extension.” However, Merriam Webster defines “extension” as “the action of extending: state of being extended.”¹⁹⁰ Therefore, looking to the definition of “extend” is appropriate.

Comment:

Several commenters stated that EPA should not grant any SREs since no refinery suffers disproportionate economic hardship. These commenters stated that because RIN costs are recovered by refiners through the market value of products sold, these exemptions create an unlevel playing field and give the exempted refineries a windfall from avoided compliance costs.

Response:

As explained above, this issue is not within the scope of the rulemaking. EPA as well as DOE, which has a statutorily-prescribed role in the SRE process, have long considered other factors besides RIN pass-through in assessing disproportionate economic hardship. This is reflected in numerous documents since 2011.¹⁹¹ We have not reexamined this choice in this rulemaking, and this issue is beyond the scope.

Nonetheless, we provide a merits response for the reasons stated above. We agree that obligated parties are able to recover their RFS compliance costs including the cost of RIN purchases, as discussed in Section 2.1.3 of this document. As stated there, an exempt small refinery may experience disproportionate economic hardship even though refineries, including small refineries, pass their RIN costs to their customers. EPA has never granted a small refinery exemption because the refinery could not pass through the costs of RINs. Rather, we have found disproportionate economic hardship for other reasons. The statute authorizes us to determine “disproportionate economic hardship” broadly, and thus provides us the authority to consider more than the existence of RIN cost pass-through. Indeed, the statute directs us to evaluate petitions, in consultation with DOE, and considering the DOE study and “other economic factors.” The DOE study assess many factors aside from RIN costs, and the term “other economic factors” also suggests that EPA may consider a broad range of economic factors other than RIN cost pass-through.

¹⁸⁹ See *Leocal v. Ashcroft*, 543 U.S. 1, 12 (2004) (“[W]e must give effect to every word of a statute wherever possible...”).

¹⁹⁰ See definition of “extension,” available at: <https://www.merriam-webster.com/dictionary/extension>.

¹⁹¹ See, e.g., August 9 Memorandum; 2016 Small Refinery Guidance; 2011 DOE Study; *Hermes Consol., LLC v. E.P.A.*, 787 F.3d 568 (D.C. Cir. 2015).

Comment:

Many commenters requested that no exemptions should be granted retroactively after the compliance date has passed. Other commenters requested that EPA establish a deadline by which all SRE petitions for a given compliance year must be submitted or granted before the volume standards for that year have been established, as that way they would be accounted for in the applicable percentage standards for that year.

Response:

As explained above, this issue is not within the scope of the rulemaking. EPA has long indicated its view that it has authority to grant exemptions after the compliance deadline. See, e.g., 77 FR 1340. And EPA has not established a deadline for SRE petitions, per 40 CFR 80.1441. We have not reexamined these issues, and they are therefore beyond the scope of this rulemaking.

Nonetheless, we provide a merits response for the reasons stated above. We do not believe that granting exemptions after the final rule but before the compliance deadline affects the reasonableness of our projection. Either way, we would still need to make a projection based on the information available now.

Requiring all exemptions to be granted before the final rule would obviate the need to make a projection. However, this approach would be inconsistent with our and DOE's longstanding approach to evaluating these petitions, which assesses the financial and operational status of the refinery during the course of the compliance year. It also is not contemplated by our regulation at 40 CFR 80.1441, which does not specify any deadline for an exemption petition to be filed. We do not think the statute compels this approach to either SRE petitions or to accounting for exempted volumes in the exempted rule. In all cases, our approach to accounting for exempted volumes is a reasonable one for the reasons stated in Section VII.B of the final rule.

Comment:

At least one commenter suggested that a small refinery exemption should only apply to the total renewable fuel standard and not the cellulosic and advanced biofuel standards.

Response:

As explained above, this issue is not within the scope of the rulemaking. Nonetheless, we provide a merits response for the reasons stated above. To the extent the commenter is suggesting that EPA should provide a specific small refinery petitioner relief only from one standard and not another, it is not possible to resolve this issue in this rulemaking as we are not acting on any SRE petitions here. To the extent the commenter is suggesting that we lack legal authority to relieve small refineries of all their compliance obligations in an entire year (for all four standards), that position is foreclosed by the statute. The statute clearly authorizes relief

from the “requirements of paragraph (2),” which refer to all four renewable fuel categories, and extension of that relief based on disproportionate economic hardship.¹⁹²

Comment:

A commenter suggested that EPA is prejudging the 2020 SREs prior to receiving petitions.

Response:

EPA is not adjudicating any 2020 SREs in this action. As we explain in Section VII.B of the final rule, final decisions on 2020 SREs must await EPA’s receipt and adjudication of those petitions. Instead, we are describing our general policy approach for evaluating 2020 SREs and establishing a projection of the exempt volume based on that approach and aggregate exemption data from 2016-18.

Comment:

A commenter suggested that in making its projection of exempt gasoline and diesel, EPA should use the lowest exempted volume over the past five years which would minimize economic harm to merchant refiners.

Other commenters suggested that EPA should base its projection only on the most recent year of small refinery exemptions.

Response:

We find that using a 3-year average of exempt gasoline and diesel is the appropriate method. While using the lowest exempted volume would have a lesser impact on the percentage standard, doing so is likely to underestimate the exempt volume of gasoline and diesel in 2020. Relatedly, we have chosen not to use only the most recent year of small refinery exemptions because in recent years the exempt volume of gasoline and diesel has fluctuated, and in general, we find that an average would best account for those fluctuations more so than a single point in time. See Section VII.B of the final rule for further discussion.

As we explain in Section 2 of this document, we do not believe that this rule will cause economic harm to merchant refiners or other obligated parties, as refiners are able to pass through the costs of RFS compliance to their customers.

Comment:

Several commenters also stated that biodiesel imports will increase as a result of increasing the percentage standards to account for SREs. They suggested that biodiesel imports are very costly.

¹⁹² CAA section 211(o)(9)(A)(i), (ii), (B)(i); see also CAA section 211(o)(9)(D).

Response:

Parties may choose to utilize imported biodiesel to comply with increased percentage standards. As we explain in the Market Impacts Memo, it is possible that significantly higher volumes of biodiesel and renewable diesel could be imported into the US in 2020 relative to 2019. As shown in Section IV.B.3 of the final rule, the volumes of imported biodiesel and renewable diesel have also fluctuated over the past years. For further discussion on this topic, see Section 4.2.2.1 of this document. We acknowledge that biodiesel is generally more expensive than petroleum diesel. See “Cost Impacts of the Final 2020 Annual Renewable Fuel Standards”, available in docket EPA-HQ-OAR-2019-0136.

Comment:

Many commenters requested that EPA provide additional transparency on how the small refinery exemption program is being implemented, what the standards are for granting an exemption, and which refineries are receiving exemptions.

Response:

Besides the explanations already provided in Section VII.B of the final rule and elsewhere in this document, we have taken steps outside of this rulemaking to provide additional transparency on SREs. This includes publishing regularly-updated information on our website as to the number of petitions we have received, the number of exemptions granted, and the volume of exempted RVOs from these exemptions. This information can be found at <https://www.epa.gov/fuels-registration-reporting-and-compliance-help/rfs-small-refinery-exemptions>.

Comment:

Commenters stated that granting SREs does not impact biofuel blending or cause demand destruction. Other commenters stated that SREs reduce overall biofuel demand and hurts rural America. A commenter claimed small refinery exemptions of the RFS were a major factor contributing to the biodiesel plant closings.

Commenters claimed that EPA is projecting exempted volumes as a result of decreased renewable fuel use in the market, and that such a justification was inappropriate as there is no demand destruction due to SREs and increasing the percentage standards to account for SREs will not result in additional renewable fuel use.

