



# Supporting Statement for Petroleum Supply Reporting System

April 2026

## **Part B: Collections of Information Employing Statistical Methods**

OMB No. 1905-0165

Form EIA-800 *Weekly Refinery Report*

Form EIA-802 *Weekly Product Pipeline Report*

Form EIA-803 *Weekly Crude Oil Stocks Report*

Form EIA-804 *Weekly Imports Report*

Form EIA-805 *Weekly Bulk Terminal Report*

Form EIA-806 *Weekly Natural Gas Liquids Report*

Form EIA-809 *Weekly Oxygenate Report*

Form EIA-810 *Monthly Refinery Report*

Form EIA-812 *Monthly Product Pipeline Report*

Form EIA-813 *Monthly Crude Oil Report*

Form EIA-814 *Monthly Imports Report*

Form EIA-815 *Monthly Bulk Terminal Report*

Form EIA-816 *Monthly Natural Gas Liquids Report*

Form EIA-817 *Monthly Tanker and Barge Movement Report*

Form EIA-819 *Monthly Report of Fuels from Non-Biogenic Wastes and Biofuels*

Form EIA-820 *Annual Refinery Report*

Form EIA-830 *Annual Storage Capacity Report (standby)*

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## B.1. Respondent Universe

### B.1.1 Monthly and Annual PSRS Survey Frames

Monthly and annual Petroleum Supply Reporting System (PSRS) surveys are used by the Energy Information Administration (EIA) to collect data on the primary petroleum supply system in the United States, including U.S. territories and possessions, where applicable. Primary petroleum supply system activities covered by PSRS surveys include refinery operations, imports, pipeline movements, blending and large storage facilities, and those connected to bulk transportation modes (i.e. pipelines and waterborne transport of crude oil, petroleum products, and biofuels), natural gas processing, oxygenate production, biodiesel production and bulk transportation between Petroleum Administration for Defense Districts (PADDs). EIA obtains data on other primary petroleum supply activities, including field production of crude oil and exports, from other sources, including other EIA surveys as well as state and federal agencies.

Each monthly and annual PSRS survey is a complete census of the subject activity. Therefore, there is no sampling error in monthly and annual PSRS surveys. However, to be considered as in-scope for monthly or annual survey reporting, each reporting unit must have reportable quantities (usually this means at least one barrel of a reportable product) or satisfy other criteria such as minimum storage capacity requirements for petroleum products terminals. Facilities that fall below minimum reporting requirements fall outside of the primary petroleum supply system and are considered out of scope for monthly and annual PSRS reporting.

The following are descriptions of the survey frame for each survey:

**Form EIA-810 Monthly Refinery Report:** Operators of all operating and idle petroleum refineries located in the 50 States, District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions must complete the Form EIA-810. Data are reported by refinery site. Refineries are installations that manufacture finished petroleum products from crude oil, unfinished oils, natural gas liquids, other hydrocarbons, biofuels, and oxygenates. Refiners report distillation capacity, crude oil quality, inventory, receipts, input, production, shipments, and fuel use and loss.

**Form EIA-812 Monthly Product Pipeline Report:** All product pipeline operators in the 50 states and District of Columbia must complete the Form EIA-812. Data are reported by company and PADD. Petroleum products, including selected biofuels and oxygenates, are transported using product pipelines. Product pipeline operators report stocks held in pipelines and associated tanks and inter-PADD movements.

**Form EIA-813 Monthly Crude Oil Report:** Operators of facilities located in the 50 states and District of Columbia that carry (transport) or store 1,000 barrels or more of crude oil must complete the Form EIA-813. Facilities include pipeline companies, terminal operators, companies transporting Alaskan crude oil by water, and other facilities that store crude oil (except refineries). Data are reported by company and PADD. Facilities report stocks held in tank farms, pipelines, and underground caverns, stocks in transit by water and rail, crude oil received by and shipped out of the Strategic Petroleum Reserve, stocks located in Cushing, OK that are deliverable under NYMEX contract and not deliverable under NYMEX contract. Pipeline operators report inter-PADD movements.

