

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

18 CFR Part 35

[Docket No. RM17–2–000; Order No. 844]

Uplift Cost Allocation and Transparency in Markets Operated by Regional Transmission Organizations and Independent System Operators

AGENCY: Federal Energy Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Federal Energy Regulatory Commission is revising its regulations to improve transparency practices for regional transmission organizations (RTO) and independent system operators (ISO). The Commission requires that each RTO/ISO establish in its tariff: Requirements to report, on a monthly basis, total uplift

payments for each transmission zone, broken out by day and uplift category; requirements to report, on a monthly basis, total uplift payments for each resource; requirements to report, on a monthly basis, for each operator-initiated commitment, the size of the commitment, transmission zone, commitment reason, and commitment start time; and the transmission constraint penalty factors used in its market software, as well as the circumstances under which those factors can set locational marginal prices, and any process by which they can be changed. The Commission is withdrawing its proposal to require that each RTO/ISO that currently allocates the costs of real-time uplift to deviations allocate such real-time uplift costs only to those market participants whose transactions are reasonably expected to have caused the real-time uplift costs.

DATES: This rule is effective July 9, 2018.

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SUPPLEMENTARY INFORMATION:

Before Commissioners: Kevin J. McIntyre, Chairman; Cheryl A. LaFleur, Neil Chatterjee, Robert F. Powelson, and Richard Glick.

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I. Introduction

1. In this Final Rule, the Federal Energy Regulatory Commission (Commission) finds that current regional transmission organization (RTO) and independent system operator (ISO) practices with respect to reporting uplift payments and operator-initiated commitments,¹ and RTO/ISO tariff provisions regarding transmission constraint penalty factors² are insufficiently transparent, resulting in rates that are not just and reasonable for the reasons discussed below. To remedy these unjust and unreasonable rates, we require, pursuant to section 206 of the Federal Power Act,³ that each RTO/ISO establish in its tariff: (1) Requirements to report, on a monthly basis, total uplift payments for each transmission zone, broken out by day and uplift category (Zonal Uplift Report); (2) requirements to report, on a monthly basis, total uplift payments for each resource (Resource-Specific Uplift Report); (3) requirements to report, on a monthly basis, for each operator-initiated commitment, the size of the commitment, transmission zone, commitment reason, and commitment start time (Operator-Initiated Commitment Report); and (4) the transmission constraint penalty factors used in its market software, as well as the circumstances under which those factors can set locational marginal prices (LMP), and any process by which they can be changed (Transmission Constraint Penalty Factor Requirements).

2. We reach this conclusion for several reasons. RTO/ISO markets can be affected by a number of operational challenges such as unplanned transmission and generation outages and the need to maintain adequate voltage throughout the system. Limitations in the ability of the market software to incorporate all reliability considerations can at times result in prices that fail to reflect some of these challenges. In such situations, certain resources needed to reliably serve load may not economically clear the market and RTOs/ISOs must take out-of-market actions (*i.e.*, operator-initiated commitments) to ensure system needs are met. These actions give rise to uplift costs.

¹ As described below, for the purpose of this rule, the Commission defines an operator-initiated commitment as a commitment after the day-ahead market for a reason other than minimizing the total production costs of serving load.

² Transmission constraint penalty factors are the values at which an RTO's/ISO's market software will relax the limit on a transmission constraint rather than continue to re-dispatch resources to relieve congestion associated with that constraint.

³ 16 U.S.C. 824e.

3. Because out-of-market actions and the resulting uplift costs are not reflected in market prices, these costs and the reasons for incurring such costs are inherently less transparent. Out-of-market actions can at times mask system conditions, which limits the ability of competitive electric markets to send appropriate price signals to compensate and financially encourage investment in resource attributes that respond to system needs. Lack of transparency concerning both uplift costs and operator-initiated actions can also limit valuable input from stakeholders, for example, during RTO/ISO transmission planning processes, or in committees that review RTO/ISO resource adequacy. Ensuring system needs are transparent to market participants is a critical step in finding cost-effective solutions to the operational challenges RTOs/ISOs face to support reliable operations and resilience. Reporting information about uplift and operator initiated commitments helps ensure these system needs are transparent to the marketplace.

4. Although all RTOs/ISOs provide some information regarding the locations and causes of uplift and operator-initiated commitments, the information is often highly aggregated or lacks detail, and is not consistently reported across markets. Current reporting practices regarding uplift and the reasons for making operator-initiated commitments do not provide adequate transparency for stakeholders to understand the needs of the system and recognize the resource attributes that are required to meet these needs. This lack of transparency hinders the ability of market participants to plan for and efficiently respond to system needs in a cost-effective manner, resulting in rates that are unjust and unreasonable. Improving the availability of information about the location and causes of uplift and operator-initiated commitments would enhance market participants' ability to evaluate the need for, and the value of investment in, transmission and generation. Increased transparency could also facilitate more informed stakeholder discussions that support capacity or transmission planning to address future reliability and resilience issues. Additionally, RTO/ISO practices with respect to transmission constraint penalty factors can significantly affect clearing prices. Improving transparency into such practices would enhance market participants' understanding of how energy prices are formed and thus would enhance their ability to hedge transactions and respond to market

signals. Finally, increased transparency into uplift payments, operator-initiated commitments, and transmission constraint penalty factors will allow market participants to assess and advocate for improvements to RTO/ISO practices in these areas. Therefore, we set forth transparency requirements for each RTO/ISO in this Final Rule.

5. We are adopting the transparency proposal in the Notice of Proposed Rulemaking (NOPR)⁴ with the following modifications: (1) Change the permissible level of zonal aggregation for the Zonal Uplift Report; (2) change the timing of the release of the Resource-Specific Uplift Report from within twenty calendar days of the end of each month to within ninety calendar days from the end of each month; (3) change the timing of the release of the Operator-Initiated Commitment Report from four hours after the time of the commitment to within thirty calendar days of the end of each month; and (4) change the details to be reported about each operator-initiated commitment. These changes will help address concerns expressed by commenters related to the potential disclosure of commercially-sensitive information, the burden on RTOs/ISOs of meeting the requirements of this Final Rule, and the transparency value of consistent reporting.

6. The goals of the price formation proceeding are to: (1) Maximize market surplus for consumers and suppliers; (2) provide correct incentives for market participants to follow commitment and dispatch instructions, make efficient investments in facilities and equipment, and maintain reliability; (3) provide transparency so that market participants understand how prices reflect the actual marginal cost of serving load and the operational constraints of reliably operating the system; and (4) ensure that all suppliers have an opportunity to recover their costs.⁵

7. The reforms in this Final Rule primarily address the third price formation goal listed above. Uplift payments reflect the portion of the cost of reliably serving load that is not

⁴ *Uplift Cost Allocation and Transparency in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 82 FR 9539 (Feb. 7, 2017), FERC Stats. & Regs. ¶ 32,721, at P 82 (2017) (NOPR).

⁵ See, e.g., *Price Formation in Energy and Ancillary Services Markets Operated by Regional Transmission Organizations and Independent System Operators*, Order Directing Reports, 153 FERC ¶ 61,221, at P 2 (2015) (Order Directing Reports); *Price Formation in Energy and Ancillary Services Markets Operated by Regional Transmission Organizations and Independent System Operators*, Notice Inviting Post-Technical Workshop Comments, Docket No. AD14-14-000, at 1 (Jan. 16, 2015).

included in market prices. Operator-initiated commitments are made to preserve reliability and can affect both market prices and uplift. RTO/ISO practices associated with transmission constraint penalty factors, which establish the price level and cost of re-dispatch the RTO/ISO is willing to incur to relieve congestion on transmission constraints, can affect commitments and market prices. Improved transparency into these areas will enable market participants to better understand drivers of market prices and the extent to which prices reflect the true marginal cost of reliably serving load. As noted above, the uplift and operator-initiated commitment reports will also help market participants align their investments in facilities and equipment with the needs of the system, thus also addressing the second price formation goal. Finally, such investments, as well as market participants' enhanced ability to understand and suggest changes to RTO/ISO uplift and commitment practices, may ultimately shift some of the cost of serving load out of uplift and into market prices. Prices that more accurately reflect the cost of serving load have the potential to result in improved market efficiency and increased market surplus for consumers and suppliers, thus also addressing the first price formation goal. These benefits will help to ensure just and reasonable rates.

8. As discussed below, we require each RTO/ISO to submit a filing with the tariff changes needed to implement this Final Rule within 60 days of the Final Rule's effective date, and we require that tariff changes filed in response to this Final Rule become effective no more than 120 days after compliance filings are due.

9. Finally, in the NOPR the Commission also proposed to require that each RTO/ISO that currently allocates the costs of real-time uplift to deviations allocate such real-time uplift costs only to those market participants whose transactions are reasonably expected to have caused the real-time uplift costs. As discussed below, we withdraw the uplift cost allocation proposal and do not make any requirements related to uplift cost allocation in this Final Rule.

II. Background

10. In November 2015, the Commission issued an order that directed each RTO/ISO to report on five price formation topics: Fast-start pricing; managing multiple contingencies; look-ahead modeling;

uplift allocation; and transparency.⁶ The order directed each RTO/ISO to file a report providing an update on its current practices and any efforts to address issues in the five topic areas, and responding to specific questions contained in the order. In the reports filed and subsequent comments, RTOs/ISOs and commenters addressed the topic of transparency, which is the subject of this Final Rule.

11. In the instant proceeding, on January 19, 2017, the Commission issued a NOPR proposing reforms to improve uplift cost allocation and to enhance transparency. As noted above, we withdraw the proposed uplift cost allocation reforms. With respect to transparency, the NOPR proposed to require that each RTO/ISO: (1) Report total uplift payments for each transmission zone on a monthly basis, broken out by day and uplift category; (2) report total uplift payments for each resource on a monthly basis; (3) report the megawatts (MW) of operator-initiated commitments in or near real-time and after the close of the day-ahead market, broken out by zone and commitment reason; and (4) list in its tariff the transmission constraint penalty factors, the circumstances under which they can set LMPs, and the procedure by which they can be changed temporarily.⁷ The Commission also requested comments on specific aspects of each requirement.⁸

A. Current RTO/ISO Practices

12. In the NOPR, the Commission reviewed the current transparency practices of each of the RTOs/ISOs,⁹ based largely on the reports made by the RTOs/ISOs in response to the Commission's Order Directing Reports.¹⁰ We do so again briefly in this Final Rule.

1. Reporting Uplift

13. All RTOs/ISOs report information about uplift payments. However, the extent of the information reported varies widely. For example, ISO-NE and NYISO provide monthly uplift reports that are generally aggregated across zones and over the month as well as daily uplift reports aggregated across their entire systems.¹¹ MISO provides a

number of monthly reports to market participants on categories of uplift costs; the reports aggregate the uplift data by category and month, and provide historical monthly data for comparison.¹² MISO also posts a Revenue Sufficiency Guarantee¹³ Report eight days after the operating day, which includes uplift payments by hour, category, and relevant transmission constraint.¹⁴ CAISO aggregates uplift data to its 10 existing local capacity requirement areas and reports daily total uplift costs for each month by the market in which the uplift is incurred (e.g., day-ahead or real-time), and by the type of costs incurred (e.g., start-up costs, minimum load costs or energy bid costs).¹⁵ PJM has recently adopted new rules to allow the reporting of daily uplift information by transmission zone within seven business days after the end of each month.¹⁶ SPP reports uplift information by category with daily granularity.¹⁷

14. RTO/ISO reporting practices are driven, in part, by the time needed to complete the settlement process. For example, ISO-NE and PJM report some uplift information within three to five business days based on their initial settlement periods, while CAISO provides uplift cost information based on its 12-business-day recalculation statement.¹⁸

Because of this lag, RTOs/ISOs typically report uplift on a monthly basis, aggregated to a zonal or settlement area level.

15. Most RTOs/ISOs cite confidentiality issues as an additional reason for their current reporting practices, particularly in zones with few market participants.¹⁹ Uplift

NYISO, Report on Price Formation Issues, Docket No. AD14-14, at 56-57, 59 (NYISO Report).

¹² MISO, Report on Price Formation Issues, Docket No. AD14-14, at 59-60 (MISO Report).

¹³ Revenue Sufficiency Guarantee is a type of uplift in MISO that ensures the recovery of the production and operating reserve costs of a resource that has been committed and scheduled by MISO in its day-ahead or real-time energy and operating reserve markets. See MISO, FERC Electric Tariff, 1.D, Definitions—D (45.0.0); 1.R, Definitions—R (48.0.0).

¹⁴ MISO Comments at 11-12.

¹⁵ See CAISO, Monthly Market Performance Report, <http://www.caiso.com/Pages/documents/bygroup.aspx?GroupID=A9180EE4-8972-4F3B-9CB8-21D0809B645E>. See also CAISO, Report on Price Formation Issues, Docket No. AD14-14, at 56 (CAISO Report).

¹⁶ PJM, Business Practice Manual 33; PJM Comments at 11-12.

¹⁷ SPP, Report on Price Formation Issues, Docket No. AD14-14, at 40 (SPP Report).

¹⁸ CAISO Report at 58; ISO-NE Report at 64-65; PJM, Report on Price Formation Issues, Docket No. AD14-14, at 51 (PJM Report).

¹⁹ ISO-NE Report at 61, 67; NYISO Report at 60-61; PJM Comments at 11; PJM Report at 48; SPP Report at 44.

⁶ Order Directing Reports, 153 FERC ¶ 61,221.

⁷ NOPR, FERC Stats. & Regs. ¶ 32,721 at P 82.

⁸ A list of commenters and the abbreviated names used for them in this Final Rule appears in the Appendix.

⁹ NOPR, FERC Stats. & Regs. ¶ 32,721 at PP 59-66.

¹⁰ Order Directing Reports, 153 FERC ¶ 61,221.

¹¹ ISO-NE Comments at 42; ISO-NE, Report on Price Formation Issues, Docket No. AD14-14, at 46-47 (ISO-NE Report); NYISO Comments at 5-6;

information is typically aggregated to avoid publishing information on individual resources. All RTOs/ISOs assert that they are prohibited from publicly revealing resource-specific data, as specified in their confidentiality rules.²⁰ Some RTOs/ISOs note that they cannot provide information on a more granular basis without changes to their confidentiality rules or information policies.²¹

16. Some uplift information is publicly available. For example, all public utilities and certain non-public utilities are required to report uplift payments in the Commission's Electric Quarterly Report (EQR) within 30 days following the end of a quarter. Most EQR filers report uplift payments with at least daily granularity. Depending on the granularity provided by the filer, and whether the filer reports its EQR as a single resource, EQR uplift information can also sometimes identify a specific unit and its location. EQR contains a single "uplift" category which does not differentiate between different types of uplift (e.g., day-ahead, voltage and local reliability). EQR information is available to the public via the Commission's website.

2. Reporting Operator-Initiated Commitments

17. RTOs/ISOs also vary in the amount, granularity, and timing of information that is reported on operator-initiated commitments. For example, CAISO, MISO, and NYISO provide information regarding operator-initiated commitments either shortly after the operating day or in near real-time. MISO reports the hourly aggregated economic maximum MWs of committed resources by commitment reason and relevant constraint in near real-time,²² while CAISO reports the daily aggregated megawatt-hours of exceptional dispatches²³ (which include operator-initiated commitments) by reason several days after the operating day.²⁴ Throughout the operating day, NYISO posts operational announcements that provide information about individual operator-initiated commitments, including the units involved, level of unit commitment, and the reason for the

commitment, with a reference to the relevant reliability rule, if applicable.²⁵

18. In addition, all RTOs/ISOs provide summary reports of operator-initiated commitments over longer time periods. CAISO's monthly performance report provides metrics on exceptional dispatch and other operator actions organized by market (i.e., day-ahead or real-time), trade date, reason, or local area.²⁶ CAISO also files a monthly report on the frequency and volume of exceptional dispatch, pursuant to directives in previous Commission orders.²⁷ ISO-NE publishes weekly, monthly, and quarterly reports that describe notable operational events, but it does not provide any information regarding the location or capacity of committed units.²⁸ ISO-NE also reports the number of units committed after the close of the day-ahead market (but not including real-time commitments) each day.²⁹ SPP reports monthly the MWs of operator-initiated commitments.³⁰

19. PJM states that, although its confidentiality provisions prevent it from reporting individual operator-initiated commitments in real-time, it does provide regionally aggregated information on uneconomic commitments in the day-ahead market at the end of the business day. In addition, PJM posts total capacity committed during the Reliability Assessment and Commitment period to meet forecasted load and reserves, as well as resources committed for transmission constraints, voltage/reactive constraints, or conservative operations.³¹ ISO-NE also states that its confidentiality provisions prohibit reporting of operator-initiated commitments in real-time.