Response:

As explained above, comments about past and future SRE decisions are beyond the scope. We are not taking action on any small refinery petitions today.

With respect to the comment about the projection, as stated in Section VII of the final rule, we are projecting exempt volumes of gasoline and diesel in order to better fulfill our obligation to ensure that the volumes are met under 211(o)(2)(A)(i) and (3)(B). We are doing so for the

reasons stated in Section VII of the final rule, including because exempt volumes of gasoline and diesel have increased in recent years and we have a prospective policy for adjudicating SREs in 2020. Not projecting exempt volumes of gasoline and diesel would result in less renewable fuel used for compliance with the 2020 RVO.

We acknowledge that other factors affect the use and production of renewable fuels, and that even in the absence of the 2020 RFS standards or the RFS program, significant quantities of renewable fuels would be used and produced.¹⁹³ However, we do believe that the RFS program incentivizes the use of certain volumes of renewable fuels that would not otherwise be used. But this is not the basis for our decision to project exempted volumes. Regardless of whether and how much biofuels would be produced or used in the absence of incentives provided by the RFS program, EPA still has a legal obligation to ensure that the renewable fuel volumes are used.

For further discussion, see also sections 7.1.7 (impacts of the RFS program on biodiesel plant closings), and 7.1.3 (impact of SREs on RIN prices).

Comment:

A commenter suggested that EPA has failed to demonstrate that SREs are “the sole cause” of any shortfall in the volumes being met, and therefore the proposal lacks factual support. Commenters pointed to the 2012-2015 compliance years where the volume of RINs retired exceeded the applicable volumes, and the 2016-2018 compliance years where RIN retirements were nearly equivalent to the applicable volumes.

Response:

The commenter misunderstands the purpose of our action today, which is to project the exempt volume of gasoline and diesel in 2020. While past SREs may have resulted in less RINs being used for compliance in past years, our action today intends to adjust our percentage standard formula such that when SREs are granted for the 2020 compliance year, those exemptions will not result in applicable volumes less than what we are promulgating today. While this projection is based in part on data from 2016-18, we are not reallocating prior exempted volumes for the 2016-18 (or 2012-15) compliance years in today’s action. Nor is our projection equal to the actual volume exempted in 2016-18.

The data provided by commenters specifically for 2018 compliance only indicates that the market overcomplied in making available more RINs than were required to be retired for compliance. This has been true for all compliance years since 2014. The 1.43 billion reduction in RINs required for compliance due to SREs does not equate to a shortfall in the number of RINs available. Rather, as described in the final rule, SREs have resulted in a reduction in the number of RINs required to be retired to demonstrate compliance.

¹⁹³ “Endangered Species Act No Effect Finding for the 2020 Final Rule,” memorandum to docket EPA-HQ-OAR-2019-0136.

9. Amendments to the RFS Program Regulations

9.1 Clarification of Diesel RVO Calculations

Commenters that provided comment on this topic include but are not limited to: 0118, 0131, 0183, 0185, 0193, 0211, 0213, 0270, 0299, 0323, 0337.

Comment:

Numerous commenters supported EPA's primary proposed approach (downstream redesignation of certified NTDF to 15 ppm diesel fuel) as proposed, while some commenters supported this approach with modifications. One commenter supported EPA's first alternative option (presumptive inclusion of 15 ppm sulfur diesel fuel) as proposed, all other commenters opposed this option. All commenters opposed EPA's second alternative proposed option (presumptive exclusion of 15 ppm sulfur diesel fuel).

Response:

We are finalizing our primary proposed approach with modifications, discussed in more detail in Section IX.A of the final rule and below. We are not finalizing either of the two alternatives.

Comment:

Several commenters stated that these additional provisions are unnecessary, as the market already generally understands that an RVO is incurred for any positive net annual redesignation of certified NTDF to 15 ppm diesel fuel, and EPA provided no data to the contrary.

Response:

We are finalizing these provisions to provide the regulated community with more specific direction regarding how to calculate an RVO for any positive net annual redesignation and to provide EPA with information to assist in evaluating compliance with these requirements.

Comment:

Several commenters stated that the "reasonable expectation" criteria are vague, subjective, and difficult to implement.

Response:

The "reasonable expectation" criteria are designed to prevent refiners and importers from circumventing the requirement to incur an RVO for all transportation fuel by designating all fuel as non-transportation fuel even if they expect it will be used for transportation purposes. After considering comments, EPA has modified the criteria it will use to evaluate if a refiner has a reasonable expectation that its fuel will be used for non-transportation purposes.

Comment:

Several commenters stated that the proposed PTD language was confusing and contradictory.

Response:

We have simplified the proposed PTD language and now require the following simple statement on PTDs: “15 ppm sulfur (maximum) certified NTDF – This fuel is designated for non-transportation use.”

Comment:

Several commenters stated that EPA should provide more explanation on how the volume balances are calculated and to whom they apply.

Response:

We have added an equation to the regulations for calculating volume balances and specified that the redesignation provisions apply to the certified NTDF product owner at the time of redesignation. Balances apply to each facility that is registered as a refinery.

Comment:

Several commenters stated that EPA should only require reporting and attest engagements for refiners at facilities where they incur an RVO.

Response:

We are finalizing requirements for refiners to submit reports and attest engagements at facilities that redesignate NTDF to 15 ppm diesel fuel, divided into the following 3 cases:

Case 1: Facilities where a refiner incurs no RVO through redesignation, and where the refiner does not incur an RVO for any activities at any other facilities. For the facility, the only required report is a brief statement that no RVO was incurred at the facility, and no attest engagement is required.

Case 2: Facilities where a refiner incurs no RVO through redesignation but performs attest engagements relating to activities at other facilities. For the facility, the only required report is a brief statement that no RVO was incurred at the facility, and an attest engagement is required.

Case 3: Facilities where a refiner incurs an RVO through redesignation. For the facility, RFS compliance reports are required, and an attest engagement is required.

Comment:

Several commenters stated that EPA should delay implementation of the new redesignation provisions until January 1, 2021 to allow time for updating recordkeeping and reporting software.

Response:

We agree and are delaying implementation of the redesignation provisions until January 1, 2021.

Comment:

Several commenters stated that EPA should expand the certified NTDF redesignation provisions to allow refiners to exclude exporter gasoline.

Response:

While we are not at this time expanding the NTDF redesignation provisions to allow refiners to exclude exporter gasoline, we may consider doing so in the future.

9.2 Pathway Petition Conditions

Commenters that provided comment on this topic include but are not limited to: 0131, 0211.

Comment:

Several commenters supported the proposed provisions related to EPA's ability to enforce conditions created by requirements included in an approved pathway petition submitted under §80.1416.

Response:

We are finalizing these provisions.

9.3 Esterification Pretreatment Pathway

Commenters that provided comment on this topic include but are not limited to: 0186, 0196, 0211, 0213, 0267, 0313.

Comment:

Numerous commenters supported the addition of esterification and transesterification with esterification pretreatment as approved production processes for the production of biodiesel.

One commenter stated that further clarification of the feedstock column in Table 1 to §80.1426 may be needed by adding “FFA produced from the listed feedstocks.”

Another commenter stated that EPA omitted adding esterification to the existing pathway for canola oil (Pathway G) and should be added for consistency.

Response:

We are finalizing language that clarifies that transesterification with or without esterification pretreatment is an approved production process for biodiesel. We are not at this time finalizing the proposed standalone esterification pathway and as such do not believe an update to the feedstock category or existing pathways (including the pathways in row G of Table 1 to §80.1426 (“Table 1”)) is necessary at this time.

