Changes to EIA Oil and Gas Production Programs: Expanded EIA-914

Trade Associations Briefing
July 1, 2014 | Washington, DC
Expanded EIA-914 proposal

• Current oil and gas production data is necessary to address questions about the very rapid changes occurring in quantity and quality of domestic output

• Collect monthly data on oil and natural gas production and associated API gravity from operators in 19 states and Federal GOM

• Anticipated benefits of 914 expansion
  – Improves EIA’s reporting: Timeliness, transparency, coverage (more states), informs upstream discussions/analyses, reduces estimation errors in statistical models
  – Respondent burden expected to be modest: Roughly 500 respondents out of a 10,000-12,000 producer universe; electronic (web portal) interface

• Inadequacy of existing tools
  – GWPC National Gateway, even with EIA help, is still subject to the same state lags and consistency limitations
  – EIA Drilling Productivity Report (DPR) is an estimate based on a set of assumptions, not a survey of actual production trends
States covered by EIA-914 since 2005 – natural gas only
EIA-914 expansion will provide more timely monthly oil and gas production data

• The proposed revision to the EIA-914 survey will expand natural gas production and add monthly oil production

• State reporting of oil and gas production varies widely by
  – Reporting period (monthly, semi-annual, annual)
  – Lag between the end of a month and the reporting of the final data for that month
  – Completeness – data in some states takes over two years to be final

• Historical state data combined with EIA survey data allows EIA analysts to estimate absent or incomplete state data
State lags vary, but some tend to be large

- Over the past 26 months, final crude oil production for the 19 states and the Gulf of Mexico was reported, on average, more than 9 months after the end of a month.

- Over the same period, Texas, which produces more than a third of U.S. crude oil production, reported its final crude oil production an average of 29 months after the end of a month.

- Also over the same period:
  - 17 percent of the time (taking each state and month as a single observation), final crude oil production was reported 3 months or less after the end of a month.
  - 50 percent of the time, final crude oil production was reported at least 6 months after the end of a month.
  - 18 percent of the time, final crude oil production was reported 9 to 21 months after the end of a month.
  - 11 percent of the time, final crude oil production was reported 22 to 45 months after the end of a month.
EIA-914 expansion: Final monthly Texas oil production typically increases about 40 percent from the volume initially reported

Source: Texas Railroad Commission
State tax agency production typically are volatile regardless of the state.

Sources: Michigan, Department of Treasury; Kentucky, Revenue Cabinet
The volatility of Michigan’s production data depends on the source.

Sources: Michigan Department of Environmental Quality and Michigan Department of Treasury.
Colorado natural gas production now exceeds two of the original EIA-914 states, and Pennsylvania production exceeds five billion cubic feet per year.

Sources: Colorado, 2013, Colorado Oil and Gas Conservation Commission; Pennsylvania, 2013, Department of Environmental Protection; and all other years and states/areas: U.S. Energy Information Administration, Natural Gas Annual 2012 (and earlier years) and Monthly Natural Gas Gross Production Report.
After a long decline, crude oil production grew dramatically in the last few years.

EIA-914 expansion will add 20 states/areas to oil and 14 states to current coverage of natural gas

Lower 48 states expanded survey coverage:
- gas: 92%
- oil: 89%
EIA-914 expansion will add crude oil and lease condensate

Well Production Stream

Wells (Gas and Oil)

Full Wellstreams

Lease Separators

A. Gross Withdrawals of Natural Gas

Lease Facilities Excluding Natural Gas Plants

B. Natural Gas Lease Production

C. Crude Oil and Lease Condensate

Water

- Injected on Lease
- Vented and Flared on Lease
- Fuel Used on Lease
- Non-hydrocarbon Gases Removed on Lease
Summing up the value of an expanded EIA-914

- Improves knowledge of an important industry development
  - Timeliness
  - Transparency
  - Coverage (more states)
  - Reduces estimation errors in EIA statistical models

- Informs upstream discussions/analyses
For more information


Annual Energy Outlook | www.eia.gov/aeo

Short-Term Energy Outlook | www.eia.gov/steo

International Energy Outlook | www.eia.gov/ieo

Monthly Energy Review | www.eia.gov/mer

Today in Energy | www.eia.gov/todayinenergy

State Energy Portal | www.eia.gov/state

Drilling Productivity Report | www.eia.gov/petroleum/drilling/
Supplemental slides
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Statistical issues

• Cognitive Testing

• Sample Automation
  – New Monthly Sampling Process
    • Two cutoff samples per state: oil and gas
    • Each state has a production cutoff rate for oil and one for gas
    • Design criteria to determine cutoff production rates within selected states
      – Gas: 85% coverage
      – Oil: 85% coverage or a production rate of more than 500 barrels of production/day
    • Must be automated
    • Estimated 534 respondents
      – Need to gather contact info

• Disclosure
  – Must have at least three respondents in a category to publish its value
  – State/gravity combinations falling below that threshold must be suppressed
  – Form EIA-914 data are and will continue to be CIPSEA protected
National Gateway Overview

• Provide a repository for all publicly available oil and gas well-level data - no central repository for state level data exists

• Joint state-federal collaboration - EIA does not collect well-level data
Current Gateway Partners

- RBDMS states
- States in Gateway
Benefits of National Gateway

• Detailed dataset for analysis and forecasting

• Improve analysis and mapping of emerging plays and technology

• Improve collaboration with states (commercial databases EIA uses are developed from state databases)

• Potential for standardizing data definitions

• Standardize and streamline downloading data from state websites

• Underground Injection Control data transferred from EIA to EPA

• Gateway will support Well Finder App