3. Transmission Constraint Penalty Factors

20. Transmission constraint penalty factors are the values at which an RTO's/ISO's market software will relax the flow-based limit on a transmission element to relieve a constraint caused by that limit rather than re-dispatch resources to relieve the constraint. The cost of re-dispatching resources can be described as the re-dispatch price. Transmission constraint penalty factors represent the maximum re-dispatch

price that the system will pay before allowing flows to exceed a given transmission element's limit.³² The penalty factors are typically set at levels that are high enough to avoid relaxing constraints too frequently, but low enough to avoid extremely expensive re-dispatch solutions that are more expensive than the expected cost of exceeding a given transmission element's limit. Although these penalty factors can have significant impacts on prices, some RTOs/ISOs do not file the penalty factors with the Commission or make public any temporary changes to them. Specifically, PJM and ISO-NE do not include transmission constraint penalty factors in their respective tariffs, but the other RTOs/ISOs do.³³ Further, MISO is the only RTO/ISO that details in its tariff how transmission constraint penalty factors are changed temporarily.³⁴

III. Need for Reform

21. In the NOPR, the Commission preliminarily found that some existing RTO/ISO practices of reporting uplift and operator-initiated commitments are insufficiently transparent and may result in unjust and unreasonable rates. Specifically, the Commission stated that, while all RTOs/ISOs provide some information regarding the locations and causes of uplift and operator-initiated commitments, the information is often highly aggregated or lacks detail. The Commission posed, as an example, reports that aggregate uplift payments over the month, which can obscure daily trends that allow market participants to evaluate the effectiveness of current operating practices of RTOs/ISOs. The Commission stated that this lack of transparency hinders the ability of market participants to plan and efficiently respond to system needs. The Commission reasoned that improving the availability of information about the location and causes of uplift and operator-initiated commitments could allow market participants to evaluate the need for and the value of investment in transmission and generation, as well as assess operator-initiated commitment practices and raise any issues of concern through the stakeholder process. The Commission posed, as an example, the scenario of releasing information about

²⁰ CAISO Report at 59; NYISO Report at 58; PJM Report at 50–51; SPP Report at 42; ISO-NE Report at 63–64; MISO Report at 58–59.

²¹ PJM Report at 48; ISO-NE Report at 61.

²² MISO Comments at 16–17.

²³ CAISO states that its system operator issues exceptional dispatches to resources to address system issues that cannot be addressed by the constraints modeled within the market. CAISO Report at 41.

²⁴ See CAISO, Daily Exceptional Dispatch Report, <http://www.caiso.com/market/Pages/DailyExceptionalDispatch/Default.aspx>.

²⁵ NYISO Comments at 8 & n.29; NYISO Report at 56–57 and n.32.

²⁶ CAISO Report at 56.

²⁷ *Id.* at 56. See also *Cal. Indep. Sys. Operator Corp.*, 131 FERC ¶ 61,100 (2010) (clarifying the reporting timeline for reporting exceptional dispatches).

²⁸ ISO-NE Report at 60.

²⁹ *Id.* at 61–62.

³⁰ SPP Report at 40.

³¹ PJM Report at 49–50.

³² Transmission constraint penalty factors create a cap on the shadow price of a transmission constraint. See Potomac Economics Comments, Docket No. AD14–14–000, at 20–21 (Feb. 24, 2015).

³³ CAISO, MRTU Tariff 27.4.3.1–27.4.3.2; MISO, FERC Electric Tariff, Schedule 28A; NYISO Tariffs, NYISO Markets and Services Tariff 1.20; SPP, OATT, Sixth Revised Volume No. 1, Attachment AE, 8.3.2, Addendum 1.

³⁴ MISO, FERC Electric Tariff, Schedule 28A; MISO Comments at 19.

uplift incurred to address a local reliability issue. This information, the Commission reasoned, could potentially incent market participants to advocate for changes to the RTO's/ISO's operational procedures or to undertake investments that could resolve the local reliability issue more efficiently. The Commission further reasoned that, by helping to incent appropriate market responses to system needs, increased transparency could improve market efficiency, and could ultimately reduce the level of uplift, thereby resulting in rates that are just and reasonable.³⁵

22. The Commission also preliminarily found that a lack of transparency with respect to transmission constraint penalty factors may result in unjust and unreasonable rates. Specifically, the Commission stated this lack of transparency may make it difficult for market participants to hedge transactions appropriately or to effectively assess RTO/ISO changes to transmission constraint penalty factors and raise concerns through the stakeholder process.³⁶

A. Comments

23. Several commenters agree with the Commission's preliminary finding in the NOPR that transparency reform is needed. Appian Way states that greater transparency will allow issues to be resolved more quickly and efficiently in the contexts of enforcement and stakeholder advocacy.³⁷ ELCON states that uplift payments and the reasons behind them are not currently transparent, and that transparency is essential no matter the size of the uplift or the cause.³⁸ ELCON cites analysis from an August 2014 Commission Staff paper that outlined the potential benefits of additional transparency.³⁹ Competitive Suppliers state that they strongly support the proposed transparency provisions, and assert that increased transparency could lead to reductions in uplift.⁴⁰ R Street Institute states that price formation visibility in energy and ancillary services markets is very important for efficient market functionality and comments that each of the Commission's proposed requirements is reasonable.⁴¹ Exelon notes that transparency around uplift

and the actions that cause uplift is an important step to minimizing system uplift costs, and that by allowing visibility into the causes, location, and frequency of uplift payments, market participants will have the information necessary to advocate effectively for improvements to the RTO/ISO operational procedures and market rules and, more importantly, to discover and invest in cost-saving opportunities.⁴² Financial Marketers Coalition state that transparency is critical to a well-functioning organized market because it is the key to proper price signals.⁴³

24. Several commenters express general support for the proposed transparency reforms, but do not comment in-depth on the need for reform.⁴⁴ Several other commenters acknowledge a need for reform, but are reserved in expressing support. APPA and NRECA state that they have long supported additional transparency in the RTO/ISO markets and do not oppose the proposed requirements, but they caution the Commission not to overstate any potential outcomes, such as incenting market participants to advocate for changes to operational procedures or incenting investments. They add, however, that there is still value in making the information available.⁴⁵ MISO Transmission Owners state that enabling market participants to gain additional information regarding the causes, frequency, and costs of out-of-market actions and associated uplift costs will enhance market efficiency.⁴⁶ But they strongly oppose requiring reporting of resource-specific information related to uplift payments, stating that such reporting would have an anti-competitive effect on the market, and would work counter to the Commission's transparency goals articulated in the NOPR.⁴⁷ Potomac Economics states that, in general, it supports transparency. However, Potomac Economics asserts that immediate release of uplift information is not important for transparency because uplift is a settlement process.⁴⁸ Several commenters raise concerns about other specific elements of the proposal but do not generally oppose

the proposed transparency requirements.⁴⁹

25. CAISO states that it supports greater market transparency but argues that its existing reporting practices on uplift payments and exceptional dispatch provide sufficient transparency, and that additional reporting would be overly burdensome and problematic for CAISO.⁵⁰

26. The Commission also proposed in the NOPR to require that each RTO/ISO that currently allocates the costs of real-time uplift to deviations allocate such real-time uplift costs only to those market participants whose transactions are reasonably expected to have caused the real-time uplift costs. Although some commenters support the proposed uplift allocation reforms,⁵¹ others broadly oppose the proposed reforms.⁵² Still others, while not expressing outright opposition, raise significant concerns about whether a generic approach to the issue is merited, or find flaws in major elements of the uplift allocation proposal.⁵³

B. Determination

27. Based on our analysis of the record in this proceeding, we adopt the preliminary findings related to transparency in the NOPR and conclude that the existing RTO/ISO practices of reporting uplift, operator-initiated commitments, and transmission constraint penalty factors are insufficiently transparent, resulting in rates that are unjust and unreasonable. We find that the current reporting on uplift is insufficient because no RTO/ISO currently reports uplift on a resource-specific basis. Some RTOs/ISOs do not report uplift by zone, and some do not report in a machine-readable format. Additionally, reporting on operator-initiated commitments is insufficient because some RTOs/ISOs do not report the reasons for these commitments, the zones in which the

⁴⁹ EEI Comments at 6–10; ISO–NE Comments at 42; PJM Market Monitor Comments at 9; SPP Comments at 4–5.

⁵⁰ CAISO Comments at 2–3.

⁵¹ See, e.g., Appian Way Comments at 3–7; Direct Energy Comments at 1–10; Diversified Trading/eXion Energy Comments at 4–5; EEI Comments at 3–6; ELCON Comments at 5–9; Financial Marketers Coalition Comments at 17–36; Golden Spread Comments at 6–10; MISO Transmission Owners Comments at 5; Potomac Economics Comments at 3–10; XO Energy Comments at 3–53; R Street Institute Comments at 2–4.

⁵² See, e.g., CAISO Comments at 3–10; Calpine Comments at 2–7; ISO–NE Comments at 4–41; PJM Comments at 2–10; PJM Market Monitor Comments at 1–9; SPP Comments at 2–3; SPP Market Monitor Comments at 2–3.

⁵³ See, e.g., CAISO Market Monitor Comments at 1–10; Exelon Comments at 4–7; IRC Comments at 2–6; PG&E Comments at 3–6; TAPS Comments at 2–8.

³⁵ NOPR, FERC Stats. & Regs. ¶ 32,721 at PP 77–79.

³⁶ *Id.* P 80.

³⁷ Appian Way Comments at 1, 8.

³⁸ ELCON Comments at 4.

³⁹ *Id.* at 10 (citing FERC, *Staff Analysis of Uplift in RTO and ISO Markets*, Docket No. AD14–14, at 28 (2014), <https://www.ferc.gov/legal/staff-reports/2014/08-13-14-uplift.pdf> (Staff Analysis of Uplift)).

⁴⁰ Competitive Suppliers Comments at 8.

⁴¹ R Street Institute Comments at 5–6.

⁴² Exelon Comments at 9.

⁴³ Financial Marketers Coalition Comments at 36–37.

⁴⁴ Golden Spread Comments at 11–12; MISO Comments at 2; NYISO Comments at 5, 12; PJM Comments at 11; PJM Market Monitor Comments at 9; Potomac Economics Comments at 11, 13; SPP Market Monitor Comments at 3.

⁴⁵ APPA and NRECA Comments at 12–13.

⁴⁶ MISO Transmission Owners Comments at 5.

⁴⁷ *Id.* at 6–11.

⁴⁸ Potomac Economics Comments at 11.

commitments are made, or information about the size of the system needs for which resources are committed. Finally, some RTOs/ISOs do not include transmission constraint penalty factor values in their tariffs, and most do not include practices related to the use of transmission constraint penalty factors in their tariffs. This Final Rule will remedy these deficiencies and is therefore necessary to achieve a level of transparency that will result in just and reasonable rates.

28. As described above, the transparency proposal received a broad level of support from commenters. CAISO is the singular commenter to oppose the proposed transparency reforms outright. CAISO states that its reporting practices are sufficient and that the burden of additional reporting would outweigh the benefits of the proposed reforms. As explained below, we disagree that existing transparency practices are sufficient. We do, however, modify the proposed transparency requirements to reduce the potential burden of the reforms and to address commenters' other concerns including the potential disclosure of commercially-sensitive information and the transparency value of consistent reporting. These modifications are discussed below in the subsections dealing with each requirement.

29. Based on our analysis of the record in this proceeding, we decline to adopt the preliminary finding related to uplift cost allocation in the NOPR. We continue to believe that uplift should ideally be allocated to those market participants whose transactions caused the uplift and that allocations of uplift costs should avoid penalizing behavior that can improve price formation. That said, some commenters raised substantial concerns about the uplift cost allocation reforms proposed in the NOPR. They expressed concern about the application of the NOPR proposal to certain RTOs/ISOs in light of the reasons for uplift in these markets, and whether certain RTOs/ISOs would be able to implement the generic uplift cost allocation reforms proposed in the NOPR. We find those concerns sufficiently persuasive to decline to take generic action at this time. Accordingly, we withdraw the NOPR proposal to require that each RTO/ISO that currently allocates the costs of real-time uplift to deviations allocate such real-time uplift costs only to those market participants whose transactions are reasonably expected to have caused the real-time uplift costs.

IV. Transparency Reforms

30. Having concluded that the existing transparency practices result in rates that are not just and reasonable, section 206 of the Federal Power Act requires that the Commission determine the practices that will result in rates that are just and reasonable.⁵⁴ We direct each RTO/ISO to establish in its tariff the following three requirements related to uplift reporting and one requirement related to transmission constraint penalty factors.

31. Each RTO/ISO must post a monthly Zonal Uplift Report of all uplift, paid in dollars, and categorized by transmission zone, day, and uplift category. We define transmission zone as a geographic area that is used for the local allocation of charges, such as a load zone that is used to settle charges for energy. Transmission zones with fewer than four resources may be aggregated with one or more neighboring transmission zones, until each aggregated zone has at least four resources, and reported collectively. This report must be posted in machine-readable format on a publicly-accessible portion of the RTO's/ISO's website within 20 calendar days of the end of each month.

32. Each RTO/ISO must post a monthly Resource-Specific Uplift Report containing the resource name and total amount of uplift paid in dollars aggregated across the month to each resource that received uplift payments. This report must be posted in machine-readable format on a publicly-accessible portion of the RTO's/ISO's website within 90 calendar days of the end of each month.

33. Each RTO/ISO must post a monthly Operator-Initiated Commitment Report listing the commitment size, transmission zone, commitment reason, and commitment start time of each operator-initiated commitment. We define an operator-initiated commitment as a commitment made after the day-ahead market for a reason other than minimizing the total production costs of serving load. Commitment reasons shall include, but are not limited to, system-wide capacity, constraint management, and voltage support. This report must be posted in machine-readable format on a publicly accessible portion of the RTO's/ISO's website within 30 calendar days of the end of each month.

34. Each RTO/ISO must follow the Transmission Constraint Penalty Factor requirements to include, in its tariff, its transmission constraint penalty factor

values; the circumstances, if any, under which the transmission constraint penalty factors can set LMPs; and the procedure, if any, for temporarily changing the transmission constraint penalty factor values. Any procedure for temporarily changing transmission constraint penalty factor values must provide for notice of the change to market participants as soon as practicable.

35. The Zonal Uplift Report is discussed in section IV.A. The Resource-Specific Uplift Report is discussed in section IV.B. The Operator-Initiated Commitment Report is discussed in section IV.C. The Transmission Constraint Penalty Factor Requirements are discussed in section IV.D.

A. Zonal Uplift Report

1. NOPR Proposal

36. In the NOPR, the Commission proposed to require each RTO/ISO to post a report of the uplift paid in dollars and categorized by transmission zone, day, and uplift category. The Commission proposed to define transmission zone as the geographic area that is used for the local allocation of charges. The Commission proposed to allow transmission zones with fewer than four resources to be aggregated with a neighboring zone and reported collectively. The Commission further proposed to allow RTOs/ISOs to omit a transmission zone from reporting in a given month if it is the only zone and contains fewer than four resources or if, when combined with a neighboring transmission zone, the combined zones still have fewer than four resources. The Commission proposed to require that each RTO/ISO post the report on a publicly accessible portion of its website within 20 calendar days of the end of each month.⁵⁵

37. The Commission reasoned that with more granular information on locations, amounts, and types of uplift, market participants would be able to better evaluate possible solutions to reduce the incurrence of uplift.⁵⁶ In proposing to allow RTOs/ISOs to aggregate and collectively report transmission zones with fewer than four resources and to exempt from reporting aggregated zones with fewer than four resources, the Commission sought to balance the benefits of greater transparency with concerns about the potential disclosure of commercially-

⁵⁵ NOPR, FERC Stats. & Regs. ¶ 32.721 at Regulatory Text.

⁵⁶ *Id.* P 84.