Comment:

One commenter stated that it is not necessary to enumerate pretreatment or other processing steps commonly considered part of the larger conversion process for a given pathway, such as esterification pretreatment as part of the transesterification production process. The commenter stated that EPA should not set a precedent whereby only enumerated steps are considered part of the pathway.

Response:

Table 1 sets forth the specific feedstocks, processes, and renewable fuels that must be used to generate RINs with particular D-codes under EPA’s generally applicable pathways. For clarity we are stipulating in the regulations that the approved pathways in rows F and H include “transesterification with or without esterification pretreatment.” The “production process requirements” listed in Table 1 have varying levels of specificity based on EPA’s determinations of what requirements are necessary to satisfy the applicable GHG reduction requirements. The pathways in rows F and H for biodiesel produced from biogenic waste oils, fats, and greases are based on modeling of yellow grease converted into biodiesel with esterification pre-treatment and transesterification.¹⁹⁴ In general, we endeavor to provide as clear a description as possible of the fuel, feedstock, and production process requirements when we promulgate a pathway;

¹⁹⁴ See 77 FR 700, 723-24 (January 5, 2012).

however, there may be circumstances where we find subsequent clarification is helpful or necessary. Our decision to clarify that pathways in rows F and H include “transesterification with or without esterification pretreatment” is specific to the circumstances of these pathways.

Comment:

One commenter stated that EPA should use more representative data in evaluating the GHG emissions and qualification for D4 and D5 RINs associated with the esterification pathways. The commenter recommended that EPA use data from a 2016 NBB survey rather than the 2008 NBB survey referenced in the proposed rule.

Response:

We agree with the commenter that representative data should be used for lifecycle GHG analysis. For the March 2010 RFS2 rule we evaluated biodiesel produced from yellow grease via transesterification with esterification pretreatment and estimated this fuel results in an 86% GHG reduction relative to the statutory diesel baseline. For the proposed rule we considered data from a 2008 NBB survey and using more conservative assumptions estimated the same pathway results in a 71% GHG reduction. We believe these assessments are sufficient to determine that this and similar fuel pathways satisfy the 50% GHG reduction requirement for biomass-based diesel. The purpose of lifecycle assessment under the RFS program is not to precisely estimate lifecycle GHG emissions associated with particular biofuels, but instead to determine whether or not the fuels satisfy specified lifecycle GHG emissions thresholds to qualify as one or more of the four types of renewable fuel specified in the statute. Where there are a range of possible outcomes and the fuel satisfies the GHG reduction requirements when “conservative” assumptions are used, then a more precise quantification of the matter is not required for purposes of a pathway determination. We also note that Chen et al. 2018,¹⁹⁵ which used data from the 2016 NBB survey referenced by the commenter, estimated that biodiesel produced from tallow via transesterification with esterification pretreatment resulted in GHG emissions of approximately 20 grams of CO₂-equivalent emissions per megajoule of biodiesel, which is roughly equivalent to a 78% GHG reduction relative to the diesel baseline. Thus, we are confident that using the data from the newer NBB survey would not change our determination.

We additionally note that in this rule we are not finalizing standalone esterification pathways, but rather are providing clarification that the existing transesterification pathways can include an esterification pretreatment step. This clarification is based on an assumption in the modeling on which the original promulgation of the transesterification pathways in rows F and H relied; specifically, an analysis of transesterification of yellow grease to produce biodiesel that included esterification pretreatment.¹⁹⁶

¹⁹⁵ Chen, R., et al. (2018). “Life cycle energy and greenhouse gas emission effects of biodiesel in the United States with induced land use change impacts.” *Bioresource Technology* 251: 249-258.

¹⁹⁶ 77 FR 700, 723 (January 5, 2012).

Comment:

One commenter stated that they operate a facility that combines esterification and transesterification into a single process step that EPA has approved as being sufficiently similar to the existing transesterification pathway such that a petition for a new pathway was unnecessary. The commenter requested that EPA omit the word “pre-treatment” from the proposed process descriptions in order to encompass both esterification as a pre-treatment step and esterification combined with transesterification in a single process step.

Response:

We are finalizing pathways for “transesterification with or without esterification pretreatment.” We believe the term “pretreatment” should be included, in part because we are not finalizing the proposed pathways for standalone esterification. These pathway changes are intended to clarify the existing pathways.

9.4 Distillers Corn Oil and Distillers Sorghum Oil Pathways

Commenters that provided comment on this topic include but are not limited to: 0213, 0320.

Comment:

One commenter supported adding distillers corn oil and commingled distillers corn oil and sorghum oil as feedstocks to row I of Table 1 to §80.1426.

Response:

We have finalized the new pathway.

Comment:

One commenter requested that EPA include corn oil from wet milling as an approved feedstock under the RFS program.

Response:

This comment is beyond the scope of this rulemaking, as we did not evaluate, and thus did not propose, the use of corn oil from wet milling to produce renewable fuel. Corn oil from wet milling is produced and processed differently than distillers corn oil and has been and continues to be used for different purposes than distillers corn oil. Wet mill corn oil is often used for human food (e.g., cooking oil, baking) whereas distillers corn oil is typically fed to livestock when not used for biodiesel. For these and other reasons, wet mill corn oil is outside the scope of what was proposed for this rulemaking.

9.5 Clarification of the Definition of Renewable Fuel Exporter and Associated Provisions

Commenters that provided comment on this topic include but are not limited to: 0118, 0131, 0183, 0186, 0211, 0213, 0323.

Comment:

Several commenters supported EPA's desire to ensure that exported renewable fuel is properly accounted for in the RFS program. Multiple commenters asserted that EPA's targeting of "sham" transactions where parties knowingly structure transactions to place RIN retirement obligations on shell companies or other "third parties" is entirely appropriate.

One commenter stated that this update is unnecessary.

Response:

We appreciate commenter support of the objectives of this amendment. We believe it is entirely appropriate and in fact necessary to update the regulations in order to ensure that RINs are properly retired in export transactions and avoid situations we have observed where entities purport to accept RIN retirement obligations but never fulfill those obligations. Therefore, we are finalizing the renewable fuel exporter amendments as proposed.

Comment:

Several commenters were concerned that the proposed definition for renewable fuel exporter is too broad and could place liability and burden on multiple parties, including producers and sellers who may not have control or even knowledge that the product sold was transferred to a destination outside of the covered location. One commenter said this expanded liability would increase due diligence requirements.

Several commenters recommended alternative definitions that they felt were narrower than what EPA proposed and reduced the risk of liability for multiple parties. One commenter suggested that the definition of "renewable fuel exporter" be updated instead to "the product owner at the time that the product leaves the covered location," consistent with Tax and Customs requirements. At least two commenters suggested it be "the party that designated the fuel for export, i.e., the exporter of record." A third commenter suggested the definition should be exporter of record unless otherwise agreed to by contract. The party asserted that when the RIN obligation for an exported biofuel is contractually assigned to a party, and that party fails to retire RINs as appropriate, the counterparty should not be held liable for of the RIN obligation.

Response:

We disagree that the proposed definition is too broad. As we stated in the proposal, a renewable fuel producer would only be jointly and severally liable if they knew or had reason to know that the fuel would be exported. Also, we agree with the comment that joint and several liability will

increase industry due diligence and we believe this will also ensure proper functioning of the RFS program.

As discussed in Section IX.E of the final rule, we considered adopting various definitions of exporter used under other regulations, such as those used in tax and customs requirements, and we concluded that those alternatives would not fully address the concerns with the current definition. We disagree with the suggestion that the definition should be exporter of record unless otherwise agreed to by contract. Using contracts to assign liability to another party, potentially an insolvent, undercapitalized party, is exactly the kind of arrangement we believe we need to prevent.