**Form EIA-814 Monthly Imports Report:** All importers of record (or the ultimate consignee in some situations involving imports from Canada) of crude oil, petroleum products, and biofuels must complete Form EIA-814. Importers and ultimate consignees are identified on the following documents filed with U.S. Customs and Border Protection (CBP) and the U.S. Department of Commerce:

- CBP Form 7501 *Entry Summary*
- CBP Form 214 or 214A *Application for Foreign Trade Zone Admission and/or Status Designation*
- U.S. Customs and Border Protection's Automated Export System (AES)

Reported imports include barrels of foreign origin that enter the 50 states and District of Columbia as well as U.S. territories and possessions, including Foreign Trade Zones. In addition, imports from U.S. territories and possessions to the 50 states and District of Columbia are reported on Form EIA-814. Reporting on Form EIA-814 includes the country of origin, port of entry, type of commodity, quantity imported, sulfur and API gravity for crude oil and selected products, and processing facility for crude oil and selected unfinished products.

**Form EIA-815 Monthly Bulk Terminal Report:** All bulk terminal operators and certain facilities storing natural gas liquids operated by end users located in the 50 states, District of Columbia, and U.S. territories and possessions must complete Form EIA-815. Data are reported by bulk terminal or storage facility site. Bulk terminals are storage facilities where petroleum products and biofuels are stored in tanks and/or underground caverns. Some bulk terminals are used for product blending, where unfinished and finished petroleum products and biofuels are blended in lines or in tanks to produce new or reclassified products (e.g. blending fuel ethanol with unfinished gasoline to produce finished gasoline). Bulk terminals reporting on Form EIA-815 include those that either have storage capacity of at least 50 thousand barrels or that receive or ship product by pipeline, tanker, or barge. Petroleum products storage facilities that have less than 50 thousand barrels of storage capacity and receive and ship product only by rail and truck do not report on Form EIA-815. These smaller petroleum products and biofuels storage facilities are sometimes called "bulk stations" to distinguish them from bulk terminals. Bulk stations are outside of primary petroleum supply channels and excluded from reporting on Form EIA-815. Bulk terminal operators report inventory, receipts, input, production, shipments, and fuel use and loss.

**Form EIA-816 Monthly Natural Gas Liquids Report:** All operators of a natural gas processing plant, natural gas plant liquids fractionator, or butane isomerization plant in the 50 States and the District of Columbia must complete Form EIA-816. Data are reported by plant facility. Natural gas processing plants extract natural gas liquids from a stream of natural gas. Natural gas liquids fractionators separate natural gas liquids into individual components (i.e. ethane, propane, normal butane, isobutane, and pentanes plus). Butane isomerization plants convert normal butane to isobutane. Operators of natural gas plant liquids fractionators only report stocks and are only required to file Form EIA-816 if their plant or plants hold stocks (most fractionators do not hold stocks). All operators of butane isomerization plants that convert normal butane to isobutane must complete Form EIA-816, except in cases where a butane isomerization plant is part of a refinery and butane isomerization activity is reported on Form EIA-810.

**Form EIA-817 Monthly Tanker and Barge Movements Report:** Companies that move crude oil, petroleum products and biofuels by tankers and barges between Petroleum Administration for Defense Districts (PADDs) that include the 50 states and District of Columbia (i.e. PADDs 1-5) must complete Form EIA-817. Movements that are entirely within one PADD are not reported. Reporting

is by commodity, origin PADD, and destination PADD for each reporting company without regard to specific refinery, terminal, or port locations. Movements from the U.S. Gulf Coast region (PADD 3) to the U.S. East Coast Region (PADD 1) are further subdivided in terms of destination as New England (PADD 1A), Middle Atlantic (PADD 1B), and South Atlantic (PADD 1C).

Companies that have custody of crude oil, petroleum products, and biofuels transported by tanker and barge between PADDs must complete Form EIA-817. Reportable movements also include those that originate in one PADD and are then transported to the Panama Canal and then, proceed from the Panama Canal to another PADD. Custody is defined as physical possession of crude oil, petroleum products, or biofuels on a company-owned tanker or barge. Companies that lease vessels or contract for movement of crude oil, petroleum products, or biofuels by water between PADDs are also considered to have custody. Companies reporting on Form EIA-817 are typically refiners and/or marketers of crude oil, petroleum products, and biofuels. Form EIA-817 reporting companies are waterborne shippers rather than carriers (i.e. operators of tankers, barges, and tugboats), except in cases where refiners and marketers are also vessel operators.