⁵⁴ 16 U.S.C. 824e.

sensitive information.⁵⁷ In proposing a 20-day maximum reporting lag, the Commission sought to allow RTOs/ISOs sufficient time to prepare uplift data for publication after completion of their settlement windows, which vary among RTOs/ISOs.⁵⁸

38. The Commission requested comments regarding: (1) The proposed definition of transmission zone, including the appropriate level of geographic granularity;⁵⁹ (2) the timeframe for releasing the report after the end of each month;⁶⁰ and (3) the proposed requirement for a daily breakdown of uplift categories by charge code, including any difficulties related to such reporting and whether different categorizations would be more useful.⁶¹

2. Comments

39. Numerous commenters support the proposed requirement for RTOs/ISOs to report daily uplift payments by transmission zone and uplift category.⁶² ELCON asserts that uplift payments inherently lack transparency because they are not included in market prices, and that increased information could promote the identification of system needs and facilitate investment.⁶³ Designated Marketers state that market participants lack information necessary to invest in generation, transmission, or demand response that could prevent uplift.⁶⁴ Diversified Trading/eXion Energy, Exelon, and Golden Spread all argue that additional information on the causes of uplift will also allow market participants to evaluate RTO/ISO uplift practices and raise concerns through stakeholder processes.⁶⁵ While sympathetic to confidentiality concerns, Competitive Suppliers assert that each RTO/ISO can provide more information on the causes of uplift, and point to NYISO's reporting practices as an example demonstrating that increased

transparency can be achieved without compromising confidentiality.⁶⁶ Competitive Suppliers and Financial Marketers Coalition assert that the proposed uplift report will ensure consistent disclosure of uplift information among RTOs/ISOs.⁶⁷

40. Other commenters either do not support the proposed zonal uplift report requirement⁶⁸ or state that they support the goals of improved transparency into RTO/ISO uplift costs but raise concerns about specific elements of the proposed report,⁶⁹ as discussed below.

a. Zonal Definition

41. Responding to the Commission's request for comment on the proposed definition of "transmission zone" as a geographic area that is used for the local allocation of charges,⁷⁰ several RTOs/ISOs provide descriptions of the geographic granularity of their current reporting. ISO-NE states that it reports uplift based on how costs are allocated: Uplift allocated at the system level is reported on a system-wide basis; uplift allocated regionally is reported regionally. ISO-NE states that it also reports uplift by Reliability Region, which are equal to load zones used in energy settlement. ISO-NE believes it complies with the NOPR proposal, but requests that the Commission clarify that RTOs/ISOs may propose to report uplift costs for regions that differ from "transmission zone," if appropriate.⁷¹ PJM states that it currently reports uplift by transmission zone and supports the proposed definition as long as it can use its current zones.⁷² MISO states that it reports uplift differently depending on the uplift category. For uplift incurred to manage transmission constraints, MISO reports by constraint. MISO reports voltage and local reliability uplift by transmission interface and MISO region (*i.e.*, North, South, and Central). MISO argues that a lesser degree of geographic granularity is appropriate to mask "transmission zones" with few market participants. MISO states that it supports the proposed definition.⁷³ NYISO notes that it allocates uplift by Transmission District subzones.⁷⁴

42. Other commenters generally differ on the level of geographic granularity that should be reported. MISO Transmission Owners state that the proposed definition of "transmission zone" is unclear and could be susceptible to multiple interpretations. MISO Transmission Owners assert that the Commission should direct each RTO/ISO to develop a definition of transmission zone through its stakeholder process that considers regional needs and ensures that all zones are large enough to ensure that resource-specific uplift payments cannot be calculated based on daily uplift payment reports.⁷⁵ Several commenters argue for more granular reporting.⁷⁶ R Street Institute states that uplift reporting at the sub-zonal level would be useful because causes can vary within a zone, particularly with respect to transmission congestion, but notes that more granular reporting may lead to confidentiality concerns and opportunities for collusion.⁷⁷ XO Energy argues that the uplift data should be as granular as possible and that aggregation into large regions is not as useful.⁷⁸ Competitive Suppliers assert that the Commission's proposed reporting by transmission zone should allay any confidentiality concerns.⁷⁹

43. Commenters also differ on the proposal to allow RTOs/ISOs to aggregate and collectively report uplift in transmission zones with fewer than four resources.⁸⁰ NYISO supports the Commission's proposal to allow RTOs/ISOs to aggregate zones because the reporting of daily uplift payments by zone could, under some circumstances, allow competitors to deduce a resource's operating costs and gain a competitive advantage. However, NYISO seeks clarification on whether the rule references the total number of resources in the zone or the total number of resources in the zone that receive uplift payments in a given day.⁸¹ MISO Transmission Owners and NYISO argue that the aggregation should be based on the number of resources receiving uplift in order to protect confidentiality and avoid anti-competitive behavior concerns.⁸² MISO

load zone, which can span more than one load zone.

⁷⁵ MISO Transmission Owners Comments at 11–12.

⁷⁶ Financial Marketers Coalition Comments at 39; R Street Institute Comments at 5; XO Energy Replacement Comments at 34.

⁷⁷ R Street Institute Comments at 5.

⁷⁸ XO Energy Replacement Comments at 34.

⁷⁹ Competitive Suppliers Comments at 9.

⁸⁰ NOPR, FERC Stats. & Regs. ¶ 32,721 at P 89.

⁸¹ NYISO Comments at 6–7.

⁸² MISO Transmission Owners Comments at 12; NYISO Comments at 7.

⁵⁷ *Id.* PP 87–89.

⁵⁸ *Id.* P 88.

⁵⁹ *Id.* P 85.

⁶⁰ *Id.* P 86.

⁶¹ *Id.* P 86.

⁶² Appian Way Comments at 8; AWEA Comments at 10; Brookfield Comments at 2; Calpine Comments at 8; Competitive Suppliers Comments at 9; Designated Marketers Comments at 5; Direct Energy Comments at 10; Diversified Trading/eXion Energy Comments at 5; ELCON Comments at 9–10; Exelon Comments at 9; Financial Marketers Coalition Comments at 38; Golden Spread Comments at 11–12; PJM Comments at 11; PJM Market Monitor Comments at 9; R Street Institute Comments at 5; SPP Market Monitor Comments at 3; TAPS Comments at 8; XO Energy Replacement Comments at 1, 34.

⁶³ ELCON Comments at 9.

⁶⁴ Designated Marketers Comments at 5.

⁶⁵ Diversified Trading/eXion Energy Comments at 5; Exelon Comments at 9; Golden Spread Comments at 12.

⁶⁶ Competitive Suppliers Comments at 9.

⁶⁷ *Id.* at 9; Financial Marketers Coalition Comments at 38.

⁶⁸ CAISO Comments at 12–13.

⁶⁹ EEI Comments at 6; MISO Transmission Owners Comments at 5–6; NYISO Comments at 5.

⁷⁰ NOPR, FERC Stats. & Regs. ¶ 32,721 at P 85.

⁷¹ ISO-NE Comments at 42–43.

⁷² PJM Comments at 11.

⁷³ MISO Comments at 11–12.

⁷⁴ NYISO Comments at 6. NYISO explains that "subzones" are identified by investor-owned transmission owner service territories within each

Transmission Owners also note that the Commission did not explain why four is the appropriate number of resources on which to base the aggregation.⁸³ PJM and the PJM Market Monitor oppose the proposal to aggregate zones with fewer than four resources because the number of resources in a zone that receive uplift could change from month to month, resulting in inconsistent reporting, increased complexity, and decreased transparency.⁸⁴ PJM asserts that its current practice of reporting by zone, even if only one resource in a zone receives uplift, provides sufficient transparency while protecting market sensitive information.⁸⁵ EEI seeks clarification as to whether, for aggregation purposes, a resource is defined as an individual unit within a plant or the entire plant, noting that the former definition may not provide sufficient confidentiality under certain circumstances.⁸⁶

b. Categories

44. As noted above, numerous commenters provide general support for the proposed zonal uplift report, including the proposed requirement to report by uplift category. Three RTOs/ISOs state that they already report uplift by category. NYISO states that it reports uplift cost on a monthly basis by uplift cost category in its Operations Performance Metrics Monthly Reports.⁸⁷ MISO states that its Revenue Sufficiency Guarantee Report already breaks out uplift payment by category, which includes certain charge types as long as any market participant specific data is not apparent. MISO requests that the Commission consider the risks of unmasking aggregate data when contemplating a final rule requiring a daily breakdown of uplift categories by charge code.⁸⁸ ISO-NE states that its existing reports break out costs for its established uplift categories and therefore believes that it would comply with this provision.⁸⁹ PJM seeks clarification on the definition of charge code. PJM states that it currently indicates market participants' uplift charges by billing line item, and that if this is what the Commission means by "charge code," it does not object to continuing this practice.⁹⁰ Brookfield states that uplift categories based on the cause for committing units out-of-merit

would help identify market reforms to reduce the need for uplift payments.⁹¹ XO Energy asserts that aggregating data into large categories reduces its usefulness.⁹²

c. Timing and Burden

45. Several RTOs/ISOs discuss their existing uplift reporting practices and timing, as well as the level of additional burden that would be required to meet the proposed requirements. ISO-NE states that its existing reports appear to satisfy most of the proposed requirements and that implementation of any new requirements should be relatively simple. ISO-NE believes that 20 days is sufficient time for monthly uplift reporting.⁹³ NYISO states that while it already reports uplift costs by category on a monthly basis, it would need to revise its processes for developing and posting its report, including posting in a machine-readable format.⁹⁴ MISO states that its daily uplift report that is posted eight days after the operating day and broken out by hour, category, and transmission constraint provides sufficient information on areas that need transmission upgrades and supply resources.⁹⁵ PJM states that its current uplift reports provide more details, such as totals by type of uplift credit, than those proposed by the Commission and are posted within seven business days of the end of each month. PJM consequently requests, and Calpine concurs, that it may continue to post the additional details and that the proposed timeline be a minimum standard.⁹⁶ CAISO states that it already provides significant transparency on uplift payments on a monthly basis. CAISO argues that the proposed requirements would be costly to implement and could interfere with other initiatives. CAISO further asserts that the proposed requirement to post uplift payment data within 20 days of the end of the month is unreasonable, given CAISO's existing reporting requirements and the verification necessary to ensure accurate reporting. CAISO requests that, if the Commission were to impose these reporting requirements, it be allowed to include the requested information in the monthly reports it already produces and posts at the end of the month following the month of reported data.⁹⁷

46. XO Energy responds to several of CAISO's arguments. It notes that CAISO's current uplift reports contain only charts, with no mechanism to extract the raw data.⁹⁸ XO Energy generally asserts that uplift should be reported at the same time it is settled and specifically points out that CAISO settles uplift three days after the operating day, and therefore should be able to post the uplift data within 20 days of the end of the month.⁹⁹ XO Energy suggests that if the proposed detailed reports are too time-consuming to produce quickly, RTOs/ISOs should post a simple spreadsheet on their website while their systems are being updated.¹⁰⁰

d. Other Issues

47. Direct Energy requests that the Commission clarify that the transparency provisions apply to all uplift costs, not just those resulting in allocations to deviations from day-ahead schedules.¹⁰¹

48. EEI and MISO Transmission Owners assert that the proposed report would primarily benefit market participants, so in order to protect market participants' confidentiality, the information should be posted on a password-protected portion of an RTO's/ISO's website, rather than made publicly available.¹⁰² Designated Marketers, on the other hand, support the proposed requirement that RTOs/ISOs post the uplift information in a machine-readable format on an accessible portion of the RTO/ISO website. Designated Marketers argue that information that is not machine-readable can reduce transparency by inhibiting data processing and may disadvantage those that do not have access to electronic versions of the data through other channels.¹⁰³

49. Exelon suggests that, in addition to the proposed reporting requirements, the Commission also require RTOs/ISOs to submit a one-time report covering the years 2012 through 2016 that identifies uplift categories and provide the aggregate uplift cost associated with each category.¹⁰⁴

3. Determination

50. We adopt the proposal that each RTO/ISO report, in the Zonal Uplift Report, the total daily uplift payments

⁸³ MISO Transmission Owners Comments at 12.

⁸⁴ PJM Comments at 12; PJM Market Monitor Comments at 9–10.

⁸⁵ PJM Comments at 12.

⁸⁶ EEI Comments at 8.

⁸⁷ NYISO Comments at 6.

⁸⁸ MISO Comments at 11.

⁸⁹ ISO-NE Comments at 42.

⁹⁰ PJM Comments at 12.

⁹¹ Brookfield Comments at 2.

⁹² XO Energy Replacement Comments at 34.

⁹³ ISO-NE Comments at 43.

⁹⁴ NYISO Comments at 5–6.

⁹⁵ MISO Comments at 11.

⁹⁶ Calpine Comments at 8; PJM Comments at 13.

⁹⁷ CAISO Comments at 12–13.

⁹⁸ XO Energy Reply Comments at A–2.

⁹⁹ XO Energy Replacement Comments at 34; XO Energy Reply Comments at A–3.

¹⁰⁰ XO Energy Replacement Comments at 34.

¹⁰¹ Direct Energy Comments at 10.

¹⁰² EEI Comments at 7; MISO Transmission Owners Comments at 13.

¹⁰³ Designated Marketers Comments at 8.

¹⁰⁴ Exelon Comments at 9–10.

in dollars in each category paid to the resources in each transmission zone, subject to modifications and clarifications discussed below. We find that current RTO/ISO practices do not provide sufficient transparency regarding uplift payments. Because uplift payments are not included in publicly available market prices, they inherently lack transparency and must be reported separately to show the cost of serving load and maintaining a reliable electric system. As stated in the NOPR, access to information on uplift payments may allow market participants to evaluate possible solutions to reduce the incurrence of uplift.¹⁰⁵ We find that the basis for this requirement, as outlined in the NOPR, remains compelling. The Zonal Uplift Report will provide granular information about the location, timing, and causes of uplift. Such information will facilitate more informed stakeholder discussions that support planning processes, improve the ability of market participants to raise concerns with RTO/ISO uplift payments, and support cost-effective solutions to system needs by allowing market participants to make more informed investment decisions. Over the long term, improved RTO/ISO practices and additional investment may lead to reduced uplift payments and increased market efficiency. PJM's recent report summarizing market outcomes during the December 28, 2017–January 7, 2018 cold snap provides an example of timely reporting of uplift cost information. PJM's report identifies uplift cost by category, by day, and by resource type, identifying the days when specific uplift categories were greatest.¹⁰⁶ PJM uses these data to suggest potential areas for improvement. We note that the report was issued February 26, 2018, less than two months after the end of the cold weather events. The uplift data provided in the report, which is consistent with the data required in this Final Rule, illustrates the type of information that market participants and interested stakeholders could use to understand how RTO/ISO markets operate during stressful system conditions and provide a basis for a stakeholder discussion about potential market reforms. The requirements of this Final Rule will ensure that market participants have access to uplift

information in a consistent format on an ongoing basis.

51. We address commenters' concerns regarding the Zonal Uplift Report below.

52. We adopt the definition proposed in the NOPR of "transmission zone" as a geographic area that is used for the local allocation of charges, such as a load zone that is used to settle charges for energy. We find that this level of geographic reporting will improve transparency by providing more specific information about the location of system needs. For instance, understanding that a particular category of uplift is concentrated in a limited area could provide information about the nature of the reliability need or could inform discussions about uplift cost allocation.

53. Some commenters argue that RTOs/ISOs should be permitted to define transmission zones more broadly because daily uplift payments in combination with other public information could be used to derive a resource's energy offer or cost information, which some characterize as confidential because it is commercially sensitive. Commenters assert that the revelation of cost or offer data could lead to collusion or gaming. We recognize that it may be possible, under specific circumstances, to deduce an individual resource's daily uplift payments by using the information provided in the Zonal Uplift Report and Resource-Specific Uplift Report. For instance, if the Resource-Specific Uplift Report makes clear that only one resource within a zone has received uplift during a given month, and if that resource has only one generating unit, then the Zonal Uplift Report would reveal the resource's daily uplift payments. This information could be used with knowledge of the resource's output and publicly-available data on LMPs to estimate the resource's energy offer or cost.¹⁰⁷ We understand commenters' concern to be that if a resource's offer or costs are revealed, another resource owner could increase its own offer above its costs in a manner that would be inconsistent with a competitive market.