Comment:

At least one commenter requested that EPA provide further clarification about which parties may or may not be liable, given their concern that the definition was being broadened to include joint and several liability for any “transaction that results [in renewable fuel being exported].” (brackets in commenter quote). Specifically, the commenter requested EPA provide additional examples beyond a “renewable fuel producer who produces a batch of fuel, generates a RIN, and sells the renewable fuel with attached RINs into the fungible fuel distribution system would not be considered an exporter of renewable fuel under the proposed definition unless they know or have reason to know that the batch of fuel would be exported” that would be considered outside the proposed definition. The commenter stated that “a biodiesel producer selling its product FOB (free on board) at its plant or local storage terminal as an RFS-fuel, even RIN-less, should be assured of not being subject to joint and several liability absent knowing or having reason to know the fuel will be exported.”

Response:

We agree with the commenter’s proffered example and concur that a biodiesel producer selling its product FOB at its plant or local storage terminal as an RFS-fuel, even RIN-less, would not be subject to joint and several liability if that seller did not know or have reason to know that the fuel would be exported.

Comment:

One commenter asserted that this expanded liability would most likely lead to a reduced pool of non-obligated customers, such as home heating oil customers who buy RIN-less fuel, for renewable fuel.

Response:

We disagree with the premise of this comment. If a customer has no intention of exporting renewable fuel it purchases, then that customer should not be affected by this amendment at all since none of the exporter provisions or requirements will ever be applicable. If a customer intends to export the renewable fuel it purchases or wants to maintain the option to export it, the proposed provisions will not change that party’s responsibility from what it was previously.

9.6 Other Revisions to the RFS and Fuels Programs

9.6.1 Flexibilities for Renewable Fuel Blending for Military Use

Commenters that provided comment on this topic include but are not limited to: REGS-0244, REGS-0300, REGS-0307, REGS-0313 0118, 0186, 0192, 0196, 0213, 0323.

Comment:

Numerous commenters supported allowing parties that blend renewable fuel to produce transportation fuel under a national security exemption to delegate their RIN-related responsibilities to an upstream party. Several of the commenters expressed their support for providing flexibility and encouraging the broad use of biofuels for military applications.

Response:

We are finalizing these provisions.

Comment:

One commenter requested that EPA specify the particular national security exemptions under 40 CFR part 80 in §80.1440(a)(2).

Response:

We have clarified the regulations to refer specifically to the national security exemptions provided under §§80.606 and 80.1655.

Comment:

One commenter requested that EPA clarify that renewable fuels used by the military are not subject to RFS geographic or export provisions.

Response:

The provisions only allow flexibility related to the RIN-related responsibilities outlined in §80.1440(b). All other statutory and regulatory requirements apply to renewable fuels used by the military.

9.6.2 Heating Oil Used for Cooling

Commenters that provided comment on this topic include but are not limited to: REGS-0216, REGS-0217, REGS-0221, REGS-0224, REGS-0226, REGS-0229, REGS-0232, REGS-0233, REGS-0244, REGS-0300, REGS-0307, REGS-0313, 0118, 0185, 0186, 0192, 0202, 0213, 0327.

Comment:

Numerous commenters supported expanding the definition of heating oil to include fuels used to cool interior spaces of homes or buildings to control ambient climate for human comfort.

Response:

We are finalizing this provision.

Comment:

Several commenters requested that EPA further expand the definition of heating oil to include fuels used in commercial and industrial process applications. The commenters stated that the same type of fuel used to generate heat for comfort comes from the same central facility providing process heat, and that this change would strengthen U.S. energy security and reduce GHG emissions. One of the commenters stated that if a cellulosic fuel is used for process heat, the cellulosic fuel should be allowed to generate RINs for such uses. Another commenter requested EPA clarify the treatment of biodiesel used as heating oil for purposes of power generation or process heat.

Response:

CAA section 211(o)(1)(A) defines the term “additional renewable fuel” to mean “fuel that is produced from renewable biomass and that is used to replace or reduce the quantity of fossil fuel present in home heating oil or jet fuel.” Given that this definition only includes *home* heating oil and not heating oil in general, we do believe it would be appropriate to expand the definition of heating oil to include fuels used for process heat or power generation in commercial and industrial applications or to allow cellulosic fuels used for process heat to generate RINs for such uses.

9.6.3 Separated Food Waste Plans

Commenters that provided comment on this topic include but are not limited to: REGS-0223, REGS-0300, REGS-0307, REGS-0313, 0118, 0186, 0192, 0196, 0213.

Comment:

Numerous commenters supported EPA's proposed changes to separated food waste plans.

One of the commenters supported allowing producers who have not previously submitted a separated food waste plan to do so in their next periodic registration.

Response:

We are finalizing this provision.

Comment:

One commenter stated that EPA should not require a separated food waste plan for all biogenic waste oils/fats/greases, such as animal waste materials and by-products. The commenter stated that such a plan such a plan would not provide any benefit with respect to biodiesel production, and that these feedstocks are clearly renewable biomass under the RFS program.

Response:

We believe that the information provided in separated food waste plans and waste oils/fats/greases feedstock plans is necessary for EPA to determine if the feedstock in question meets renewable biomass requirements. Without this information, we would not know what the specific feedstock is (e.g., tallow, yellow grease, etc.) or whether and how it would qualify as separated food waste or biogenic waste fats/oils/greases.

Comment:

One commenter requested that EPA clarify what criteria it would use to perform a case-by-case review of separated food waste plans.

Response:

Each plan is reviewed for completeness and adherence to the regulations, including any definitional requirements.

9.6.4 Additional Registration Deactivation Justifications

Commenters that provided comment on this topic include but are not limited to: REGS-0266, REGS-0267, REGS-0300, 0118, 0192, 0323.

Comment:

Several commenters supported the proposed additional registration deactivate justifications.

Response:

We are finalizing the additional justifications.

Comment:

One commenter stated that the deactivation process should be open and transparent, and that EPA should use discretion and avoid deactivations for situations that could be easily remedied and result in the company remaining active. The commenter stated that this could be accomplished by changing 30 days late to 60 days or allowing for an extension to be requested. The commenter also stated that there should be clearly stated actions/responses and timeframes.

Several commenters expressed concern that the new justifications were overly broad or not well-defined. The commenters stated that EPA should not deactivate a company for easily correctable actions, for violations unrelated to the RFS program, or use deactivation provisions to pressure companies that dispute violations. One of the commenters stated that EPA has not provided information regarding how the deactivation provisions have operated to date or justification for expansion of the provisions.

Response:

§80.1450(h)(1) provides that “EPA *may* deactivate a company’s registration... if any of the following criteria are met.” (emphasis added) As is currently our policy for this process, we will make reasonable attempts to allow a party to correct its deficiency before deactivating its registration. Given this policy and the process laid out in §80.1450(h)(2), we do not believe that further flexibilities in the process are warranted. As noted in the REGS proposal, these deactivation circumstances are consistent with cases where EPA may deny or revoke a certificate of conformity under 40 CFR 1051.255(c) and 86.442-78 for engines and vehicles manufactured in or imported into the U.S.

Comment:

One commenter requested that EPA clarify that the failure to pay a penalty is tied to the “requirements under the terms of a court order, administrative order, consent decree, or administrative settlement between the company and EPA” in §80.1450(i)(v). The commenter was concerned that the provision could be misconstrued to allow EPA to deactivate a registration when a company appeals a notice of violation containing a penalty amount.

