Time Limits For Protecting Company Level Data?

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ABSTRACT

EIA protects a majority of the survey information that it collects by using Exemption (4) four under section 552 (b) of the Freedom of Information Act. Exemption (4) allows the government to withhold from release to the public certain documents in its possession if the information would likely cause substantial harm to a survey respondent's competitive position. This presentation will discuss how the passage of time affects the potential that a respondent may suffer competitive harm if EIA released historical company level data that was reported on an EIA survey. There will be a discussion on the factors to consider when assessing the risk of causing competitive harm from disclosing historical company level data. Feedback will be collected during the session on the factors that affect a company's competitive position in an energy market and whether releasing historical company level survey data may cause competitive harm.

QUESTIONS FOR THE COMMITTEE

1) How does the age of the survey data affect the need to protect it?
2) Should time limits be considered for protecting company level data where EIA is not obligated by statute to protect it?
3) What economic factors should be considered when considering a time limit for protecting company level data?
4) What interrelationships among the economic factors should be considered?
5) How may the interrelationship among economic factors that may exist in an energy market increase or decrease the risk of causing competitive harm to a survey respondent by releasing historical company level data?

INTRODUCTION

How does the age of the data affect the risk of causing competitive harm by releasing of historical company level data? When discussing this issue, it is necessary to understand the confidential relationship that has developed over the years between EIA and the respondents to its survey systems. EIA uses Exemption (4) under the Freedom of Information Act (FOIA)[1] to protect approximately 75 percent of the survey data collected. Approximately 20 percent is collected under the Confidential Information Protection and Statistical Efficiency Act Of 2002 (CIPSEA). A small amount of survey data that EIA collects is not protected and is released in identifiable form on EIA's website. CIPSEA does not allow time limits to be placed on the confidentiality protections for the information collected under that statute.[2] However, information protected using Exemption (4) under FOIA does allow for time limits. The discussion in this paper is limited to survey data collected outside of CIPSEA that was submitted under mandatory reporting requirements, and protected from release to the public using

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Exemption (4) under FOIA. When a respondent is required to report information to the Federal government, an agency may withhold the release of that information under Exemption (4) of FOIA if disclosing it would likely cause substantial harm to the competitive position of the respondent or impair the agency's ability to obtain similar data in the future.[3]

Based on the justification to withhold information from release if competitive harm can be shown under Exemption (4) of FOIA, historical company level data should be reviewed to determine whether there is any risk of competitive harm by releasing company level data after a certain time period has expired. The rationale against releasing historical company level survey data assumes that a survey respondent will be economically damaged by another competing firm in the respondent's energy market gaining a competitive advantage by having access to the respondent's historical survey information. However, there are certain factors which affect the accuracy of an estimate generated by a data intruder or a competitor who has access to historical data that are specific to the type of data, fuel source, and/or industry.

DOES RELEASING HISTORICAL COMPANY LEVEL DATA CAUSE COMPETITIVE HARM?

One source of competitive harm that arises by releasing historical company level survey is that the data may be used to estimate current survey values that are reported by a respondent. The strength of this argument depends upon certain factors and the facts and circumstances that exist in an energy market. First, what is the rate of firms exiting and entering the industry. Is that rate constant, decreasing or increasing over time and/or does the rate ever reverse direction over time? Second, what is the growth rate in the energy market and is the growth rate constant or vary over time? Third, does the product's properties and qualities change or remain constant over time? Fourth, have any regulatory changes or other external factors such as import or export markets changed over time? Fifth, are the growth rates for the different energy sectors constant over time for a specific fuel source or do they vary in their rate of growth or decline? Sixth, does the price volatility of the product remain constant over time and do the factors which affect price volatility remain constant over time?

MAGNITUDE DATA

For magnitude data, the risk of disclosing current survey values by using historical data may diminish with the age of the data depending upon the product, the market, and type of magnitude data.