54. Out of an abundance of caution and as discussed below, we delay the timing of Resource-Specific Uplift report to allow a 90-day time lag in releasing the Resource-Specific Uplift Report¹⁰⁸ to reduce the likelihood that

the information could be used to harm competition or individual market participants. We also point out that additional transparency may deter collusion and gaming and provide a means for anti-competitive behavior to be identified and addressed more quickly. As commenters suggest, market participants may use the information provided by the reports to call attention to potential market issues.

55. In the NOPR, we recognized that RTOs/ISOs may have very small transmission zones, and sought to balance the benefits of greater transparency with concerns about revealing daily resource-specific uplift information by (1) allowing RTOs/ISOs to aggregate any transmission zone containing fewer than four resources with a neighboring zone and report them collectively, and (2) exempting from reporting any combined transmission zone with fewer than four resources.

56. In response to comments, we clarify that any aggregation should be based on the number of resources located in the zone rather than the number of resources in the zone that receive uplift payments in a given reporting period. As noted by PJM and the PJM Market Monitor, aggregating based on the number of resources that receive uplift payments could lead to different zonal aggregations from month to month and inconsistent zonal reporting, which would add complexity and reduce transparency.¹⁰⁹ Aggregation based on the number of resources located in a zone will ensure a consistent zonal definition from month-to-month, which we would only expect to change with the addition or retirement of resources. We find that aggregating transmission zones to achieve a minimum of four resources addresses concerns that individual resource uplift payments could be deduced from the report. We reason that if a zone has at least four resources, there will be enough possibilities of which resource or resources received uplift that it will be unlikely that the Zonal Uplift Report alone will reveal individual resources' uplift payments.

57. We also clarify that, for the purpose of zonal aggregation, the term "resource" refers to an entire generating facility and not each individual unit within a plant. We agree with EEI that if a transmission zone contained, for example, a single power plant with four units, aggregation with a neighboring

modify the lag to 90 days for the Resource-Specific Uplift Report.

¹⁰⁹ PJM Comments at 12; PJM Market Monitor Comments at 10.

¹⁰⁵ NOPR, FERC Stats. & Regs. ¶ 32,721 at PP 78, 84.

¹⁰⁶ PJM, *PJM Cold Snap Performance, Dec. 28, 2017 to Jan. 7, 2018*, 27–30 (Feb. 26, 2018), <http://www.pjm.com/-/media/library/reports-notice/weather-related/20180226-january-2018-cold-weather-event-report.ashx> (PJM Cold Snap Performance Report).

¹⁰⁷ We note that such estimates may be imprecise, as they would likely rely on additional assumptions such as the relative values of the start-up, no-load or minimum load, and incremental energy components of the resource's offer.

¹⁰⁸ In the NOPR, we proposed to require a 20-day lag for both uplift reports. As discussed below, we

zone would be necessary to avoid the possibility that the zonal uplift report alone could reveal the plant's daily uplift payments.

58. We also modify the permissible level of aggregation. The proposal in the NOPR to allow a transmission zone with fewer than four resources to be aggregated with a single neighboring zone and to exempt from the reporting requirement any aggregated zone that still contains fewer than four resources could result in a zone that is permanently exempted from reporting, in light of the clarification above. Instead, we will allow RTOs/ISOs to aggregate transmission zones containing fewer than four resources with *one or more* neighboring zones in such a manner that all aggregated zones have at least four resources. Allowing such aggregation obviates the need for any aggregated zone to be exempted from the reporting requirement. This modification preserves the intended protections of the aggregation proposed in the NOPR while closing a potential reporting gap.

59. On balance, our definition of transmission zone and the associated aggregation protections provide the transparency benefits of geographically granular uplift information while minimizing the risk of harm to the market from the potential disclosure of commercially-sensitive information. However, we acknowledge that RTOs/ISOs may have multiple existing types of zones that could meet our definition. On compliance, we require each RTO/ISO to include in its tariff the type of zone that it proposes to use in its Zonal Uplift Report and explain how the chosen type of zone meets the definition of transmission zone adopted in this Final Rule, as well as explain any proposal to aggregate transmission zones that fits the characteristics described above. While our definition of transmission zone provides RTOs/ISOs a level of flexibility, we note that transmission zones are defined as areas that are used for the *local* allocation of charges; therefore, we expect each RTO/ISO to propose transmission zones that provide an appropriate level of geographic granularity.

60. We adopt the NOPR proposal to require the reporting of zonal uplift by category. As noted above, numerous commenters express support for this proposal, and several RTOs/ISOs already report such information. Reporting the causes of uplift in each transmission zone on each day will help market participants understand the relationship between system conditions, location, and reasons that uplift is incurred. Market participants will

therefore be better equipped to raise concerns about RTO/ISO uplift payments and direct appropriate infrastructure investment to reduce the need for a given type of uplift payment. No commenters opposed including categories in the Zonal Uplift Report. As mentioned in the NOPR, we expect the categories to be based on the RTO/ISO uplift charge codes.¹¹⁰ For RTOs/ISOs that do not use the term "charge codes," we clarify that "charge codes" refers to individual charges for settlement purposes. We expect that basing uplift categories on existing charge codes will ease the potential reporting burden on RTOs/ISOs.

61. With respect to timeliness of reporting, we adopt the NOPR proposal to require that each RTO/ISO post this Zonal Uplift Report within 20 calendar days of the end of the month. However, in response to CAISO's concern on this issue, on compliance we will consider proposals with longer timelines if an RTO/ISO demonstrates that the 20-day deadline does not provide an RTO/ISO with sufficient time to compile the report given its existing uplift settlement and reporting timelines.

62. Regarding other issues raised by commenters with respect to this report, in response to Direct Energy we confirm that RTOs/ISOs must report all uplift payments to resources and not just those resulting from deviations from day-ahead schedules in both the Zonal Uplift Report and the Resource-Specific Uplift Report. We also confirm that RTOs/ISOs may choose to report more information and/or to report more promptly. We adopt the NOPR proposal to require each RTO/ISO to publish the two uplift reports, the Zonal Uplift Report and the Resource-Specific Uplift Report, in a machine-readable format on a publicly accessible, rather than password-protected, portion of its website. As discussed above, we are not persuaded that the potential revelation of a resource's uplift payments, subject to the discussed protections, would result in harm to competition or to market participants. Moreover, while we have discussed the benefits in the context of existing market participants, we find that other stakeholders such as third-party researchers, potential future market participants, and ratepayers may also benefit from public availability of this data. Finally, while we recognize the potential transparency benefits of the historical uplift report requested by Exelon, we find that it goes beyond the scope of this rulemaking and decline to require it here.

¹¹⁰ NOPR, FERC Stats. & Regs. ¶ 32,721 at P 86.

B. Resource-Specific Uplift Report

1. NOPR Proposal

63. In the NOPR, the Commission proposed to require each RTO/ISO to post a monthly report containing the resource name and total amount of uplift paid in dollars aggregated across the month to each resource that received uplift payments. The Commission proposed to require that the report be posted on a publicly-accessible portion of each RTO's/ISO's website within 20 calendar days of the end of each month.¹¹¹

64. The Commission reasoned that with more granular information on the location and amounts of uplift, market participants may be able to better evaluate possible solutions to reduce the incurrence of uplift.¹¹² The Commission sought to mask daily uplift payments by requiring that resource-specific uplift payment data be aggregated across the month.¹¹³

65. The Commission requested comments on: (1) Whether these resource-specific reports should also be broken out by uplift category, be reported using a different time duration, or contain other additional details;¹¹⁴ and (2) whether 20 calendar days after the end of the month was a reasonable timeframe for releasing the information.¹¹⁵

2. Comments

66. Many commenters generally support¹¹⁶ or state that they are not opposed¹¹⁷ to the NOPR proposal for a resource-specific monthly report. Appian Way notes that some RTOs/ISOs have indicated that most uplift costs are attributed to a few units, and that the Commission's Office of Enforcement has brought cases alleging inflated uplift costs for certain units. Appian Way believes that improved transparency into which units receive uplift would allow market participants to advocate for solutions and call attention to these

¹¹¹ *Id.* at Regulatory Text.

¹¹² *Id.* P 84.

¹¹³ *Id.* P 89.

¹¹⁴ *Id.* P 83.

¹¹⁵ *Id.* P 86.

¹¹⁶ Appian Way Comments at 8; AWEA Comments at 10; Brookfield Comments at 2; Calpine Comments at 8; Designated Marketers Comments at 5-6; Direct Energy Comments at 10; Diversified Trading/eXion Energy Comments at 5; Exelon Comments at 9; Financial Marketers Coalition Comments at 39; Golden Spread Comments at 11-12; NYISO Comments at 5; PJM Market Monitor Comments at 10; R Street Institute Comments at 5; TAPS Comments at 8; XO Energy Replacement Comments at 34.

¹¹⁷ ISO-NE Comments at 43; PJM Comments at 11.

issues more quickly and efficiently.¹¹⁸ Golden Spread similarly argues that the more information that is available to all market participants, and not just market operators, the faster market imperfections can be removed.¹¹⁹ Brookfield and Exelon state that more granular and comprehensive data would help market participants identify and address root causes of uplift.¹²⁰ Financial Marketers Coalition agree that if details on uplift payments are not presented, it is unlikely uplift drivers will be identified and displaced through competition.¹²¹ Similarly, XO Energy agrees that the usefulness of data will be reduced if it is aggregated.¹²²

67. On the other hand, MISO and MISO Transmission Owners assert that the benefits of the resource-specific report are unclear. MISO Transmission Owners state the Commission does not explain why resource-level information is necessary and why the other transparency reforms are insufficient to meet the Commission's goals. Moreover, they contend market participants do not need to know resource-level information to understand RTO/ISO actions and react properly to them.¹²³ MISO Transmission Owners point out that market monitors can use confidential data to propose fixes for market design flaws.¹²⁴ MISO similarly asserts that it is unnecessary to disclose resource-specific uplift information beyond its current processes. MISO and MISO Transmission Owners assert that the value of publicly disclosed information may be outweighed by its risk of harm to the markets.¹²⁵ MISO Transmission Owners argue that continuing to require public utilities to report uplift payments in EQR while also implementing this proposal would provide no additional benefit and would be duplicative.¹²⁶

a. Confidentiality

68. Some commenters highlight concerns around confidentiality and the release of data in a resource-specific monthly report. MISO Transmission Owners and Potomac Economics raise the concern that a resource-specific report could allow the discovery of a resource's sensitive cost information or

lead to some form of collusion among suppliers.¹²⁷ MISO Transmission Owners argue there may be instances when market participants and competitors could derive sensitive resource cost information by combining resource-specific uplift with settlement LMPs and backing out costs.¹²⁸ MISO Transmission Owners and EEI argue that monthly aggregation may not sufficiently mask daily uplift payments if a unit is infrequently paid uplift or committed out-of-market within a month.¹²⁹ MISO echoes this concern, arguing that the Commission should consider the effect of resource energy offers, which may be used for anti-competitive purposes such as gaming.¹³⁰ Potomac Economics argues that releasing uplift payment information with only a minimal lag could allow for tacit or explicit collusion among suppliers.¹³¹ MISO and SPP state that resources' uplift information is considered confidential in their regions.¹³² PJM does not oppose the NOPR proposal, but notes stakeholder concerns that resource-specific uplift reporting could reveal market-sensitive information such as bidding strategies.¹³³ The SPP Market Monitor contends that identifiable information for resources should not be released.¹³⁴

69. Several commenters provide suggestions for protecting resources' confidential information. EEI and MISO Transmission Owners argue that because the Commission has only identified benefits for market participants, the resource-specific uplift information should be available only to market participants.¹³⁵ Moreover, they argue the data should be posted to a password-protected portion of the RTO's/ISO's website.¹³⁶ MISO Transmission Owners further state that the data should only be accessible to those market participants that have shown a need to access the information and have signed a confidentiality agreement.¹³⁷ Competitive Suppliers state that uplift information should be

reported on a MW basis rather than a unit-specific basis.¹³⁸ EEI suggests that the Commission allow RTOs/ISOs to determine the level of transparency needed to protect commercially sensitive information.¹³⁹

70. MISO Transmission Owners, EEI, and Potomac Economics all comment that if a resource-specific report is adopted, a final rule should increase the lag time for releasing the report or should aggregate the data over a longer time period. Potomac Economics asserts that an immediate release of uplift information does not improve transparency because uplift is a settlement process and market participants cannot take economic actions to reduce uplift costs. Potomac Economics also believes the proposed 20-day lag is too short to ensure competition will not be adversely affected and recommends at least a three-month lag, which it asserts will not diminish the transparency value of the report.¹⁴⁰ MISO Transmission Owners agree that three months is the appropriate lag for reporting any resource-specific report on uplift payments, noting that this reporting timing has been in effect for some time for EQR.¹⁴¹ EEI suggests that uplift information be aggregated over the quarter and reported quarterly, in order to lessen the ability of market participants to deduce resources' offers while providing an appropriate level of transparency.¹⁴²

71. Multiple commenters argue that the proposed monthly aggregation for reporting is sufficient to reduce data and resource confidentiality concerns. R Street Institute finds that monthly aggregation is reasonable and provides sufficient masking of daily offer behavior.¹⁴³ TAPS agrees that the proposal strikes the appropriate balance of increasing transparency against confidentiality and competition concerns.¹⁴⁴ In response to confidentiality concerns, XO Energy notes that resource-specific uplift information is already publicly reported in EQR.¹⁴⁵ Financial Marketers Coalition states that RTOs/ISOs should be able to mask, rather than withhold from the market, particularly sensitive information such as bid data, but asserts that uplift payments are not a competitive aspect of the market and

¹²⁷ *Id.* at 6–7; Potomac Economics Comments at 11.

¹²⁸ MISO Transmission Owners Comments at 6–7.

¹²⁹ EEI Comments at 8; MISO Transmission Owners Comments at 7.

¹³⁰ MISO Comments at 13; PJM Comments at 11.

¹³¹ Potomac Economics Comments at 11.

¹³² MISO Comments at 13; SPP Comments at 3 (citing Attachment AE, Section 11).

¹³³ PJM Comments at 11.

¹³⁴ SPP Market Monitor Comments at 3.

¹³⁵ EEI Comments at 7; MISO Transmission Owners at 13.

¹³⁶ EEI Comments at 7; MISO Transmission Owners Comments at 13.

¹³⁷ MISO Transmission Owners Comments at 13.

¹³⁸ Competitive Suppliers Comments at 9.

¹³⁹ EEI Comments at 8–9.

¹⁴⁰ Potomac Economics Comments at 11.

¹⁴¹ MISO Transmission Owners Comments at 10–11.

¹⁴² EEI Comments at 8.

¹⁴³ R Street Institute Comments at 5.

¹⁴⁴ TAPS Comments at 8.

¹⁴⁵ XO Energy Reply Comments at A–6, A–9.

¹¹⁸ Appian Way Comments at 8.

¹¹⁹ Golden Spread Comments at 12.

¹²⁰ Brookfield Comments at 2; Exelon Comments at 9.

¹²¹ Financial Marketers Coalition Comments at 38.

¹²² XO Energy Replacement Comments at 34.

¹²³ MISO Transmission Owners Comments at 7–8.

¹²⁴ *Id.* at 9–10.

¹²⁵ MISO Comments at 12–13; MISO Transmission Owners Comments at 8–9.

¹²⁶ MISO Transmission Owners Comments at 11.

should be made clear to market participants.¹⁴⁶ ELCON and EEI recommend allowing RTOs/ISOs flexibility to determine the appropriate balance between transparency and protecting sensitive information.¹⁴⁷

b. Categories and Additional Information

72. Several commenters responded to the Commission's request for comment on whether the resource-specific reports should be broken out by uplift category or contain other additional details.¹⁴⁸ The PJM Market Monitor supports specifying the category of uplift but does not agree that disclosing additional information beyond categories is necessary.¹⁴⁹ Direct Energy encourages requiring RTOs/ISOs to report additional information for each instance when uplift costs are incurred: the name of the unit receiving uplift; uplift category; timeframe of the binding constraint driving the uplift payment; timeframe of uplift earned; operating parameter creating the need for uplift; and total payment to the unit.¹⁵⁰ ISO-NE asserts that, for security reasons, public reporting of voltage-related uplift payments on a resource-specific basis should not be required.¹⁵¹

c. Other Comments

73. As discussed in more detail with respect to the zonal uplift report, CAISO argues that it already posts significant information on uplift payments monthly and contends the proposed reports and 20-day deadline would impose significant costs on CAISO. CAISO requests that the Commission allow CAISO to include any required additional uplift information in the monthly reports it already produces.¹⁵² Conversely, ISO-NE states that reporting uplift payments on a resource-specific level should be simple to implement.¹⁵³

3. Determination

74. We adopt the NOPR proposal and require each RTO/ISO to report the resource name and the total amount of uplift paid in dollars to each resource that received uplift payments within the calendar month. We find that this Resource-Specific Uplift Report provides additional transparency benefits beyond those provided by the

Zonal Uplift Report and existing uplift reporting requirements. Below, we discuss the benefits particular to this report and also address commenters' other concerns.