Response:

We believe the existing language is clear that the failure to pay a penalty is tied to the requirements referenced by the commenter.

Comment:

Several commenters requested that EPA either clarify or remove the reference to “reasonable assistance” in §80.1450(i)(vii). The commenters stated that the term is ambiguous and creates uncertainty.

Response:

We believe the existing language is appropriate and that it is appropriate to include “failure to provide reasonable assistance” as an example of denying EPA access or preventing EPA from completing authorized activities.

Comment:

One commenter requested that EPA either eliminate the reference to “intent” in §80.1450(i)(ix) or re-word the paragraph to create a concrete compliance objective.

Response:

We believe the existing language is appropriate and that it would be reasonable to deactivate a party for attempting to circumvent the intent of the CAA.

Comment:

One commenter stated that EPA must remove references to the registration of third-party engineers from the deactivation provisions, as that requirement has not yet been finalized.

Response:

We have removed all references to third-party engineers in the final regulations.

9.6.5 New RIN Retirement Section

Commenters that provided comment on this topic include but are not limited to: REGS-0244, REGS-0266, REGS-0300, 0118, 0185, 0192.

Comment:

Several commenters supported the consolidation of the RIN retirement requirements into a single section.

Response:

We are finalizing the new RIN retirement section.

Comment:

Several commenters requested that EPA either eliminate or clarify proposed §80.1434(a)(13), which specified an “Other” category in which a RIN must be retired for “[a]ny other instance identified by EPA.” One commenter stated the requirement is ambiguous and creates uncertainty on the part of the regulated community as to when EPA will require retirement of a RIN. Another commenter stated that proposed §80.1434(a)(13) may be creating uncertainty by including a general RIN retirement provision that doesn’t limit EPA’s ability to require retirement for remedial actions, and that EPA must provide an opportunity for notice and comment on other reasons it believes require RIN retirements.

Response:

The flexibility under this provision, which is being finalized at §80.1434(a)(11), provides EPA the ability to implement the program as new pathways come online through the petition process, remedial actions or other emerging requirements. Retirement reasons that fall under “Other” may include remedial actions such as “Remediation of invalid RIN use for compliance,” “Remedial Action – Retire for Compliance,” and “Remedial Action – Retirement pursuant to 80.1431(c).” Maintaining some flexibility with an “Other” category enables EPA to take into account the full spectrum of remedial actions.

Comment:

One commenter stated that proposed §80.1434(a)(4) for RIN expiration is inconsistent with §80.1428(c), and that EMTS can remove the expired RIN rather than having the party taking the extra step to retire the RIN.

Response:

We agree with the commenter and have removed this requirement.

Comment:

One commenter opposed proposed §80.1434(a)(8) for retiring RINs for contaminated or spoiled fuel, which the commenter states is a new requirement and that while that retirement code already exists in EMTS, it was not previously in the regulations and EPA did not provide adequate notice and comment opportunity for the change.

Response:

We are finalizing this requirement and disagree that we did not provide adequate notice and comment opportunity for the change. This provision was included as part of the REGS proposal, which was proposed in 2016; we provided notice that we were considering finalizing the new RIN retirement section from the REGS proposal, which included this provision, in the July 29, 2019 proposal.¹⁹⁷ Furthermore, this change is simply codifying the existing way in which EPA has implemented its RIN retirement requirements.

Comment:

One commenter questioned the need to include proposed §80.1434(a)(11) and (12) related to potentially invalid RINs, which the commenter stated are related to retirements for remediation purposes only and for actions governed by §80.1474, and there should be no confusion on the part of parties retiring such RINs. The commenter also stated that proposed §80.1434(a)(7)(iii) includes a similar exclusion for spills or disposals of renewable fuels as in §80.1432(c).

Response:

We have consolidated RIN retirement reasons found across subpart M under the new §80.1434 section. Requirements and procedures specific to these retirement reasons will still be maintained under existing sections, such as §§80.1432 and 80.1474.

Comment:

One commenter stated that EPA provided an exception for biofuel used in stationary engines in the proposed §80.1433 that was not carried over in proposed §80.1434.

Response:

We are not at this time finalizing the exception for biofuel used in stationary engines in §80.1433. Therefore, we have not carried over that exception to §80.1434.

¹⁹⁷ 84 FR 36762, 36765 (July 29, 2019).

9.6.6 New Pathway for Co-Processing Biomass with Petroleum to Produce Cellulosic Diesel, Jet Fuel, and Heating Oil

Commenters that provided comment on this topic include but are not limited to: REGS-0234, REGS-0267, REGS-0269, REGS-0272, REGS-0275, REGS-0282, REGS-0300, REGS-0311, 0118, 0185, 0192, 0202, 0213, 0323.

Comment:

Several commenters supported creating a new D3 pathway for cellulosic diesel, jet fuel, and heating oil produced from biomass that is co-processed with petroleum.

Response:

We are finalizing new D3 pathways for cellulosic diesel, jet fuel, and heating oil produced from biomass that is co-processed with petroleum.

Comment:

Several commenters opposed adding a new pathway for co-processing of renewable biomass with petroleum. Several of the commenters stated that EPA has not properly conducted a lifecycle analysis for co-processing and also questioned how this new pathway will interact with EPA's allowance that only 75% of certain feedstocks need to be cellulosic material to still be considered cellulosic. One of the commenters stated that it is incorrect to assume that co-processing will have the same yields, energy consumption, waste stream, and product composition as a linear combination of the processes individually. The commenter stated that co-processing of the two types of materials will not be straightforward or easily modeled, and that a true co-processing facility will be substantially different from both the neat cellulosic fuel production process it's derived from and a conventional petroleum fuel production process.

Response:

As discussed in Section IX.F.6 of the final rule, we are finalizing a narrower set of pathways than originally proposed in the REGS proposal. The narrower set of pathways is supported by the lifecycle GHG analyses completed for the March 2013 Pathway I rule (78 FR 14190) for the pathways in row M for renewable gasoline and gasoline blendstock. That analysis also supports the addition of "co-processed cellulosic diesel, jet fuel and heating oil" to row M. The commenters did not provide any analytical data or emissions modeling results that would support a different conclusion.

Regarding the comment on the 75% threshold, our regulations regarding the generation of RINs for pathways using cellulosic biomass co-processed with non-renewable feedstocks (e.g., §§80.1426(f)(3), (4), and (15), 80.1450(b)(1)(xiii), and 80.1451(b)(1)(ii)(U)) were promulgated in the RFS2 and Pathways II final rules and we did not propose to change them in this action.¹⁹⁸

¹⁹⁸ See 75 FR 14670 (March 26, 2010) and 79 FR 42128 (July 18, 2014).

The approval of new pathways in row M of Table 1 does not change or otherwise affect these existing regulatory requirements.

Comment:

One commenter stated that refiners may overestimate the renewable content of fuels created through co-processing and that EPA should eliminate the option to use a mass-balance method, and instead require C14 testing to verify renewable content.

Response:

This comment is beyond the scope of this rulemaking, as we did not propose, nor did we evaluate, eliminating the option of using a mass balance to determine renewable content for co-processed renewable fuels. Our regulations regarding co-processed renewable fuels and use of a mass-balance approach were promulgated in the RFS2 final rule and we did not propose to change them in this action.¹⁹⁹

Comment:

Several commenters stated that Pathway U is insufficient to account for all co-processing of cellulosic biofuels (namely the co-processing of bio-oils into gasoline products) and requested that EPA add renewable gasoline and gasoline blendstock to Pathway U. Alternatively, one of the commenters stated that EPA could instead amend Pathway M to include “Any process that converts cellulosic biomass to fuel.”