**Form EIA-819 Monthly Report of Fuels from Non-Biogenic Waste and Biofuels:** Operators of facilities in the 50 states, District of Columbia, and U.S. territories and possessions that produce one or more of the following products: fuel alcohol; biodiesel that meets ASTM D 6751-07B specification and is used for commercial purposes; renewable diesel fuel, heating oil, jet fuel, naphtha, gasoline, and other renewable fuels and intermediate products; fuel oxygenates other than fuel alcohol; and isooctane or isooctene must complete Form EIA-819. Data are reported by plant facility. Fuel oxygenates reported include ethanol, Methyl Tertiary Butyl Ether (MTBE), Ethyl Tertiary Butyl Ether (ETBE), and “other” fuel oxygenates. Oxygenates may also be biofuels (e.g. fuel ethanol and bio-ETBE). Reported facilities include merchant plants as well as plants associated with refineries and petrochemical facilities. Facilities report beginning and ending stocks, stocks in-transit to the plant, production, inputs, receipts, shipments, and plant use and losses. In addition, production capacity on the first day of the report month and consumption of fuels and feedstocks are reported.

**Form EIA-820 Annual Refinery Report:** Operators of all operating and idle petroleum refineries located in the 50 States, District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions must complete Form EIA-820. The Form EIA-820 survey frame is normally identical to the survey frame of Form EIA-810, though there are cases where differences arise, such as during periods when a refinery is in transition from operable to shut down. Data are reported on Form EIA-820 by refinery site. Refineries are installations that manufacture finished petroleum products from crude oil, unfinished oils, natural gas liquids, other hydrocarbons, biofuels, and oxygenates. Reports are filed each year in February. Refinery operators report fuel, electricity, and steam purchased and consumed, and crude oil received by method of transportation at the refinery during the prior year. Operating, idle, and total operable (sum of operating plus idle capacities) capacities of atmospheric crude oil distillation units are reported for January 1 of the current year and operable distillation capacity is projected for January 1 of the following year. Downstream charge (input) capacities are reported for selected process units as of January 1 of the current year and projected for January 1 of the following year. Production capacities of selected refinery units are reported for January 1 of the current year and projected for January 1 of the following year.

**Form EIA-830 Annual Storage Capacity Report:** Operators of facilities reporting on the Form EIA-810, Form EIA-813, and Form EIA-815 may be asked to report on the Form EIA-830 on a standby

basis. Operators of all petroleum refineries in the U.S. and U.S. territories, including non-refinery operators of refinery processing units such as distillation, cracking, and treating must file the Form EIA-830 when requested. The Form EIA-830 survey frame will normally include the survey frame of Form EIA-810. Operators of crude oil tank farms (including underground storage) in the U.S., crude oil pipelines in the U.S., and shippers of Alaskan crude oil by water between U.S. locations must file the Form EIA-830 when requested. The Form EIA-830 survey frame will normally include the survey frame of Form EIA-813. Operators of commercial bulk terminals, and certain end-user storage facilities holding natural gas liquids, storing natural gas liquids, biofuels, refinery feedstocks, and petroleum products in the U.S. and U.S. territories must file the Form EIA-830 when requested. The Form EIA-830 survey frame will normally include the survey frame of Form EIA-815. Reported data will be storage capacity. Reported data will be for individual refineries, crude oil tank farms, and individual terminal facilities.

### B.1.2 Weekly PSRS Surveys

The EIA Weekly Petroleum Supply Reporting System (WPSRS), as part of the PSRS, collects data similar to those collected monthly. The samples of companies that report weekly in the WPSRS are selected from the universe of companies that report on the corresponding monthly forms. The following describes the relationships between the samples for the weekly PSRS surveys and the corresponding monthly survey that provide the universes of companies for sampling:

**Form EIA-800 Weekly Refinery Report:** The universe of possible reporting units is provided by Form EIA-810 for refineries.

**Form EIA-802 Weekly Product Pipeline Report:** The universe of possible reporting units on Form EIA-802 is provided by Form EIA-812.

**Form EIA-803 Weekly Crude Oil Report:** The universe of possible reporting units on Form EIA-803 is provided by Form EIA-813.