75. We find that the Resource-Specific Uplift Report will improve transparency into the causes of uplift. The Resource-Specific Uplift Report will complement the Zonal Uplift Report by providing more granular technology-type and geographic information, allowing market participants to identify potential system needs at specific locations that may not otherwise be revealed through price signals. The locational granularity of the required uplift report also mirrors the locational granularity of energy prices. We find that the two uplift reports in combination can improve market efficiency by providing information to market participants considering, for example, where to site new resources, transmission facilities, or demand response. In addition, as Appian Way notes, several RTOs/ISOs have previously indicated that uplift payments are concentrated and persistent among a few units, an observation corroborated by the Staff Analysis of Uplift.¹⁵⁴ As noted above, PJM's recent Cold Snap Performance Report illustrates the value of resource-specific uplift information. For instance, knowing that uplift was concentrated in combustion turbines rather than steam units¹⁵⁵ can provide insight regarding the nature of the system need that is being addressed through actions that lead to uplift. While MISO Transmission Owners argue that market monitors have access to resource-specific uplift data and are therefore already able to raise any issues, other commenters assert that disseminating resource-specific uplift information publicly would also allow market participants to call attention to such issues. We agree with the latter argument, as market participants, particularly those that may be allocated uplift costs, may be financially incentivized to advocate for solutions that reduce uplift costs. Market participants can also use this information to make investment decisions; this is something market monitors cannot do. Public release of this information may therefore result in faster or more efficient resolution to circumstances responsible for uplift which will help achieve just and reasonable rates.

76. MISO Transmission Owners argue that the Resource-Specific Uplift Report is duplicative with the requirement that

public utilities report uplift payments in EQR. EQR serves as a reporting mechanism for public utilities to fulfill their responsibility under section 205(c) of the Federal Power Act to have their rates and charges on file in a convenient form and place.¹⁵⁶ While EQR facilitates price transparency, the Commission has not required uplift to be reported at the level of granularity necessary to meet the price formation objectives of this proceeding. Depending on the granularity of the information reported by the filer, and whether the filer reports its EQR as a single resource, resource level uplift information is sometimes reported in EQR. The Resource-Specific Uplift Report would include information about specific resources, which is not currently required by EQR. For instance, the Staff Analysis of Uplift shows that EQR data contain lower total uplift payments and fewer locations reported than do non-public RTO/ISO uplift data.¹⁵⁷ Therefore, we find that the Resource-Specific Uplift Report is not duplicative and provides additional transparency benefits that could not be fully achieved under existing EQR filing requirements.

77. Several commenters continue to express concern that the Resource-Specific Uplift Report could, in conjunction with other information, unintentionally reveal a resource's daily uplift payments, energy offer, or cost information, which some characterize as confidential because it is commercially sensitive. As noted above, it may be possible, under specific circumstances, for a market participant to estimate a resource's energy offer using the Resource-Specific Uplift Report in conjunction with the Zonal Uplift Report, and other information and assumptions. Commenters assert that the revelation of cost or offer data could lead to collusion or gaming.

78. Out of an abundance of caution, we address these concerns regarding revealing commercially-sensitive information by modifying the NOPR proposal to extend the deadline for the release of the Resource-Specific Uplift Report from 20 to 90 calendar days following the end of the reporting month, as several commenters recommend. An RTO/ISO can propose more timely reporting on compliance to the extent it believes that reporting more timely does not present the kinds of risks discussed above, for instance, because there are consistently enough

¹⁴⁶ Financial Marketers Coalition Comments at 38.

¹⁴⁷ ELCON Comments at 10; EEI Comments at 9.

¹⁴⁸ NOPR, FERC Stats. & Regs. ¶ 32,721 at P 83.

¹⁴⁹ PJM Market Monitor Comments at 10.

¹⁵⁰ Direct Energy Comments at 10–11.

¹⁵¹ ISO-NE Comments at 43.

¹⁵² CAISO Comments at 12.

¹⁵³ ISO-NE Comments at 43.

¹⁵⁴ Staff Analysis of Uplift at 7–10.

¹⁵⁵ PJM Cold Snap Performance Report at 30.

¹⁵⁶ 16 U.S.C. 824d(c).

¹⁵⁷ Some entities, including certain cooperatives and municipalities, were not required to file EQRs during the majority of the time analyzed within the report. See Staff Analysis of Uplift at 22.

resources awarded uplift in each zone that the uplift reports taken together cannot be used to infer a resource's costs.

79. We also find that any inferred information regarding a resource's offers or costs becomes less likely to be used to harm competition or individual market participants with the passage of time, because fuel prices and other market conditions change. After 90 calendar days following the end of the reporting month, the report will be released in a different season from the incurrence of uplift, increasing the likelihood that transient issues will be resolved, and thus decreasing the likelihood that any deduced resource-specific cost or offer data can be used to harm to competition or individual market participants. Furthermore, as Appian Way suggests, transparency into resource-specific uplift payments can highlight potential instances of gaming and collusion for other market participants, and allow them to advocate for solutions and call attention to such issues more quickly and efficiently. Finally, some information about resource-specific uplift payments is already available or can be derived from EQR.

80. We find that monthly aggregation of uplift payments to each resource, combined with a reporting delay of 90 calendar days, strikes an appropriate balance between the goal of providing public information that is detailed enough to identify system needs and issues with RTO/ISO uplift payment practices while also preserving a reasonable level of protection of potentially commercially-sensitive information. We expect that the later deadline should also alleviate CAISO's concern with respect to the burden of releasing this report on time.

81. As with the Zonal Uplift Report, the Commission does not agree with commenters that argue that access to the Resource-Specific Uplift Report should be limited to certain market participants on a password-protected portion of the RTO/ISO website. Providing data only to certain market participants does not achieve the goals of this Final Rule. As stated earlier, we find that reporting resource-specific uplift cost information more broadly may benefit a range of stakeholders, and we require each RTO/ISO to publish the Resource-Specific Uplift Report in a machine-readable format on a publicly accessible portion of its website.

82. In the NOPR, the Commission requested comment regarding whether the Resource-Specific Uplift Report should include uplift categories or other additional details. While, as some

commenters suggest, there may be additional value in reporting uplift categories on a resource-specific basis, we do not require RTOs/ISOs to report resource-specific uplift by category. We find that the requirement for RTOs/ISOs to report uplift categories in the Zonal Uplift Report provides sufficient transparency about the locations where specific types of uplift are incurred to address system needs. However, RTOs/ISOs may choose to include uplift categories or other information in the Resource-Specific Uplift Report, and must indicate on compliance whether they plan to do so.

C. Operator-Initiated Commitments

1. NOPR Proposal

83. In the NOPR, the Commission proposed to require each RTO/ISO to post operator-initiated commitments in MWs, categorized by transmission zone and commitment reason, to a publicly accessible portion of its website within four hours of the commitment. The Commission proposed to define transmission zone as a geographic area that is used for the local allocation of charges.¹⁵⁸

84. The Commission reasoned that transparency into operator-initiated commitments is necessary as such commitments can affect energy and ancillary service prices and can result in uplift. In addition, the Commission preliminarily found that greater transparency would allow stakeholders to better assess the RTO's/ISO's operator-initiated commitment practices and raise any issues of concern through the stakeholder process.¹⁵⁹

85. In the NOPR, the Commission defined an operator-initiated commitment as a commitment that is not associated with a resource clearing the day-ahead or real-time market on the basis of economics and that is not self-scheduled. The Commission added that this definition would include both manual and automated commitments made after the execution of the day-ahead market and outside of the real-time market. The Commission noted that the definition includes commitments made through residual unit commitment and look-ahead commitment processes, and manual commitments made in real-time. The Commission proposed that both manual and automated operator-initiated commitments be posted in order to help market participants better understand the drivers of uplift in each zone and

the impact of such commitments on rates.

86. The Commission requested comments on: (1) The types of unit commitments that should be reported as operator-initiated commitments;¹⁶⁰ (2) what it means for a commitment to clear the market on the basis of economics;¹⁶¹ (3) the proposed definition of "transmission zone," including the appropriate level of geographic granularity;¹⁶² (4) the proposed reporting timeframe, including potential implementation challenges particularly with regard to real-time reporting and whether a different reporting timeframe would provide sufficient transparency;¹⁶³ (5) whether the Commission should define a common set of operator-initiated commitment reasons for use across all RTOs/ISOs and, if so, what reasons should be included, or whether it is more appropriate to allow each RTO/ISO to establish a set of appropriate operator-initiated commitment reasons on compliance; and (6) whether the proposal provides sufficient transparency, or whether more information is needed (e.g., specific constraint name), as well as any potential concerns with requiring additional information.¹⁶⁴

2. Comments

87. Several commenters support the proposed requirement that each RTO/ISO report operator-initiated commitments in or near real-time and after the close of the day-ahead market, with the report including the upper economic operating limit of the committed resource in MWs, the transmission zone in which the resource is located, and the reason for the commitment.¹⁶⁵ Diversified Trading/eXion Energy note that greater transparency with respect to operator-initiated commitments will provide incentives for RTOs/ISOs to reduce the need for those commitments and ensure that the cost of meeting system needs are reflected in market prices.¹⁶⁶ Financial Marketers Coalition asserts

¹⁶⁰ *Id.* P 93.

¹⁶¹ *Id.* P 90.

¹⁶² *Id.* P 91.

¹⁶³ *Id.* P 94.

¹⁶⁴ *Id.* P 95.

¹⁶⁵ AWEA Comments at 10; Brookfield Comments at 2; Competitive Suppliers Comments at 12; Designated Marketers Comments at 6; Diversified Trading/eXion Energy Comments at 5; Financial Marketers Coalition Comments at 36; Golden Spread Comments at 11–12; NYISO Comments at 8; PJM Market Monitor Comments at 10; R Street Institute Comments at 5–6; SPP Market Monitor Comments at 3–4.

¹⁶⁶ Diversified Trading/eXion Energy Comments at 5.

¹⁵⁸ NOPR, FERC Stats. & Regs. ¶ 32,721 at Regulatory Text.

¹⁵⁹ *Id.* P 92.

that transparency with respect to the location and reasons for out-of-market and out-of-merit operator actions allows financial market participants to understand that a problem is being resolved outside of normal market operations and that the day-ahead and real-time markets are unlikely to converge through market actions. Financial Marketers Coalition adds that this level of transparency allows any market participant transacting in an area where an out-of-market or out-of-merit operator action is being taken to know that it will be subjected to uplift allocation exposure.¹⁶⁷ Furthermore, Financial Marketers Coalition asserts that robust transparency practices allow the marketplace to develop solutions to problems.¹⁶⁸ R Street Institute states that transparency of operator-initiated commitments is important because such commitments often occur when the system is stressed, have a sizable effect on market outcomes, and may become more frequent given the penetration of meteorologically-sensitive resources. R Street Institute contends that reporting operator-initiated commitments by zone and commitment reason is reasonable. R Street Institute further contends that reporting on a sub-zonal basis would provide value in areas with transmission constraints.¹⁶⁹ Other commenters raise concerns or request clarification about elements of the proposed requirements as discussed further below.

a. Definition of Operator-Initiated Commitments

88. Three RTOs/ISOs, MISO, NYISO, and PJM, found elements of the proposed definition of operator-initiated commitments to be unclear and requested clarification as to whether or not certain types of commitments should be reported. MISO argues that the proposed definition of operator-initiated commitments as “commitments not associated with clearing the day-ahead or real-time market on the basis of economics” may contradict the statement in the NOPR that commitments made through residual unit commitment and look-ahead commitment processes should be reported. MISO requests clarification on whether to report residual unit commitments and look-ahead commitments because the NOPR specifically states that these commitments should be reported even though MISO considers costs when

making these commitments. Similarly, NYISO requests confirmation that commitments made through its real-time commitment and dispatch processes are not intended to be included simply because they consider multiple time horizons and thus include look-ahead functionality. NYISO also states that its real-time dispatch software can economically evaluate commitments of certain offline resources that can respond to dispatch instructions within 10 minutes, but that subsequent action by the operator is needed to actually dispatch the resource. NYISO states that it does not believe the Commission intended these commitments to be considered operator-initiated commitments for the purposes of this NOPR.¹⁷⁰ MISO suggests that as an alternative, the Commission could define operator-initiated commitments as those made outside of the day-ahead market, whether manual or automated, without consideration of total production costs.¹⁷¹

89. PJM states that it does not have any automated commitments in either the real-time or day-ahead market; instead PJM has a variety of applications that provide commitment suggestions to PJM operators, who perform additional analyses prior to committing any unit. PJM interprets the proposal to require it to post all commitments made after the close of the day-ahead market. PJM states that it is able to accomplish this goal, but requests confirmation that this was the intent of the proposal.¹⁷²

b. Confidentiality, Market Power, and CEII

90. Several RTOs/ISOs state that the proposed operator-initiated commitment reports could reveal resource-identifiable or competitive information, or lead to market power concerns.¹⁷³ MISO claims that the proposed report may not protect the data of individual market participants and may reveal identifiable competitive information.¹⁷⁴ MISO states that it does not post commitment data by resource or provide the name or transmission zone of the committed resources to avoid disclosure of confidential information that may harm market participants and create risks in MISO's competitive markets. Instead, MISO aggregates posted commitment data by commitment reason.¹⁷⁵ MISO does not

support posting commitment information by resource, and argues that if the Commission does require reporting of locational information that it should allow RTOs/ISOs to aggregate transmission zones when posting commitment data, as there could be transmission zones that have a single asset owner. MISO adds that the use of existing transmission zone aggregations should be allowed in each RTO/ISO instead of creating new transmission zone aggregations.¹⁷⁶ ISO-NE and NYISO both state that they could report additional information to comply with this requirement.¹⁷⁷ NYISO notes, however, that it may be necessary to modify existing mitigation rules or potentially create new rules to address market power or anti-competitive behavior concerns that may arise from the requirements of any final rule.¹⁷⁸ Similarly, ISO-NE contends that, in any final rule, the Commission should allow each RTO/ISO to propose rules or procedures that may be necessary to address market power issues.¹⁷⁹ SPP contends that the operational characteristics of resources, including their economic maximums, are competitive information and should not be posted.¹⁸⁰

91. Responding to SPP, XO Energy states that the proposed report would not require SPP to identify the unit that was committed.¹⁸¹ XO Energy states that, for confidentiality reasons, specific names of resources should not be posted, but that the information posted should be as granularly specific as possible.¹⁸² XO Energy points to MISO's operator-initiated commitment reports as an example of the granularity that should be provided in a report.¹⁸³ EEI suggests that RTOs/ISOs protect confidentiality by making the information available only to market participants.¹⁸⁴

92. ISO-NE and PJM raise concerns that the proposed operator-initiated commitment reports could reveal Critical Energy/Electric Infrastructure Information (CEII).¹⁸⁵ ISO-NE states

¹⁷⁶ *Id.* at 18.

¹⁷⁷ ISO-NE Comments at 44; NYISO Comments at 8–9.

¹⁷⁸ NYISO Comments at n. 28.

¹⁷⁹ ISO-NE Comments at 44.

¹⁸⁰ SPP Comments at 3–4.

¹⁸¹ XO Energy Reply Comments at A–9.

¹⁸² XO Energy Replacement Comments at 34–35.

¹⁸³ *Id.* at 35.

¹⁸⁴ EEI Comments at 9.

¹⁸⁵ 18 CFR 388.113 (2017). See also *Regulations Implementing FAST Act Section 61003—Critical Electric Infrastructure Security and Amending Critical Energy Infrastructure Information*, Order No. 833, 81 FR 93732 (Dec. 21, 2016), FERC Stats. & Regs. ¶ 31,389 (2016).

¹⁷⁰ NYISO Comments at 8–11.