Response:

These comments are beyond the scope of this rulemaking, as we did not evaluate or propose additional production processes for renewable gasoline or gasoline blendstock. The proposal and supporting evaluation addressed only pathways under which cellulosic biomass is co-processed with petroleum to produce diesel, jet fuel, or heating oil. Renewable fuel producers that wish to generate RINs under a pathway not currently approved in Table 1 to §80.1426 should submit a petition for a facility-specific pathway under §80.1416.

Comment:

Several commenters stated that the definition of cellulosic diesel is confusing and requested that EPA clarify the definition to read “... heating oil and jet fuel made from cellulosic feedstocks and renewable fuel produced as a result of co-processing cellulosic renewable biomass with petroleum.”

¹⁹⁹ See 75 FR 14714-15, 14874 (March 26, 2010); §80.1426(f)(4).

Response:

We have revised the definition.

9.6.7 Other Revisions to the Fuels Program

Commenters that provided comment on this topic include but are not limited to: REGS-0198, REGS-0244, REGS-0272, REGS-0300, 0118, 0192.

9.6.7.1 Testing Revisions

Comment:

One commenter supported removing the October 28, 2013, sunset date designated primary test methods.

Conversely, another commenter opposed removing the sunset date, and suggested instead adding clarifying language to indicate that the designated primary test methods that are in operation after the sunset date are required to meet the precision requirements in §80.47(n)(2)(i) and accuracy requirements in §80.47(n)(1)(i).

Response:

We are removing the October 28, 2013, sunset date for designated primary test methods in §80.47. Thus, the designated primary test methods in §80.46 will be exempt from meeting accuracy and precision qualification requirements. The designated primary test methods in §80.46 are still required to meet the applicable statistical quality control (SQC) accuracy and precision requirements for absolute fuel parameter in §80.47(n) or applicable SQC accuracy and precision requirements for method defined fuel parameters in §80.47(o). Requiring designated primary test methods to meet these SQC accuracy and precision requirements will ensure they operate in practice as intended.

9.6.7.2 Oxygenate Added Downstream in Tier 3

Comment:

One commenter supported the proposed clarifications for downstream oxygenate blending in the gasoline sulfur program.

Response:

We have finalized the provisions.

Comment:

One commenter supported adopting similar provisions for the gasoline benzene program—specifically adopting a default value for the benzene content of denatured fuel ethanol (DFE). The commenter stated that sampling ethanol at the terminal is burdensome, so having a default value would be more practical when including downstream oxygenate into the refinery’s compliance calculations.

Response:

While we are not at this time establishing a default value for the benzene content of DFE in this action, we may consider doing so in the future.

9.6.7.3 Technical Corrections and Clarifications

Comment:

One commenter suggested several revisions to §80.47(n)(1)(i) and §80.47(o)(1)(i)—specifically:

- Removing the control chart requirements in §80.47(n)(1)(i) and §80.47(o)(1)(i), but applying the 0.75R criterion to every check standard result. The commenter stated that if every result is within +/- 0.75R, the average, by definition, must be less than 0.75R.
- Adding a requirement in §80.47(n)(1)(i) and §80.47(o)(1)(i) to cease use of the instrument until the assignable causes are found, mitigated, and, the instrument is verified to be back inside the accuracy tolerance using a check standard.
- Specifying a minimum sulfur level for the gravimetric or check standard between 8-12 ppm.

Response:

We are keeping the requirement of control charts in §80.47(n)(1)(i) and (o)(1)(i). The other two suggested revisions are beyond the scope of this rulemaking, as we did propose changes to these provisions. We appreciate these two suggestions for improvements to the SQC accuracy requirements and may consider implementing them in the future.

Comment:

One commenter identified a typographical error in §80.46(f) in which “Olefin” should be replaced with “Aromatic.”

Response:

We have corrected the error.

Comment:

One commenter requested EPA clarify §80.47(b)(2)(i) and (ii) and §80.47(c)(2)(i) and (ii) with respect to whether labs should use the discrete value or the calculation based off the repeatability for ARV of the reference standard.

Response:

We have clarified that the accuracy qualification criteria for sulfur in gasoline in §80.47(b)(2)(i) and (ii) and sulfur in butane in §80.47(c)(2)(i) and (ii) is to be based off repeatability for ARV of the commercially available gravimetric sulfur standard.

Comment:

One commenter stated that since “MR” and “I” charts require 20 points to set up, it may be difficult if using the round robin for accuracy and may not be necessary if the accuracy is bound by 0.75R and expanded uncertainty.

Response:

We believe the construction of “MR” and “I” charts is customary business practice that is necessary to monitor the operation of test method instrumentation in a laboratory to ensure all test methods are providing reliable test results and are operating in practice as intended. We have therefore finalized the provision as proposed.

Comment:

One commenter stated that EPA has not provided instruction on how expanded uncertainty is to be used with respect to §80.47(n)(1)(ii) and (o)(1)(ii) and asked what the significance is of calculating this value.

Response:

The expanded uncertainty of the ARV is to be incorporated into the accuracy qualification criterion so the standard error of the ARV in the consensus named fuels is accounted when compared to 0.75R.²⁰⁰

Comment:

One commenter stated that §80.47(o)(1)(i) provides conflicting instruction, as the ARV is to be established by the ILCP of the alternative test method, but the user must determine compliance using control charts with ARVs from the designated test method. The commenter further stated that the accuracy requirements in §80.47(o)(1)(i) is inconsistent with §80.47(n)(1)(i), (p)(1)(i), and (p)(2)(i), as the “mean of back-to-back tests” is required to be within 0.75R for these sections, but §80.47(o)(1)(i) has been changed to be the “absolute difference” of 0.75R, which is inconsistent and the additional restriction is not necessary.

Response:

The statistical quality control regulations in §80.47(o)(1)(i) were previously silent with respect to the method used to determine the ARV of the check standard for VCSB method defined alternative test method validation. We have clarified in the final provision for §80.47(o)(1)(i) when facilities are using a VCSB alternative method defined test method, the ARV of the check standard is determined in a VCSB Inter Laboratory Crosscheck Program (ILCP) or a commercially available ILCP following the guidelines of ASTM D6299. If the ARV is not provided in the ILCP, accuracy must be assessed based upon the respective EPA-designated test

²⁰⁰ See the Tier 3 final rule (79 FR 23588, April 28, 2014).

method using appropriate production samples. Moreover, this clarification that the ARV as determined by the designated primary test method provides an ongoing validation of the D6708 bias correction equation in terms of meeting SQC accuracy criteria. Thus, this clarification means that if the ARV is not provided by the ILCP, the site using the VCSB or the non-VCSB alternative test method will compare the D6708 bias-corrected result against the ARV by the designated primary test method, and this difference must be less than or equal to $0.75R$, where the R is published precision of the designated primary test method.

Comment:

One commenter stated that it was unclear what EPA's intent was in creating a definition of "non-renewable feedstock."

Response:

While we believe that this term is self-explanatory, we are providing clarity regarding what a "non-renewable feedstock" is, as this term is used in several locations throughout Subpart M but was previously undefined.

10. Other Comments

10.1 Statutory and Executive Order Reviews

Commenters that provided comment on this topic include but are not limited to: 0195, 0323.

Comment:

One commenter stated that EPA should consider the effects of the rule on small fuel retailers as part of its Regulatory Flexibility Act (RFA) analysis. The commenter argued that fuel retailers are regulated entities, even though they are not obligated parties. The commenter also cited comments submitted by the U.S. Small Business Administration (SBA) as part of the “Modifications to Fuel Regulations to Provide Flexibility for E15; Modifications to RFS RIN Market Regulations Rule” requesting that EPA consider the impacts on small non-obligated entities.