**Form EIA-804 Weekly Imports Report:** The universe of possible reporting units on Form EIA-804 is provided by Form EIA-814.

**Form EIA-805 Weekly Bulk Terminal Report:** The universe of possible reporting units on Form EIA-805 is provided by Form EIA-815.

**Form EIA-806 Weekly Natural Gas Liquids Report:** The universe of possible reporting units on Form EIA-806 is provided by Form EIA-816.

**Form EIA-809 Weekly Oxygenate Report:** The universe of possible reporting units on Form EIA-809 is provided by Form EIA-819.

## B.2. Statistical Methods

The weekly PSRS surveys, Forms EIA-800 through EIA-809, are surveys with samples drawn from the corresponding monthly census survey frames.

### B2.1 Sample Design

The sampling procedure used for the weekly surveys is the cut-off method. In the cut-off method, companies are ranked from largest to smallest based on quantities reported during some previous

period. Companies are chosen for the sample beginning with the largest and adding companies until the total sample covers approximately 90 percent of the total volumes for each item, survey, and geographic region. For example, for distillate fuel oil stocks, the weekly sample includes those respondents whose combined volumes of stocks for distillate fuel oil from refineries, bulk terminals, and pipelines constitute at least 90 percent of the total volume of distillate fuel oil stocks as reported in the corresponding monthly surveys.

EIA began to use the 90% cutoff threshold for the Petroleum Supply System in April 1982. The cutoff sampling method is appropriate when the frequency distribution of the item measured by the survey is highly skewed. This situation occurs in the petroleum industry in which a relatively small number of companies contribute a large share to the total volume being estimated. A cutoff sample is drawn by ranking the potential respondents (using values from the monthly frame file) from largest to smallest by the volume of the item of interest, cumulating down the list, and stopping when the pre-specified 90% coverage has been achieved. Estimates of weekly totals are obtained by multiplying the historical monthly total (available with a two-month lag) by the ratio of the weekly volume to the monthly volume for units in the cutoff sample. This type of sampling and estimation yields acceptable results as long as the relative contribution to the total for the small and large units remain relatively constant, and the sample coverage remains over 90 percent of the aggregate being estimated.

Sample control procedures were developed in April 1982 for two reasons: 1) to maintain comparability of weekly and monthly data systems and 2) to ensure that the 90 percent coverage requirement is met. The comparability goal requires that changes in the monthly frame (births, deaths, mergers, splits, and changes of ownership) be reflected in the corresponding weekly sample. Comparability is required both for estimation and quality control.

To assure 90-percent coverage of the national and PADD totals for each product item collected in each geographic region for each weekly survey, each weekly survey sample is reviewed each month. This review focuses on changes in the current monthly data as it relates to the weekly surveys, changes in the weekly surveys that impact the monthly surveys, and changes in respondent reporting patterns. Companies are added or removed from the surveys based on the changes. See Supporting Statement A.12 for the estimated number of companies selected for the weekly survey sample.

## **B2.2 Imputation and Estimation Procedures**

In any survey, non-response can be a major concern because the effects can cause serious bias in survey results. Non-response occurs whenever requested information is not obtained from all active reporting units in a survey frame. Whenever PSRS survey responses are not received in time to be included in published statistics, the data are imputed. Although imputing for missing data may not eliminate the error associated with non-response, it usually reduces bias and variance and may also improve the accuracy of the estimates.

After the responding entities' survey responses have been validated and entered into the weekly database for Forms EIA-800 through EIA-809, item non-response values are imputed for companies that either have not responded, reported incomplete data, or reported data that failed editing and could not

be confirmed. The imputed values are calculated using the exponentially smoothed mean values of recent weekly reported values for a specific responding entity.

The equation for the exponential smoothing is:

$$Y_{i,t} = \alpha y_{i,t} + (1 - \alpha) Y_{i,t-1}, t = 1, 2, 3, \dots$$

Where

- $Y_{i,t}$  is the imputed value for unit  $i$ , week  $t + 1$  using data through period  $t$ .
- $y_{i,t}$  is the reported value for week  $t$  (or imputed value for week  $t$ , if it was imputed).
- $Y_{i,t-1}$  is the imputed value for week  $t$  using data through period  $t - 1$ .
- $\alpha$  is the smoothing parameter.