¹⁷¹ MISO Comments at 14–15 (citing NOPR, FERC Stats. & Regs. ¶ 32,721 at P 90).

¹⁷² PJM Comments at 13–14.

¹⁷³ ISO-NE Comments at 44; MISO Comments at 18; SPP Comments at 3–4.

¹⁷⁴ MISO Comments at 18.

¹⁷⁵ *Id.* at 17.

¹⁶⁷ Financial Marketers Coalition Comments at 37.

¹⁶⁸ *Id.*

¹⁶⁹ R Street Institute Comments at 5–6.

that detailed reporting in real-time on operator-initiated actions could raise system security issues and argues that, in any final rule, the Commission should permit each RTO/ISO to propose rules or procedures to protect CEII.¹⁸⁶ PJM explains that the identification of specific resources committed to control specific transmission constraints is CEII and should not be published.¹⁸⁷ In response to PJM, XO Energy argues that many market participants have clearance from the Commission to access CEII data and these participants should be able to access any and all CEII data.¹⁸⁸

c. Commitment Reasons

93. Several commenters responded to the request for comment on whether the Commission should define a common set of commitment reason categories and, if so, which categories should be included, or whether it is more appropriate to allow each RTO/ISO to establish a set of commitment reasons on compliance.¹⁸⁹ MISO contends that regional flexibility should be allowed for each RTO/ISO to establish an appropriate set of commitment reason categories. MISO further argues that prescribing a set of categories may lead to confusion and disruption of established processes that may provide the desired transparency, but in a manner that does not fit the prescribed categories.¹⁹⁰ TAPS similarly urges the Commission to leave it to individual RTOs/ISOs to determine how best to comply with reporting requirements.¹⁹¹

94. Conversely, PJM and EEI support the Commission defining a minimum set of categories to be used by RTOs/ISOs that identify the reasons for the commitment.¹⁹² PJM requests that the Commission allow each RTO/ISO to develop its own additional categories because RTOs/ISOs have different market designs and operational practices. Similarly, EEI argues that RTOs/ISOs should have the flexibility to provide more granular, detailed, or relevant information, as needed.¹⁹³ MISO also suggests that the Commission could alternatively require that the categories that each RTO/ISO establishes should, at a minimum, reflect the uplift categories the NOPR proposes.¹⁹⁴ PJM states that it is unclear

what level of detail the Commission is contemplating for these categories and argues that a final rule should clarify the level of detail envisioned.¹⁹⁵

d. Reporting Timeline

95. Several RTOs/ISOs discussed their current reporting practices and whether it is feasible to meet the proposed requirement to report real-time operator-initiated commitments within four hours.¹⁹⁶ MISO states that it currently posts economic and constraint management commitments, excluding those made in the day-ahead market, to its public website on a real-time and historical basis. In addition, MISO notes that historical information is included in the Real-Time Revenue Sufficiency Guarantee Commitments report, which is updated daily with a one-day lag. MISO states that the posted commitment information includes an aggregation of the hourly economic maximum limit of committed resources by commitment reason, and the total number of resources committed by commitment reason (either capacity or constraint name).¹⁹⁷ MISO requests guidance as to whether the four-hour timeframe will be counted from the time the commitment notification is issued, the beginning of the commitment period, or the start of the current market interval.¹⁹⁸ ISO-NE and PJM state that they would likely be able to comply with the proposed reporting of operator-initiated commitments. PJM requests that any final rule provide flexibility in the reporting timeframe so that, in the event of unforeseen technical issues, PJM is not exposed to a compliance violation.¹⁹⁹ NYISO states that it already posts information regarding many operator-initiated commitments in real-time and generally supports the proposed reforms but, as noted above, would need to report on additional commitments and add both the location and upper operating limit of each resource included in its report.²⁰⁰

96. On the other hand, CAISO states that it produces operator-initiated commitment reports manually because they require collecting operator log information and presenting it in a reporting format. Therefore, CAISO states that it cannot provide the required operator-initiated commitment information within the four-hour

deadline.²⁰¹ CAISO further contends that there is no reason the requested information should be required within four hours as it is not clear what actions market participants can take to address these issues under the proposed timeline. CAISO argues that market participants can better evaluate issues raised due to exceptional dispatches by analyzing monthly trends. CAISO states that it already provides much of this information on a monthly basis, and argues that the Commission should modify its proposal to allow RTOs/ISOs to post information as part of existing monthly reports that they already provide.²⁰²

97. In response to CAISO's concerns, XO Energy states that it disagrees with CAISO's assertion that expediting reporting of operator-initiated commitments is not feasible because these systems are already in place in other RTOs/ISOs. XO Energy asserts that the commitment of units must be recorded into a database because this information is used for settlement purposes and dispatch instructions are sent electronically to resources and incorporated into the next SCED calculation. XO Energy states that these commitments can and should be posted in real-time as they occur.²⁰³ XO Energy asserts that knowledge that a unit was committed by operator action may indicate an inefficiency in the system that is not currently reflected in published prices, presenting an opportunity to solve that issue through normal market activity. XO Energy argues that if this information is delayed by even four hours, the opportunity to place bids to address that inefficiency may pass.²⁰⁴ XO Energy contends that market participants that own the units being dispatched have access to operator-initiated commitment information; market participants without physical assets are disadvantaged because they do not currently have access to this data and are underrepresented in the stakeholder process.²⁰⁵ Competitive Suppliers argue that real-time commitments need to be posted as soon as practical after they occur, not later than four hours after the commitment, to help market participants understand uplift.²⁰⁶ R Street Institute contends that the proposed temporal requirements are

¹⁸⁶ ISO-NE Comments at 44.

¹⁸⁷ PJM Comments at 14.

¹⁸⁸ XO Energy Reply Comments at A-7.

¹⁸⁹ NOPR, FERC Stats. & Regs. ¶ 32,721 at P 95.

¹⁹⁰ MISO Comments at 15-16; TAPS Comments at 9.

¹⁹¹ TAPS Comment at 9.

¹⁹² EEI Comments at 9; PJM Comments at 14.

¹⁹³ EEI Comments at 9.

¹⁹⁴ MISO Comments at 15-16.

¹⁹⁵ PJM Comments at 14.

¹⁹⁶ NOPR, FERC Stats. & Regs. ¶ 32,721 at P 94.

¹⁹⁷ MISO Comments at 17 (MISO states that the data is described as pertaining to "3 or less resources" when the number of committed resources is less than or equal to three).

¹⁹⁸ *Id.* at 16.

¹⁹⁹ PJM Comments at 14.

²⁰⁰ NYISO Comments at 8-9.

²⁰¹ CAISO Comments at 14.

²⁰² *Id.* at 14-15.

²⁰³ XO Energy Reply Comments at A-3.

²⁰⁴ *Id.* at A-3.

²⁰⁵ *Id.* at A-1.

²⁰⁶ Competitive Suppliers Comments at 12.

reasonable and already met by NYISO, MISO, and CAISO.²⁰⁷

e. Other Issues

98. Some commenters suggest that RTOs/ISOs should be required to post other types of commitments or additional information. XO Energy asserts that there is a substantial amount of operator discretion in the day-ahead market and that all resources that contribute to day-ahead or real-time uplift should be reported.²⁰⁸ Competitive Suppliers state that the definition should also include other operator-initiated actions that impact uplift, such as load biasing. Furthermore, Competitive Suppliers argue that self-scheduled units should be reported when they are called on to alleviate an issue that would have resulted in some uplift payment had the unit not been self-scheduled.²⁰⁹ Golden Spread requests that the Commission include the reporting of certain transactions in the day-ahead market that can impact LMPs and cause uplift, such as excess rampable capacity in SPP that has been moved into the day-ahead market.²¹⁰ EEI argues that in addition to generator information, RTOs/ISOs should publish criteria used to make decisions with regard to reserve levels, conservative operations, import levels, and other operational constraints. EEI contends that identifying the types of costs or transactions included in uplift payments, and which of those should be included in LMPs will help inform potential changes to market rules around out-of-market actions.²¹¹

3. Determination

99. We adopt the NOPR proposal and require each RTO/ISO to post all operator-initiated commitments on its website, subject to the modifications and clarifications discussed below. Operator-initiated commitments are made to address system needs, but because they are made outside of the market are inherently less transparent. As stated in the NOPR, transparency into operator-initiated commitments is important because such commitments can affect energy and ancillary service prices and can result in uplift. Greater transparency will allow stakeholders to better understand the drivers of uplift costs, assess an RTO's/ISO's operator-initiated commitment practices, and raise any issues of concern through the

stakeholder process.²¹² We find that the basis for this requirement as outlined in the NOPR remains compelling. The Operator-Initiated Commitment Report will provide granular information about the location, timing, causes and size of operator-initiated commitments. Such information will allow stakeholders to better understand the connections between system needs and operator actions and to make investments in facilities and equipment where most needed by the system, thus potentially improving market efficiency. We address commenters' concerns below.

100. Based on the comments, we adopt a modified definition of an operator-initiated commitment for the purpose of this Final Rule. We agree with MISO and NYISO that the proposed definition of operator-initiated commitments as "commitments not associated with clearing the day-ahead or real-time market on the basis of economics" may contradict the clarification in the NOPR that the proposed definition includes commitments made through look-ahead processes,²¹³ particularly if an RTO/ISO process commits units on the basis of economics *and* includes look-ahead functionality. Further, as we noted in the NOPR, whether a commitment cleared the market on the basis of economics may be a point of confusion. In order to be more precise, we therefore modify the definition of an operator-initiated commitment to be a commitment after the day-ahead market, whether manual or automated, for a reason other than minimizing the total production costs of serving load. RTO/ISO market software generally minimizes total production costs subject to certain reliability constraints. Such software may make commitments to meet needs for additional supply due to changing market conditions or variations from forecast after the day ahead market. These commitments reflect the next marginal supply to meet load and minimize total production costs and are thus exempt from this reporting requirement. In contrast, because some constraints cannot be included in market software, RTOs/ISOs may need to make some commitments to address reliability considerations that are not modeled in the market software. Because these considerations are not included in the software, they may not minimize total production costs and thus should be reported. Such commitments are not likely to be reflected in market prices and may

result in uplift costs. Thus, unlike the NOPR proposal, the definition adopted here does not include commitments made through look-ahead commitment processes that minimize total production costs. Consistent with the NOPR proposal, this definition excludes self-schedules. We expect that by not explicitly requiring the inclusion of look-ahead commitments, this modified definition will likely reduce the number of commitments that RTOs/ISOs are required to report compared to the definition proposed in the NOPR, but the modified definition will focus RTO/ISO reporting on commitments of those resources whose offers are least likely to be reflected in day-ahead and real-time prices and are therefore most likely to result in uplift costs.

101. PJM requests clarification that we intend to require PJM to report all commitments made by operators occurring after the close of the day-ahead market because it has no "automated" commitments. We clarify that when an automated process makes a recommendation to an operator who makes the final decision, the commitment must be reported if the underlying process did not minimize total production costs. However, we are aware that RTOs/ISOs have a variety of processes through which units can be committed. On compliance, we therefore require each RTO/ISO to indicate, for each commitment process (whether automated or manual) that executes after the day-ahead market, whether it believes our modified definition implicates some or all commitments from the process and justify any commitments that it does not plan to report.

102. After considering commenters' responses to the questions the Commission asked about the reporting timeframe, potential implementation challenges of reporting in real-time, and whether a different reporting timeframe would provide sufficient transparency,²¹⁴ we find that requiring operator-initiated commitments to be posted no later than four hours after the commitment may place an unnecessary burden on some RTOs/ISOs. Therefore, we require that each RTO/ISO post this information on its website in machine-readable format as soon as practicable but no later than 30 days after the end of the month. However, we note that the timing of operator-initiated commitments is important to understanding system conditions surrounding those commitments, and was implicit in the proposed four-hour deadline. Because we no longer require

²⁰⁷ R Street Institute Comments at 5–6.

²⁰⁸ XO Energy Replacement Comments at 35.

²⁰⁹ Competitive Suppliers Comments at 10–11.

²¹⁰ Golden Spread Comments at 12–13.

²¹¹ EEI Comments at 9–10.

²¹² NOPR, FERC Stats. & Regs. ¶ 32.721 at PP 92–93.

²¹³ *Id.* P 90.

²¹⁴ *Id.* P 94.

near-real-time reporting of operator-initiated commitments, we instead will require each RTO/ISO to include in its report the start time of each commitment in order to enable stakeholders to understand system conditions surrounding the commitment. While we are providing each RTO/ISO significant flexibility in when it must report operator-initiated commitments, we encourage each RTO/ISO to design its processes so that this information is provided to market participants as soon as possible.

103. We adopt the NOPR proposal to require RTOs/ISOs to report the size of each commitment. In the NOPR, we described this value as the upper economic operating limit of the committed resource in MW (*i.e.*, its economic maximum).²¹⁵ We continue to believe this requirement will provide transparency into the size of the system need associated with the operator-initiated commitment. However, RTOs/ISOs may propose, on compliance, an alternative metric and must demonstrate that it provides transparency into the size of the system need associated with the operator-initiated commitment that is consistent with or superior to that provided by the economic maximum of each committed resource. This should address SPP's assertion that this resource parameter should not be posted because it is considered competitive information.

104. As with the Zonal Uplift Report discussed above, we adopt the NOPR proposal and define "transmission zone" as a geographic area that is used for the local allocation of charges and find that this definition balances the benefits of greater transparency with the desire to preserve a reasonable level of protection of potentially commercially-sensitive information. As discussed above, RTOs/ISOs may have multiple existing types of zones that could meet our definition. We believe that there are transparency benefits to using the same set of zones for the Zonal Uplift Report and the Operator-Initiated Commitment Report. However, we acknowledge that an RTO/ISO may have a legitimate reason for using a more or less granular set of zones for one or the other of the two reports and the decision to provide less granularity on one report does not necessitate less granularity for both reports simply to maintain consistency between reports. On compliance, we require each RTO/ISO to include in its tariff the type of zone that it proposes to use in its Operator-Initiated Commitment Report, explain how the chosen type of zone meets the definition

of transmission zone adopted in this Final Rule, and provide justification for any differences between the sets of zones used for the two reports.

105. We adopt the NOPR proposal and require that the Operator-Initiated Commitment Reports include the reason for each commitment. In the NOPR, the Commission requested comment as to whether the Commission should define a common set of categories of commitment reasons for use across all RTOs/ISOs and, if so, what reasons should be included, or whether to allow each RTO/ISO to establish a set of appropriate operator-initiated commitment reasons on compliance. As EEI suggests, requiring a common set of commitment reasons will help ensure that RTOs/ISOs provide similar information to market participants. This consideration is balanced against the desire for a minimum set of commitment reasons that are not so broad as to provide limited inference about the nature of the reliability consideration addressed through the commitment. While no specific commitment reasons were suggested by commenters, the potential commitment reasons listed in the NOPR²¹⁶ appear to be consistent with the broad reasons for which RTOs/ISOs make operator-initiated commitments. Therefore, we require that RTOs/ISOs, include, at a minimum, the following three commitment reasons: system-wide capacity, constraint management, and voltage support. However, we acknowledge that RTOs/ISOs may use different terminology or have other reasons for making operator-initiated commitments that do not minimize total production costs. Therefore, if RTOs/ISOs would like to include additional or more detailed commitment reasons in their Operator-Initiated Commitment Reports, they may do so.

106. We clarify that we are not requiring that RTOs/ISOs identify resource names or specific constraints in the Operator-Initiated Commitment Report. We also clarify, in response to concerns from PJM and ISO-NE that each RTO/ISO is permitted to propose, upon compliance, modifications to the report to avoid disclosing information that could be used to harm system security.

107. In response to NYISO's and ISO-NE's comments that it may be necessary to create new rules or procedures to address market power or anti-competitive behavior that may arise as a result of this report we note that any such rules or procedures would be outside the scope of this proceeding.

RTOs/ISOs may propose any further changes they deem appropriate in a separate filing pursuant to section 205 of the Federal Power Act.²¹⁷

108. We also confirm that RTOs/ISOs may choose to report more information about operator-initiated commitments or other operator actions. However, we find that requests by several commenters to require reporting of other types of commitments or other operator actions that may affect uplift are beyond the scope of this proceeding, as this requirement only addresses operator-initiated commitments.