PRODUCTION & SALES DATA

The argument against releasing historical company level production data assumes that if historical data were released, a knowledgeable user could create a model of a company's production profile over time and possibly gain insights on the company's inputs, feedstocks, up-grades to the facility, and profitability of the company. Likewise,

releasing company level sales data could be used to make inferences on the markets a respondent has substantial sales or market share and their customer base. If company level monthly magnitude data can be used to model a company's production or sales operations, then weekly data could affect the risk of disclosure in a similar manner as the monthly data. The relationship between weekly and monthly data provides additional insights that can be used by a user to estimate a company's production capability, assess their response to an energy crisis or price spike, or any other short-term market event or energy emergency.

Uncertainty and error is introduced in the model estimates generated by a data intruder if all six of these factors are not stable and remain constant over time. The high growth rate in the number of entrants into the manufacturing industry for solar and photovoltaic cells during the past five years is an example of an industry undergoing rapid change. The uranium energy market has also experienced rapid growth as new companies pursue exploration of uranium deposits and mining operations. The consolidation and decline of smaller mines from the mid 1970s to the mid 1990s in the coal industry is an example where structural change occurs more slowly.[4] A similar trend occurred in the petroleum refining industry during the 1980s.[5] The competitive structure of an industry may change as the percentage of production is concentrated in a smaller or larger number of producers.

PRICE DATA

For price data, the sensitivity of the data may diminish with the age of the data depending upon the product, the sales type and market, and the type of time series. The age of the data may not diminish the sensitivity of the data if the company's pricing policy(s) have not changed. The relationships between refined product resale and retail pricing patterns and the relationships between the price levels of different crude oil streams, and the relationship between crude oil prices and refined prices may be stable over time in a given market. A knowledgeable user could analyze 10 year-old company level data to establish the price relationships and then use that information to closely estimate a competitor's current pricing practice and reveal a respondent's market position.

A similar situation holds for natural gas price data where the relationships between the delivered price to residential, commercial, industrial, and electrical utility consumers for a specific company could be identified and used by a competitor to estimate a current market pricing strategy. The application of an estimation model would require certain assumptions about the specific energy market.

The changes over the past five years in the price volatility of crude oil, gasoline, diesel fuel, and natural gas are other examples where external factors affect price forecasts. Regulatory changes for the phase out of leaded gasoline during the 1980s, new fuel requirements from the Clean Air Act of 1990, low-sulfur diesel fuel requirements in 1993 and ultra-low sulfur diesel fuel requirements in 2007 are examples where regulatory changes affect industry behavior that result in new energy products. The introduction of mid-grade gasoline in 1988 is an example of a new product developed internally by the

petroleum industry in response to shifting consumer demand and changes in automotive technology. The de-regulation of the electric power industry is an example where the removal of regulations caused changes in the market structure for the generation and transmission of electricity. The re-structuring of the downstream marketing of natural gas to residential consumers and industrial users is another example where historical price data maybe less relevant to predicting current market behavior.

RESERVES DATA

Reserve estimates for a fuel source have additional issues that may need additional consideration than other types of magnitude data. Proved reserves are those quantities of coal, natural gas, petroleum, or uranium, which, by analysis of geological and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reserves and under current economic physical, and geographic conditions, operating methods and government regulations. All reserve estimates involve some degree of uncertainty. The uncertainty depends chiefly on the amount of reliable geologic and engineering data available at the time of the estimate and the interpretation of these data. Reserves estimates will generally be revised as additional geologic or engineering data become available or as economic or government regulatory conditions change. For crude oil, improved recovery methods include all methods for supplementing natural energy or altering natural forces in the reservoir to increase ultimate recovery. Examples of such methods are pressure maintenance, cycling, waterflooding, thermal methods, chemical flooding, and the use of miscible and immiscible displacement fluids.[6] Other improved recovery methods may be developed in the future as petroleum technology continues to evolve.[7]