Response:

We disagree with the commenter that small fuel retailers should be considered as part of EPA’s RFA analysis. Agencies need conduct Regulatory Flexibility Act analyses only with regard to small entities that are directly “subject to the proposed regulation—that is, those ‘small entities to which the proposed rule will apply.’”²⁰¹ The commenter failed to identify any provision of this rule that regulates small retailers. Indeed, the only entities obligated to comply with annual RFS standards are refiners and importers (i.e., the obligated parties).²⁰² Thus, the 2020 standards only apply to obligated parties. The 2021 BBD volume does not impose any obligation until it is translated into percent standards in next year’s annual rule, at which point it will apply only to obligated parties. Furthermore, we do not expect that any of the regulatory amendments in this action will apply to small retailers.

In any event, EPA certified that this final rule does not “have a significant economic impact on a substantial number of small entities.” Therefore, EPA is not required to conduct either an initial or final regulatory flexibility analysis.²⁰³ This certification applies both to small refineries (who are directly regulated by this rule),²⁰⁴ as well as to small retailers. That is, we find that this rule will not have a significant economic impact on small retailers. EPA has previously received comments from small retailers claiming that the RFS program, and specifically the point of obligation, put them at a disadvantage relative to their larger competitors. These small retailers generally claimed that their larger competitors were generating profits by blending renewable fuels and selling the RINs associated with these fuels to obligated parties, or that the larger retailers were able to sell gasoline and diesel fuel at lower prices than the small retailers as a

²⁰¹ *Cement Kiln Recycling Coal. v. EPA*, 255 F.3d 855, 867–69 (D.C. Cir. 2001).

²⁰² 40 CFR 80.1406(a); see also 42 U.S.C. § 7545(o)(3)(B)(ii)(I) (excluding “distributors” from the list of entities to whom “[t]he renewable fuel obligation determined for a calendar year... shall be applicable”); *ACE*, 864 F.3d at 704.

²⁰³ 5 U.S.C. § 605(b).

²⁰⁴ See “Screening Analysis for the Final Renewable Fuel Standards for 2020,” memorandum to docket EPA-HQ-OAR-2019-0136.

result of the profits from RIN sales. EPA evaluated these claims in the context of responding to petitions we received requesting that EPA change the point of obligation in the RFS program. We determined that small retailers are not disadvantaged by the RFS program, as the profits larger retailers receive from selling RINs are generally offset by the cost of acquiring the RINs that they sell. Commenters did not provide any new information or studies to support their claims that they are being harmed by the current point of obligation.²⁰⁵

Comment:

One commenter stated that EPA's RFA analysis was arbitrarily focused on the impacts of the program on small refiners/refineries and gives an unfair advantage to these parties through small refinery exemptions at the expense of small producers of biofuels. The commenter stated that EPA's RFA analysis was inadequate because it failed to consider the impacts of its substantial requirements on producers to participate in the RFS program.

Response:

While there are some minor changes to the requirements that apply to renewable fuel producers in the action (e.g., simplified separated food waste plans), these changes will not meaningfully affect the compliance burden associated with participating in the RFS program, nor will they affect most producers. Moreover, while all producers are subject to certain requirements in order to participate in the RFS program (e.g., recordkeeping and reporting) and gain the benefit of having their production volume count toward the renewable fuel mandates of the program, it is not necessary for us to assess these impacts as part of our RFA analysis in the context of setting the annual volume requirements. The standards we are establishing in this action apply only to obligated parties and do not affect the requirements or burdens on small producers. Furthermore, renewable fuel producers are in general the beneficiaries of the RFS program's requirements placed on obligated parties (i.e., refiners and importers). As such, we have only assessed the impact of this action on small refiners under our RFA screening analysis.

²⁰⁵ See "Denial of Petitions for Rulemaking to Change the RFS Point of Obligation," EPA-420-R-17-008, November 2017.

10.2 Point of Obligation

Commenters that provided comment on this topic include but are not limited to: 0193, 0195, 0299, 0324, 0337.

Comment:

Several commenters stated that that EPA must evaluate the point of obligation in each annual rulemaking, and that EPA has not met its statutory duty to do so.

Response:

The D.C. Circuit reviewed this issue in *Alon Refining Krotz Springs v. EPA*, 936 F.3d 628 (D.C. Cir. 2019). Contrary to these commenters' claims, the Court held that EPA "has no duty to reconsider the appropriateness of its point of obligation regulation as part of its yearly determination of volumetric requirements." *Id.* at 659.

EPA acknowledges that it has discretion to reevaluate the point of obligation in the annual rulemaking should it choose to do so. EPA did not solicit comment on or otherwise reexamine this issue in this rulemaking. We decline to reopen this issue and we believe that our recently-conducted examination of this issue in the Point of Obligation Denial document remains valid.²⁰⁶ In that proceeding, we provided the public with notice and an opportunity to comment on a proposed denial. We received over 18,000 comments, and carefully evaluated all comments. In an 85-page final decision, we decided to maintain the existing point of obligation (i.e., refiners and importers of gasoline and diesel).²⁰⁷ We supported our decision with a comprehensive analysis of the impacts on fuel refiners, blenders, and retailers, as well as of a vast array of other economic and regulatory factors.

We acknowledge that we have again received comments asking us to reevaluate or revise the point of obligation from some parties.²⁰⁸ However, we are not aware of new information or analyses that warrant our reconsidering this issue at this time. Indeed, commenters asking us to reevaluate the point of obligation primarily rely on premises that we rejected in the Point of Obligation Denial. To the extent commenters present new analysis, we do not believe that the new analysis casts significant doubt on the Point of Obligation Denial. We address these comments throughout this document, especially in our response to comment regarding severe economic harm in Section 2.1 of this document. To the extent that parties have simply re-submitted the same comment on last year's annual rule, we also incorporate last year's response to those comments by reference.²⁰⁹

²⁰⁶ See "Denial of Petitions for Rulemaking to Change the RFS Point of Obligation," November 22, 2017.

²⁰⁷ 40 CFR 80.1406(a).

²⁰⁸ In prior actions, we have received many comments asking us to maintain the current point of obligation. See, e.g., comments on our proposed Denial of Petitions for Rulemaking to Change the RFS Point of Obligation (Docket No. EPA-HQ-OAR-2016-0544).

²⁰⁹ "Renewable Fuel Standard Program - Standards for 2019 and Biomass-Based Diesel Volume for 2020: Response to Comments," EPA-420-R-18-019, November 2018.

10.3 Periodic Review

Commenters that provided comment on this topic include but are not limited to: 0337.

Comment:

One commenter claimed that EPA had not fulfilled its duty to conduct periodic reviews since it has not evaluated the impact of the RFS regulations on individual refineries, especially merchant refineries that do not seek or qualify for a small refinery hardship waiver but purportedly suffer severely and disproportionately from the RFS obligations imposed by the rule. The commenter stated that EPA must evaluate the disparate impact of increased mandates on merchant refineries who lack control over the physical means to separate RINs necessary to comply.

Response:

EPA has evaluated the impacts of the RFS program on merchant refineries in the context of the Point of Obligation Denial. We further considered the impacts of this rulemaking on merchant refineries in responding to requests for a waiver under CAA section 211(o)(7)(A) on the basis of severe economic harm. As discussed further in the Denial, and in Section 2.1.2 of this document, merchant refiners are not particularly harmed by the RFS program or by this rulemaking.