D. Transmission Constraint Penalty Factors

1. NOPR Proposal

109. In the NOPR, the Commission proposed to require each RTO/ISO to include, in its tariff: Its transmission constraint penalty factor values; the circumstances, if any, under which the transmission constraint penalty factors can set LMPs; and the procedure, if any, for temporarily changing the transmission constraint penalty factor values. The Commission further proposed that any procedure for temporarily changing transmission constraint penalty factor values must provide for notice of the change to market participants.²¹⁸

110. The Commission reasoned that transparency into transmission constraint penalty factors and associated practices is important because the penalty factors and practices can affect prices. Without an understanding of the level of transmission constraint penalty factors or under what circumstances they can set LMPs or be temporarily changed, market participants may not be able to hedge transactions appropriately or raise concerns into RTO/ISO practices through the stakeholder process.²¹⁹

2. Comments

111. Many commenters support the proposed requirement that all RTOs/ISOs include provisions related to transmission constraint penalty factors in their tariffs.²²⁰ Potomac Economics

²¹⁷ 16 U.S.C. 824d.

²¹⁸ NOPR, FERC Stats. & Regs. ¶ 32,721 at Regulatory Text.

²¹⁹ *Id.* P. 80.

²²⁰ APPA/NRECA Comments at 12–13; AWEA Comments at 10; Competitive Suppliers Comments at 10; Designated Marketers Comments at 6; Direct Energy Comments at 10; EEI Comments at 10; Financial Marketers Coalition Comments at 45; Golden Spread Comments at 5; MISO Comments at 19; NYISO Comments at 1; PJM Comments at 15; PJM Market Monitor Comments at 10; Potomac Economics Comments at 12–13; R Street Institute Comments at 6; TAPS Comments at 10; XO Energy Replacement Comments at 37, 39.

²¹⁵ *Id.* P. 91.

²¹⁶ *Id.* P. 95 and n.109.

explains that transmission constraint penalty factors represent the maximum re-dispatch cost that a RTO/ISO will incur to resolve congestion on a constraint, and are generally used to set the congestion components of LMPs when a constraint is violated. Because penalty factors can set prices and affect dispatch, Potomac Economics supports requiring RTOs/ISOs to file transmission constraint penalty factors, and any provisions to adjust them, in their tariffs to be reviewed and approved by the Commission.²²¹ Competitive Suppliers state that transmission constraint penalty factors affect prices and uplift, so transparency around their use is important for market participants to understand their impact.²²² MISO asserts that transparency around transmission constraint penalty factors can increase confidence that market outcomes are rational and encourage dialogue to improve market efficiency, while Financial Marketers Coalition asserts that a lack of transparency around these practices can lead to confusion and uncertainty in understanding and forecasting prices.²²³ No commenters express opposition to the requirements proposed in the NOPR.

112. Several RTOs/ISOs state that they currently comply, plan to comply, or could comply with the proposed requirements. MISO and MISO Transmission Owners assert that MISO's tariff is consistent with the proposal.²²⁴ MISO also notes that it posts shadow prices, transmission constraint penalty factors, and reasons for temporary overrides of transmission constraint penalty factors in reports on its website.²²⁵ CAISO states that its tariff already contains the penalty factors and their impacts on market outcomes for each of its markets and market calculations.²²⁶ NYISO intends to file tariff revisions with the Commission independent of the NOPR, which will align with the proposed requirements of the NOPR.²²⁷ PJM supports including certain provisions related to transmission constraint penalty factors

in its tariff.²²⁸ The PJM Market Monitor explains that it has recommended that PJM include transmission constraint penalty factor values in its tariff, and explicitly state its policy on the use of these penalty factors in setting LMP, the appropriate triggers of these penalty factors, and when they should be used to set the shadow prices of transmission constraints.²²⁹ ISO-NE allows that it could specify more information on transmission constraint penalty factors in its tariff.²³⁰

113. Several commenters explicitly support the proposal requiring RTOs/ISOs to explain in their tariffs when transmission constraint penalty factors can set LMPs, if ever.²³¹ Potomac Economics, XO Energy, and R Street Institute explain that when a constraint is violated, some RTOs/ISOs relax the constraint to reduce the shadow price to less than the penalty factor, which reduces congestion components of LMPs.²³² Potomac Economics explains that if, for example, an RTO/ISO has a penalty factor of \$1,000 and the unit that is re-dispatched to manage the constraint has a marginal cost of \$999, the congestion will be determined by the \$999 shadow price. However, if the RTO/ISO relaxes the constraint, thereby diminishing reliability, the "relaxed" shadow price that determines the congestion cost may be well below the penalty factor.²³³

114. R Street Institute argues that relaxing transmission constraints to prevent penalty factors from setting prices distorts congestion price formation, which undermines efficient commitment and dispatch in the short term and distorts market investments and retirements in the long term.²³⁴ XO Energy asserts that penalty prices are in place to improve price formation when all economic actions are exhausted, and that constraint relaxation masks the underlying violation.²³⁵ XO Energy further argues that RTOs/ISOs that do

not allow penalty factors to set price should explain and justify the conditions for relaxing a constraint.²³⁶ Financial Marketers Coalition states that arbitrary standards on when transmission constraint penalty factors can set LMPs can afford considerable discretion to dispatchers and can lead to confusion among market participants.²³⁷

115. Potomac Economics suggests that the Commission not only require RTOs/ISOs to explain how penalty factors contribute to setting LMP, but require that penalty factors set shadow prices for violated constraints.²³⁸ The PJM Market Monitor agrees that penalty factors should affect LMPs in the same manner that generator offer prices affect LMPs, so if the flow on a transmission constraint exceeds the line limit, the shadow price of the constraint should equal the transmission constraint penalty factor.²³⁹

116. Multiple commenters explicitly support the proposed requirement that RTOs/ISOs include in their tariffs any procedures for changing penalty factors and provide notice of any such changes to market participants.²⁴⁰ Potomac Economics states that it has observed RTOs/ISOs increasing or decreasing the transmission constraint penalty factors in real-time operations for a variety of reasons.²⁴¹ Potomac Economics states that RTOs/ISOs generally increase a penalty factor when a violation raises more serious reliability concerns than normal and decrease a factor in real-time to reduce the real-time congestion pricing for a violated constraint. Potomac Economics states that whether increasing or decreasing the factors, these actions can profoundly affect LMPs, unit commitments, dispatch levels, and reliability, and therefore RTOs/ISOs should file any provisions to adjust them.²⁴²

117. XO Energy states that MISO currently posts any overridden transmission constraint demand curves through its real-time market and provides reasons for such overrides in its next-day market reports.²⁴³ In contrast, XO Energy notes that PJM does not provide any indication or rationale for changing transmission constraint penalty factors, but generally performs a

²²⁸ PJM Comments at 15.

²²⁹ PJM Market Monitor Comments at 10 (citing PJM, 2015 Annual State of the Market Report, v. 2, Section 3: Energy Market (March 2016), http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2015/2015-som-pjm-volume2-sec3.pdf).

²³⁰ ISO-NE Comments at 44–45.

²³¹ Competitive Suppliers Comments at 10; EEI Comments at 10; Financial Marketers Coalition Comments at 45; Golden Spread Comments at 5; PJM Market Monitor Comments at 10; Potomac Economics Comments at 16; R Street Institute Comments at 6; XO Energy Replacement Comments at 37.

²³² Potomac Economics Comments at 14–15; R Street Institute Comments at 6; XO Energy Comments at 37–39.

²³³ Potomac Economics Comments at 14–15.

²³⁴ R Street Institute Comments at 6.

²³⁵ XO Energy Comments at 38.

²³⁶ *Id.* at 37.

²³⁷ Financial Marketers Coalition Comments at 45.

²³⁸ Potomac Economics Comments at 16.

²³⁹ PJM Market Monitor Comments at 11.

²⁴⁰ EEI Comments at 10; Golden Spread Comments at 5; PJM Market Monitor Comments at 10; R Street Institute Comments at 5; XO Energy Replacement Comments at 39.

²⁴¹ Potomac Economics Comments at 12–13.

²⁴² *Id.* at 13–14.

²⁴³ XO Energy Replacement Comments at 39–40.

²²¹ Potomac Economics Comments at 12–13.

²²² Competitive Suppliers Comments at 10.

²²³ Financial Marketers Coalition Comments at 45; MISO Comments at 18.

²²⁴ MISO Comments at 18–19 (citing Schedule 28A of its Tariff); MISO Transmission Owners Comments at 5 n.17.

²²⁵ MISO Comments at 19.

²²⁶ CAISO Comments at 11–12.

²²⁷ NYISO Comments at 12. Since its comments, NYISO has subsequently filed transmission constraint pricing tariff revisions with the Commission. *N.Y. Indep. Sys. Operator, Inc.*, Docket No. ER17–1453–000 (June 14, 2017) (delegated letter order).

price correction the following day that is only evident through increased or decreased shadow prices.²⁴⁴ ISO-NE and TAPS state that tariff provisions on transmission constraint penalty factors should be flexible enough to permit system operators to modify these factors in real-time to maintain reliability of the system and otherwise temporarily change these values to account for changes in system conditions.²⁴⁵ CAISO states that while it currently cannot temporarily change penalty prices, it does not object to obtaining such flexibility in its tariff or to describing in its tariff the relevant conditions for utilizing such flexibility.²⁴⁶

118. Potomac Economics makes two recommendations to strengthen the requirement to file transmission constraint penalty factors. Potomac Economics states that the Commission should require or encourage RTOs/ISOs to file multi-point demand curves, as in MISO and NYISO, rather than single penalty values because demand curves demonstrate that the size of the violation matters from a reliability perspective. XO Energy also supports the implementation of the demand curve approach used in MISO.²⁴⁷

119. Potomac Economics also suggests that the Commission clarify that penalty values should correspond to the reliability concerns that arise when constraints are violated. Potomac Economics states that, while estimating the reliability value of a transmission constraint can be challenging, reasonable values can be set that reflect the relative reliability concern associated with violating different constraints.²⁴⁸

120. XO Energy states that RTO/ISO actions to affect the percentages of thermal limits used for controlling constraints also can mask violations of thermal limits and affect how high shadow prices can bind. XO Energy therefore suggests enhancing the transparency of operator actions surrounding Limit Controls.²⁴⁹

3. Determination

121. We adopt the NOPR proposal and require that each RTO/ISO include in its tariff on an on-going basis: (1) The

transmission constraint penalty factor values used in its market software;²⁵⁰ (2) the circumstances, if any, under which the transmission constraint penalty factors can set LMPs;²⁵¹ and (3) the procedures, if any, for temporarily changing transmission constraint penalty factor values. We also require that any procedures for temporarily changing transmission constraint penalty factor values must provide for notice of the change to market participants as soon as practicable.²⁵² We find that transmission constraint penalty factors have the potential to materially affect energy and ancillary services prices so they should be included in the tariff. Further, greater transparency into transmission constraint penalty factors will allow market participants to understand how an RTO's/ISO's actions and practices affect clearing prices. We agree with commenters that, without transparency into transmission constraint penalty factors, market participants cannot understand the impact of these factors on LMPs or effectively engage in dialogue or transactions to improve market efficiencies. Accordingly, we adopt the proposal in the NOPR. On compliance, each RTO/ISO is required to include its current transmission constraint penalty factors and associated current practices in its tariff. The three Transmission Constraint Penalty Factor Requirements also apply to any subsequent changes to an RTO's/ISO's penalty factor values and practices.

122. We clarify that we are not requiring RTOs/ISOs to have procedures to temporarily change their transmission constraint penalty factor values. Rather, if an RTO/ISO currently has the flexibility to temporarily override transmission constraint penalty factor values, for example, to account for reliability concerns, the circumstances under which the factors may be changed and any procedures for doing so must be included in the RTO's/ISO's tariff. We appreciate requests that the Commission require RTOs/ISOs to adopt specific practices in developing transmission

constraint penalty factors and specifications for how transmission constraint penalty factors can set LMPs. However, we find that such requests go beyond the scope of this rule, which is focused on transparency into current RTO/ISO practices related to transmission constraint penalty factors. Accordingly, we will not address those requests here. Further, RTOs/ISOs may propose any changes they deem appropriate to their current practices related to transmission constraint penalty factors in a separate filing pursuant to section 205 of the Federal Power Act.²⁵³

E. Other Comments Requested

1. Reporting of Transmission Outages

123. In the NOPR, the Commission requested comment on whether additional reporting of transmission outages should be required, noting that transmission outages are an important facet of price formation because they can affect RTO/ISO commitment and dispatch decisions and resulting market clearing prices.²⁵⁴

a. Comments

124. Most RTOs/ISOs state that they already provide information on transmission outages. MISO states that it posts all transmission outages on OASIS on an hourly basis.²⁵⁵ ISO-NE states that it currently posts both long- and short-term reports on transmission outages, updated on a daily and 15-minute basis, respectively.²⁵⁶ NYISO states that it posts information regarding scheduled and actual outages of 100 kV and higher transmission facilities on its website in machine-readable format.²⁵⁷ PJM states that it posts outages on its website.²⁵⁸

125. Several commenters support additional transparency into transmission outages.²⁵⁹ The PJM Market Monitor asserts that more consistent and timely outage reporting is important to transparency.²⁶⁰ Potomac Economics and AWEA argue that additional reporting of transmission outages would improve market

²⁴⁴ *Id.* at 40.

²⁴⁵ ISO-NE Comments at 44-45; TAPS Comments at 10.

²⁴⁶ CAISO Comments at 11-12.

²⁴⁷ XO Energy Replacement Comments at 43.

²⁴⁸ Potomac Economics Comments at 14.

²⁴⁹ XO Energy Replacement Comments at 36, 39 (citing PJM, *Transmission Constraint Control Logic in Market Clearing Engines* (March 2017), <http://www.pjm.com/-/media/committees-groups/committees/mic/20170308/20170308-informational-only-transmission-constraint-control-logic-in-mces.ashx>).

²⁵⁰ As proposed in the NOPR, if the RTO/ISO includes different transmission constraint penalty factors for different purposes (e.g., unit commitment and economic dispatch, day-ahead versus real-time), we require that all sets of transmission constraint penalty factors be included in the tariff. See NOPR, FERC Stats. & Regs. ¶ 32,721 at P 97.

²⁵¹ As proposed in the NOPR, RTOs/ISOs should provide explanations in their tariffs if they have different processes for allowing transmission constraint penalty factors to set LMPs in different circumstances, as well as any specific restrictions or conditions under which transmission constraint penalty factors are allowed to set LMPs. NOPR, FERC Stats. & Regs. ¶ 32,721 at P 98.

²⁵² NOPR, FERC Stats. & Regs. ¶ 32,721 at PP 96-99.

²⁵³ 16 U.S.C. 824d.

²⁵⁴ NOPR, FERC Stats. & Regs. ¶ 32,721 at P 98.

²⁵⁵ MISO Comments at 19.

²⁵⁶ ISO-NE Comments at 45.

²⁵⁷ NYISO Comments at 12.

²⁵⁸ PJM Comments at 15.

²⁵⁹ AWEA Comments at 10; Direct Energy Comments at 10; Diversified Trading/eXion Energy Comments at 5-7; EDF Comments at 1-5; PJM Market Monitor Comments at 11; Potomac Economics Comments at 11-12; XO Energy Replacement Comments at 43-45.