In the equation for exponential smoothing, the size of  $\alpha$  controls the importance of the previous reporting week's reported value relative to the aggregate of all prior weeks' reported values as represented by the prediction for the previous week. For example, if  $\alpha = 0.8$ , then the previous week's value is much more important in predicting this week's value than all the previous week's values, because the weight of last week is 0.8, which is greater than the weight of the previous weeks which is 0.2. In general, the  $\alpha$  values are low for imports measured by the Form EIA-804 (where the previously reported week's value is much less important than history) and much higher for the other surveys which measure production, inputs and stocks.

Next, the estimation procedure treats the imputed values like reported values to estimate published aggregated data. The estimation procedure uses ratio estimates of the weekly totals to produce published totals, as is described below.

First, the current reporting week's data for a given product reported (or imputed) for each entity in a geographic region are summed (weekly sum,  $W_s$ ). Next, the most recent complete reporting month's data for the product reported (or imputed) for those same respondents are summed (monthly sum,  $M_s$ ). Finally, the most recent complete reporting month's data for the product as reported by all respondents, including adjustments made in the monthly process, are summed ( $M_t$ ). The current week's ratio estimate for that product,  $W_t$ , is given by:

$$W_t = (M_t / M_s) * W_s$$

The  $W_t$ 's are used directly to estimate total weekly inputs to refineries and production. To estimate stocks of finished products, the  $W_t$ 's are independently calculated for the establishments of refineries, bulk terminals, and pipelines. Estimates of totals are calculated by summing over the establishment types.

Weekly imports data are highly variable on a company-by-company basis or a week-to-week basis. Therefore, an exponentially smoothed ratio is used for estimating weekly imports. The estimate of total

weekly imports is the product of the smoothed ratio and the sum of the weekly reported values and imputed values.

For imports, the smooth ratio estimator,  $R_t$ , for period t is

$$R_t = \gamma r_t + (1 - \gamma) R_{t-1}, t = 1, 2, 3, \dots$$

where  $r_t$  is the ratio estimator for period t, and  $\gamma$  is a number between 0 and 1, chosen by product, and is the same for all PADDs and Respondent IDs for that product

When  $M_s = 0$ , then  $r_t$  is not defined for the reporting week, and the smoothed ratio is not updated (i.e., the previous smoothed ratio is used as the multiplier).

### B.3. Maximizing Response Rates

To maximize response rates, data collection forms are designed to be easily completed, and instructions are written to be clear, concise, and easily understood. Forms and instructions are made available on the EIA website.

Respondents who do not report any data for a given survey form in a given collection period are considered “non-respondents” for the PSRS. Automated email messages are sent out to any respondent who has not reported by the relevant submission deadline. EIA staff also contact survey non-respondents by telephone to discuss the requirement to file and any problems or questions that are delaying filing. Follow-up letters regarding the failure to file may be sent by email message to respondents who show persistent problems with non-response.

Specific schedules are followed for telephone calls and letters to non-respondents for the various PSRS surveys. Every effort is made to assist respondents in completing the survey and submitting the data in a timely manner. The 2024 response rate for PSRS surveys averaged 95 -100 percent.

#### Average Annual Response Rates for PSRS

Weekly Survey	EIA-800	EIA-802	EIA-803	EIA-804	EIA-805	EIA-806	EIA-809
Response Rate	99.96%	98.08%	98.08%	100%	99.88%	95.23	99.92%

Survey	EIA-810	EIA-812	EIA-813	EIA-814	EIA-815	EIA-816	EIA-817	EIA-819	EIA-820
Response Rate	99.7%	99.4%	100%	100%	100%	99%	100%	100%	100%

### B.4. Test Procedures and Form Consultations

The survey designs are reviewed by EIA cognitive specialists and modified as necessary to improve clarity and reduce burden. For additional information on forms review, please see Part A, section A.8., “Summary of Consultations Outside of the Agency.” For a summary of the comments received and EIA’s responses, see the Public Comment File submitted with this OMB package.

## **B.5. Statistical Consultations**

For additional information concerning this data collection, please contact Debra Coaxum, Acting Office Director, Office of Statistical Methods & Research, at (202) 586-7876, or [debra.coaxum@eia.gov](mailto:debra.coaxum@eia.gov).