EPA disagrees that it must evaluate the impact of the RFS regulations on individual refineries in this annual rulemaking. Nothing in the annual standard-setting process requires EPA to conduct an analysis of the impacts of the RFS program or the annual rule on all individual refineries. To the contrary, the statute requires EPA to promulgate renewable fuel standards that apply uniformly to all non-exempt obligated parties, and it does not distinguish between merchant and other refiners. 42 U.S.C. § 7545(o)(3)(B)(ii)(III) (“The renewable fuel obligation determined for a calendar year under clause (i) shall ... consist of a single applicable percentage that applies to all categories of persons specified in subclause (I)”). Relatedly our waiver authorities address the waiving of nationally-applicable volumes of renewable fuel, and do not explicitly provide for exempting particular merchant refineries.²¹⁰ Thus, given the national nature of the annual volumes and standards and of our waiver authorities, our analysis is generally based on large-scale considerations.

The periodic review provision, 42 U.S.C. § 7545(o)(11), does not require a different result. As an initial matter, that provision does not require annual review of anything—it only requires us to conduct “periodic” reviews.²¹¹ As EPA has previously explained, numerous EPA actions, conducted since the beginning of the program, contribute to satisfying this obligation in the aggregate. See EPA, *Periodic Reviews for the Renewable Fuel Standard Program* (Nov. 2017)

²¹⁰ The statute does allow us to exempt small refineries, and in that context, we do generally consider financial and operational information specific to the individual small refinery petitioner. We have not adjudicated any SRE petitions in this action.

²¹¹ See Order at 4–5, *Small Retailers Coalition v. EPA*, 17-cv-00121, Dkt. No. 29 (N.D. Tex. May 21, 2018); Order at 10-11, *Valero Energy Corp. v. EPA*, 7:17-cv-00004, Dkt. No. 39 (N.D. Tex. Nov. 28, 2017), *appeal docketed*, No. 18-10053 (5th Cir.).

(“Periodic Review Document”). There is no need for this annual rule, or any specific annual rule, to individually satisfy the obligation.

In any event, the commenter wrongly claims that this provision requires us to analyze the impacts of the RFS program or this rule on individual refineries. The relevant portion of the provision requires EPA to review “the impacts of the requirements in subsection (a)(2) of this section on each individual and entity described in paragraph (2).” CAA section 211(o)(11)(C). EPA explained in the Periodic Review Document that “subsection (a)(2)” of section 211 does not exist and did not exist at the time EISA was enacted. Moreover, there is no obviously appropriate way to fix this erroneous cross-reference, with the result that this provision must be considered inoperative and, as written, does not require EPA to do anything.

EPA further explained in the Periodic Review Document that if the provision should be salvaged, it should be understood as directing EPA to periodically review the impacts of the RFS volume requirements on refineries, blenders, distributors, and importers, as well as on consumers of transportation fuel. The commenter does not disagree with this view.

However, the commenter’s interpretation of the statute, taken to its logical extension, would require EPA to review impacts not just on these classes of individuals and entities but on every single member of these classes: each refinery, blender, distributor, importer, and consumer of transportation fuel. The suggestion that EPA should have conducted an individualized inquiry into the impacts on the volume requirements of the RFS program on every single member of these classes leads to an absurd result that would render the statute unadministrable. This would require EPA to request, collect, and review information—potentially including confidential business information that is not already available to EPA—from numerous businesses and consumers, and would grind EPA’s administration of the RFS program to a halt. There is no textual basis for distinguishing refiners from the other classes, so as to only require individualized analysis of refineries but not of the other classes. In any event, even conducting an annual, individualized impacts analysis of every regulated refinery would severely hamper EPA’s administration of the program, particularly given the statutory directive to establish volumes and standards on an annual basis by November 30 of the preceding year.²¹²

The text, structure, and purpose of the periodic review provision all support reviewing the impacts of the volume requirements on a class-level. The purpose of EPA’s periodic reviews is to inform EPA’s “appropriate adjustment” of the statutory volumes, CAA section 211(o)(11), which form the basis of percentage standards that apply equally to all obligated parties, CAA section 211(o)(3)(B)(ii)(III). As already explained, EPA makes this adjustment based on large-scale considerations, not the impact of the requirements on any individual company. See, e.g., CAA section 211 (o)(7)(A) (general waiver based on “severe[] harm [to] the economy or environment of a State, a region, or the United States” or “inadequate domestic supply” (emphasis added)); id. (o)(7)(D) (cellulosic waiver based on total “projected volume available”); id. (o)(7)(E); id. (o)(7)(F); id. (o)(2)(B)(ii) (direction to set volumes not listed in table based on six factors). To the extent commenters believe that harm to individual refineries shapes how EPA exercises these authorities, they may comment accordingly. For example, on the 2019 rule, commenters alleged that harm to an individual refiner would result in harm to the economy of

²¹² CAA section 211(o)(3)(B), (7)(D)(i).

the region and State the refiner was located in, and we addressed this comment in considering whether to exercise the severe economic harm waiver.²¹³

Moreover, a class-level review of the impacts on the entities described by the statute is also consistent with the text of the statute. Section 211(o)(2) “describes” the “individuals and entities” subject to the “impacts” review,²¹⁴ but it does so in terms of broad classes: “refineries, blenders, distributors, and importers” and “consumers of transportation fuel.”²¹⁵ The import of these provisions is, therefore, that EPA should evaluate the impacts on “each” of these five entities as a class, not that it must evaluate each member of each entity described in CAA section 211(o)(2).

To the extent the commenter disagrees with the point of obligation, we address that issue in Section 10.2 of this document. We note, moreover, that CAA section 211(o)(11) creates no duty to periodically review the point of obligation. It provides that EPA is to conduct periodic reviews of certain matters—none of which is the point of obligation—for the specific purpose of informing the “appropriate adjustment of the requirements described in subparagraph (B) of paragraph (2).”²¹⁶ The statutory cross-reference is to CAA section 211(o)(2)(B), the annual *volume* requirements, not the point of obligation.

²¹³ “Renewable Fuel Standard Program - Standards for 2019 and Biomass-Based Diesel Volume for 2020: Response to Comments” 18, EPA-420-R-18-019, November 2018 (considering alleged harm to Philadelphia Energy Solutions).

²¹⁴ CAA section 211(o)(11)(C).

²¹⁵ CAA section 211(o)(2)(A)(iii)(I).

²¹⁶ CAA section 211(o)(11).

10.4 Beyond the Scope

Commenters that provided comment on this topic include but are not limited to: 0119, 0131, 0184, 0191, 0193, 0202, 0206, 0207, 0212, 0276, 0283, 0286, 0288, 0290, 0298, 0299, 0300, 0306, 0319, 0320, 0324, 0337, 0449, 0471, 0490, 0493, 0721, 0729.

Comment:

Commenters addressed numerous additional topics, including but not limited to the following:

- Nationwide mandate for E15
- Introduction of new mid- and higher-level ethanol blends into the market
- Legislative changes for the RFS program, including repeal of the RFS program
- Changes to the existing RFS regulations, including adjusting equivalence values, removing the obligation on exported renewable fuel, modifying the aggregate compliance provision, and implementing RIN trading reforms
- Updates to EPA's lifecycle analyses
- Suggestions for new RIN-generating pathways including renewable electricity
- Pending facility registration requests and pathway petitions
- Impacts of ethanol on engines
- Changes to the E15 misfueling mitigation plans
- Potential future RFS rulemakings such as the "reset rule"
- Provisions proposed in the REGS Rule that were not under consideration in this action, including biointermediates and ethanol flex fuel

Response:

These comments are all beyond the scope of this rulemaking. While we did propose several changes to the RFS program as part of this action, we did not propose any of the changes described above or otherwise seek comment on these issues. These topics are not further addressed in this document.