There is large variation in the recovery percentage of coal reserves depending upon whether the coal is recovered through surface mining or below ground. Some areas of a coal bed may not be accessible, may need to be left in place to support existing structures located above ground or for existing support structure for underground mining, or off limits for mining because of land use planning. Most demonstrated coal reserves were identified over 100 years ago with no new significant exploration. Historical coal production data can be subtracted from the published reserve estimates to estimate the quantity of coal reserves remaining. However, due to the many forms of occurrence of fossil fuels, the wide range of characteristics, the uncertainty associated with the geological environment and the constant evolution of evaluation technologies, reserves rely on the integrity, skill and judgment of the evaluator and are affected by the geological complexity, stage of development, degree of depletion of the coal bed, or oil and gas reservoirs, and amount of available data**.**

EIA collects crude oil and natural gas reserves and annual production data by individual field, which may involve multiple reservoirs, from large operators for those properties that they currently operate and for those proved undeveloped properties they anticipate operating in the near future. In turn, the EIA publishes the reserves by individual field for the 100 largest proved liquid reserves fields and the 100 largest proved natural gas reserves fields.[8] EIA also publishes the annual production volumes associated with each

of the 100 largest reserves fields for crude oil and natural gas without regard to ownership.[9] Monthly and annual production data are generally available to the public from various state agencies and commercial sources. The potential of determining a respondent's market value is an important consideration for not releasing company level data reserves and production data. EIA individual field reserves data frequently include multiple reservoirs, multiple owners, and multiple operators. In order to develop an effective estimation methodology using EIA reserves data, knowledge of the annual historical factors, as discussed above, a user would need to know the factors used by each operator for each individual reservoir involved in the field. For fields that involve a single operator and a single reservoir, knowledgeable individual(s) who have prior knowledge about the field's characteristics, flow rate, and depths of the wells, might be able to generate a close estimate of the operator's market value of that field using the EIA historical reserves data. For these reasons, an important consideration in determining whether historical reserves and field production are sensitive is based on whether the field data includes multiple operators, multiple owners, and/or multiple reservoirs.

CONCLUSION

Economic factors may exist in an energy market that justify withholding historical company level survey data for long periods of time. However, those same factors may also support releasing company level data if changes occur over time that remove or substantially dilute the threat of competitive harm to a survey respondent. For survey data that EIA protects using Exemption (4) under FOIA, the length of time to withhold company level data depends on whether the threat of potential competitive harm to the respondent under current market conditions remains constant or increases by releasing the historical company level data.

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[1] 5 U.S.C. 552(b)(4).
[2] Section 511(b) Subtitle A, Title V of the E Government Act of 2002.
[3] National Parks & Conservation Assoc v. Morton, 489 F.2d 765 (D.C. Cir. 1974).
[4] Coal Production in the United States – An Historical Overview
http://www.eia.doe.gov/cneaf/coal/page/coal_production_review.pdf

[5] Oil and Gas Development in the United States in the Early 1990's: An Expanded Role for Independent Producers.
http://www.eia.doe.gov/pub/oil_gas/petroleum/analysis_publications/oil_gas_development_early_1990s/0600.pdf

[6] Etherington, John R. "The 2007 SPE/AAPG/WPC/SPEE Reserves and Resources Classification, Definitions and Guidelines. Defining the Standard." 2007 Hydrocarbon Economics and Evaluation Symposium, Dallas, TX.

[7] Gutierrex, D. "Recovery Factors in High-Pressure Air Injections Projects Revisited." 2007 Hydrocarbon Economics and Evaluation Symposium, Dallas, TX.
[8] Appendix B, "U.S. Crude Oil, Natural Gas, and natural Gas Liquids Reserves Annual Report,"
http://www.eia.doe.gov/oil_gas/natural_gas/data_publications/crude_oil_natural_gas_reserves/cr.html

[9] Id.