²⁶⁰ PJM Market Monitor Comments at 11.

efficiency and reduce uncertainty for participants.²⁶¹

126. XO Energy contends that all RTOs/ISOs should be required to post all known transmission outages in real-time at the same frequency as real-time dispatch, using EMS model detail. XO Energy also contends that planned and emergency outages known and included in the day-ahead market solution should be included as an additional report posted with each RTO/ISO day-ahead market solution.²⁶²

127. Diversified Trading/eXion Energy and XO Energy contend that RTOs/ISOs should be required to post all outages that are modified or cancelled after the close of the day-ahead market, as well as the impact of cancelled outages on prices and uplift. Diversified Trading/eXion Energy further contend that this posting should also include the reason for the cancellation or modification, the transmission owner, and the frequency with which the transmission owner has cancelled or modified outages after the cut-off.²⁶³

128. EDF asserts that there is a need for RTOs/ISOs to incorporate economic assessments into their transmission outage scheduling practices and moves that the Commission establish a technical conference to address the impact of transmission outages on RTO/ISO commitment and dispatch decisions and resulting market clearing prices.²⁶⁴ EDF contends that RTOs/ISOs typically only assess the reliability impact of outages and do not consider economic impacts. EDF contends that an economic assessment of transmission outages should be possible, at relatively low cost, most of the time, with no reliability impact, given sufficient advanced planning.²⁶⁵

129. On the other hand, MISO and PJM contend that additional reporting requirements are unnecessary,²⁶⁶ while MISO Transmission Owners contend that any further reporting requirements may be duplicative.²⁶⁷ Several commenters also bring up confidentiality concerns. PJM argues that posting additional information may risk releasing confidential market participant information because the status of a unit or station would be

identified via this posting.²⁶⁸ MISO Transmission Owners similarly state that outage information may contain CEII or other confidential information that should not be identified publicly.²⁶⁹ MISO Transmission Owners contend that transmission outages are not fully explored in the NOPR and may be better left to a future rulemaking.²⁷⁰ Finally, ISO-NE notes that outages that only impact specific generation or other supply resources are considered market sensitive and excluded from reports. However, ISO-NE states that stakeholders have discussed whether to expand current reporting practices to include the market sensitive outages in reports.²⁷¹

b. Determination

130. We appreciate the input from multiple commenters on the reporting of transmission outages. In the NOPR, the Commission sought comment on this topic but did not make a specific proposal. Accordingly, based on the record in this proceeding, we will not require additional reporting for transmission outages at this time.

2. Availability of Market Models

131. In the NOPR, the Commission requested comment on whether certain classes of market participants are prohibited from obtaining the network models in certain RTOs/ISOs and the justification for any such restrictions. The Commission defined “network model” as “the RTO’s/ISO’s model used in its energy management system for the real-time operation of the transmission system (e.g., state-estimation, contingency analysis).”²⁷²

a. Comments

132. Financial Marketers Coalition and XO Energy explain that there are several different types of market models and discuss the varying availability of different market models between market participant classes across RTOs/ISOs. XO Energy asserts that MISO and SPP provide a fair amount of detail and that PJM, NYISO, and CAISO provide the least amount of model detail.²⁷³

133. ISO-NE and MISO state they provide network models to all market participants.²⁷⁴ However, NYISO and

PJM state that market models are only available to a subset of market participants.²⁷⁵ NYISO explains that its network model is only available to participants in the Transmission Congestion Market, upon request. NYISO states it is not available to others because it includes certain modifications to account for system assumptions utilized in that market.²⁷⁶ PJM states that certain entities are prohibited from accessing network models. PJM explains that in some instances it may share some of these models with certain entities, such as Transmission Owners, but only to coordinate the reliability of the transmission system with PJM, not for the sake of market transparency.²⁷⁷

134. Some commenters argue against the wider dissemination of market models, noting confidentiality concerns.²⁷⁸ The PJM Market Monitor argues that there is no efficiency gain and potential market power issues could arise from the wider dissemination of market models.²⁷⁹ Other commenters argue that market models should be available to all market participants,²⁸⁰ or that releasing market models subject to CEII protection or non-disclosure agreements is appropriate.²⁸¹ XO Energy, for example, asserts that access to market models would allow market participants to place transactions that increase market efficiency and reliability.²⁸²

b. Determination

135. We appreciate the input from multiple commenters on the availability of market models. In the NOPR, the Commission sought comment on this topic but did not make a specific proposal. Accordingly, based on the record in this proceeding, we will not require changes to the accessibility of market models at this time.

V. Compliance and Implementation Timelines

136. In the NOPR, the Commission proposed to require that each RTO/ISO submit a compliance filing within 90 days of the effective date of the Final

²⁷⁵ NYISO Comments at 12–13; PJM Comments at 11–12.

²⁷⁶ NYISO Comments at 12–13.

²⁷⁷ PJM Comments at 11–12.

²⁷⁸ MISO Transmission Owners Comments at 14–15; PJM Comments at 11–12.

²⁷⁹ PJM Market Monitor Comments at 11–12.

²⁸⁰ AWEA Comments at 10–14; Designated Marketers Comments at 7; TAPS Comments at 10; XO Energy Replacement Comments at 45–47.

²⁸¹ Appian Way Comments at 8; Designated Marketers Comments at 7; ISO-NE Comments at 45–46; XO Energy Replacement Comments at 45–47.

²⁸² XO Energy Reply Comments at 8.

²⁶¹ AWEA Comments at 10; Potomac Economics Comments at 11–12.

²⁶² XO Energy Replacement Comments at 43–44.

²⁶³ Diversified Trading/eXion Energy Comments at 5–7; XO Energy Replacement Comments at 44–45.

²⁶⁴ EDF Comments at 1.

²⁶⁵ *Id.* at 5.

²⁶⁶ MISO Comments at 19; PJM Comments at 12.

²⁶⁷ MISO Transmission Owners Comments at 15.

²⁶⁸ PJM Comments at 15.

²⁶⁹ MISO Transmission Owners Comments at 15; PJM Comments at 15.

²⁷⁰ MISO Transmission Owners Comments at 14–15.

²⁷¹ ISO-NE Comments at 45.

²⁷² NOPR, FERC Stats. & Regs. ¶ 32.721 at P 101.

²⁷³ Financial Marketers Coalition Comments at 40–44; XO Energy Replacement Comments at 45–47.

²⁷⁴ ISO-NE Comments at 45–46; MISO Comments at 20.

Rule. The Commission also requested comment on whether 90 days provided sufficient time for RTOs/ISOs to develop new tariff language in response to the Final Rule. The Commission also proposed that tariff changes implementing the Final Rule must become effective no more than six months after compliance filings are due.²⁸³

A. Comments

137. The Commission did not propose separate compliance and implementation deadlines for the uplift cost allocation and transparency reforms. Accordingly, most of the comments received on this subject understandably address compliance and implementation assuming that the Final Rule would address both proposed reforms. We do not discuss comments that solely addressed compliance and implementation of the proposed uplift cost allocation reform.

138. MISO requests that the Commission consider a compliance timeline of 120 days, citing a need to review existing protocols, refine current processes to reflect any changes stemming from the NOPR proposal, and discuss changes with stakeholders. MISO requests that the Commission consider an implementation timeline of 365 days, as MISO estimates that the coding and testing of new software will likely take a minimum of 60 to 90 days.²⁸⁴

139. ISO-NE states that the 90-day compliance deadline is too short as it leaves insufficient time to consult with stakeholders, consider alternative compliance approaches and develop and file tariff changes. ISO-NE also asserts that the six-month deadline appears arbitrary. ISO-NE concludes that the Commission should allow RTOs/ISOs to submit a compliance proposal and schedule that reflects each region's unique circumstances, which may vary significantly.²⁸⁵ However, ISO-NE's support for its position focuses on the proposed uplift cost allocation reforms, which are not a part of this Final Rule. PJM supports the 90-day compliance deadline. PJM states specifically that it could implement the proposed transparency changes within nine months after issuance of a final rule.²⁸⁶ NYISO is silent on the compliance deadline, but states that it would require at least nine months for

implementation.²⁸⁷ CAISO and SPP do not comment on compliance or implementation timelines.

140. Direct Energy states that the shorter the period for implementing the changes to transparency requirements the better, as the changes will only enhance RTO/ISO markets.²⁸⁸ APPA and NRECA recommend that the Commission seek input from RTOs/ISOs regarding the feasibility and timing of their ability to comply with the transparency provisions.²⁸⁹

B. Determination

141. In the NOPR, the Commission did not propose separate compliance and implementation deadlines for the uplift cost allocation and transparency reforms. Most of the comments received on this subject address compliance and implementation assuming a Final Rule would address both initiatives, and in several cases, focused only on compliance and implementation related to the uplift cost allocation initiative. As this Final Rule only addresses the transparency initiative, we reason that some of the proposed compliance and implementation deadline concerns may be alleviated. We agree with Direct Energy that it is preferable that the transparency benefits of these reforms be realized as quickly as possible. Therefore, we require that each RTO/ISO submit a compliance filing within 60 days of the effective date of this Final Rule that establishes in its tariff the three reporting requirements and one requirement related to transmission constraint penalty factors as described herein. Further, we require tariff changes to become effective no more than 120 days after compliance filings are due.

VI. Information Collection Statement

142. The Paperwork Reduction Act (PRA)²⁹⁰ requires each federal agency to seek and obtain Office of Management and Budget (OMB) approval before undertaking a collection of information directed to ten or more persons or contained in a rule of general applicability. OMB's regulations,²⁹¹ in turn, require approval of certain information collection requirements imposed by agency rules. Upon approval of a collection(s) of information, OMB will assign an OMB control number and an expiration date. Respondents subject to the filing

requirements of a rule will not be penalized for failing to respond to these collection(s) of information unless the collection(s) of information display a valid OMB control number.

143. In this Final Rule, we are amending the Commission's regulations to improve the operation of organized wholesale electric power markets operated by RTOs/ISOs. We require that each RTO/ISO: (1) Report, on a monthly basis, uplift payments for each transmission zone, broken out by day and uplift category (Zonal Uplift Report); (2) report, on a monthly basis, total uplift payments for each resource (Resource-Specific Uplift Report); (3) report, on a monthly basis, for each operator-initiated commitment, the size of the commitment, transmission zone, commitment reason, and commitment start time (Operator-Initiated Commitment Report); and (4) define in its tariff the transmission constraint penalty factors, as well as the circumstances under which those factors can set locational marginal prices (LMP), and any process by which they can be changed (Transmission Constraint Penalty Factor Requirements).

144. The reforms required in this Final Rule include a one-time tariff filing with the Commission due 60 days after the effective date of this Final Rule. The reforms will also require each RTO/ISO to maintain and post the three reports on an ongoing basis. We estimate this will require about 36 hours each year (three hours each month) for each RTO/ISO. We anticipate the reforms proposed in this Final Rule, once implemented, would not significantly change currently existing burdens on an ongoing basis. The Commission will submit the proposed reporting requirements to OMB for its review and approval under section 3507(d) of the Paperwork Reduction Act.²⁹²

145. In the NOPR, the Commission requested comments on its need for this information, whether the information will have practical utility, the accuracy of burden and cost estimates, ways to enhance the quality, utility, and clarity of the information to be collected or retained, and any suggested methods for minimizing respondents' burden, including the use of automated information techniques. The comments and the Commission's determinations related to these issues are discussed above.

²⁸³ NOPR, FERC Stats. & Regs. ¶ 32,721 at P 102.

²⁸⁴ MISO Comments at 20–21.

²⁸⁵ ISO-NE Comments at 46–47.

²⁸⁶ PJM Comments at 17.

²⁸⁷ NYISO Comments at 13.

²⁸⁸ Direct Energy Comments at 11.

²⁸⁹ APPA and NRECA Comments at 2, 13.

²⁹⁰ 44 U.S.C. 3501–3520.

²⁹¹ 5 CFR 1320 (2017).

²⁹² 44 U.S.C. 3507(d).

Burden Estimate and Information Collection Costs: The Commission believes that the burden estimates below

are representative of the average burden on respondents, including necessary communications with stakeholders. The

estimated burden and cost²⁹³ for the requirements contained in this Final Rule follow.²⁹⁴

FERC-516G, AS IMPLEMENTED BY THE FINAL RULE IN DOCKET RM17-2-000

	Number of respondents ²⁹⁵	Annual number of responses per respondent	Total number of responses	Average burden hours and cost per response	Total annual burden hours and total annual cost	Cost per respondent (\$)
	(1)	(2)	(1) × (2) = (3)	(4)	(3) × (4) = (5)	(5) ÷ (1)
One-Time Effort (in Year 1) to (a) establish process for reporting on company website, ²⁹⁶ & (b) submit tariff filing.	6	1	6	500 hrs.; \$38,500.	3,000 hrs.; \$231,000.	\$38,500
Ongoing Preparing and Posting of 3 reports on company website each month (starting in Year 1), as mentioned above.	6	12	72	3 hrs.; \$231	216 hrs.; \$16,632.	2,772

Cost to Comply: The Commission has projected the total cost of compliance to industry to be: One-time in Year 1, \$231,000; and ongoing, starting in Year 1, \$16,632.

Title: FERC-516G, Electric Rate Schedules and Tariff Filings in Docket RM17-2-000.

Action: New information collection.

OMB Control No.: 1902-0295.

Respondents for this Rulemaking: RTOs/ISOs.

Frequency of Information: One-time, and ongoing posting to company website.

Necessity of Information: The Federal Energy Regulatory Commission implements this rule to improve competitive wholesale electric markets in the RTO/ISO regions.

Internal Review: The Commission has reviewed the changes and has determined that such changes are necessary. These requirements conform to the Commission's need for efficient information collection, communication, and management within the energy industry. The Commission has specific, objective support for the burden estimates associated with the information collection requirements.

Interested persons may obtain information on the reporting requirements by contacting the following: Federal Energy Regulatory Commission, 888 First Street NE,

Washington, DC 20426 [Attention: Ellen Brown, Office of the Executive Director], email: DataClearance@ferc.gov, Phone: (202) 502-8663, fax: (202) 273-0873.

Comments concerning the collection of information and the associated burden estimate(s) may also be sent to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street NW, Washington, DC 20503 [Attention: Desk Officer for the Federal Energy Regulatory Commission]. Due to security concerns, comments should be sent electronically to the following email address: oir_submission@omb.eop.gov. Comments submitted to OMB should refer to FERC-516G and OMB Control No. 1902-0295.

VII. Environmental Analysis

146. The Commission is required to prepare an Environmental Assessment or an Environmental Impact Statement for any action that may have a significant adverse effect on the human environment.²⁹⁷ The Commission concludes that neither an Environmental Assessment nor an Environmental Impact Statement is required for this Final Rule under section 380.4(a)(15) of the Commission's regulations, which provides a categorical exemption for approval of actions under sections 205 and 206 of the Federal Power Act relating to the

filing of schedules containing all rates and charges for the transmission or sale of electric energy subject to the Commission's jurisdiction, plus the classification, practices, contracts and regulations that affect rates, charges, classifications, and services.²⁹⁸

VIII. Regulatory Flexibility Act

147. The Regulatory Flexibility Act of 1980 (RFA)²⁹⁹ generally requires a description and analysis of final rules that will have significant economic impact on a substantial number of small entities. The RFA does not mandate any particular outcome in a rulemaking. It only requires consideration of alternatives that are less burdensome to small entities and an agency explanation of why alternatives were rejected.

148. This rule would apply to six RTOs/ISOs (all of which are transmission organizations). The average estimated annual PRA-related cost to each of the RTOs/ISOs is \$41,272 (one-time and ongoing costs) in Year 1, and \$2,772 (ongoing cost) in Year 2 and beyond. This cost of implementing these changes is not significant. Additionally, the RTOs/ISOs are not small entities, as defined by the RFA.³⁰⁰ This is because the relevant threshold between small and large entities is 500 employees and the Commission understands that each RTO/ISO has more than 500 employees.

²⁹³ The estimated hourly cost (salary plus benefits) provided in this section are based on the salary figures for May 2016 posted by the Bureau of Labor Statistics for the Utilities sector (available at http://www.bls.gov/oes/current/naics2_22.htm#00-0000) and benefits effective September 2017 (issued 12/15/2017, available at <http://www.bls.gov/news.release/ceec.nr0.htm>). The hourly estimates for salary plus benefits are: (a) Legal (code 23-0000), \$143.68; (b) Computer and Mathematical (code 15-0000), \$60.70; (c) Information Security Analyst (code 15-1122), \$66.34; (d) Accountant and Auditor (code 13-2011), \$53.00; (e) Information and Record Clerk (code 43-4199), \$39.14; (e) Electrical Engineer (code 17-2071), \$68.12; (f) Economist (code 19-3011), \$77.96; (g) Computer and Information Systems Manager

(code 11-3021), \$100.68; (h) Management (code 11-0000), \$81.52. The average hourly cost (salary plus benefits), weighting all of these skill sets equally, is \$76.79. For these calculations, we round that figure to \$77 per hour.

²⁹⁴ The RTOs/ISOs (CAISO, SPP, MISO, PJM, NYISO, and ISO-NE) are required to comply with the reforms in this Final Rule.

²⁹⁵ Respondent entities are either RTOs or ISOs.

²⁹⁶ This includes monthly reporting/posting on the company website for: (1) The Zonal Uplift Report (posting within 20 days of end of month), (2) the Resource-Specific Uplift Report (posting within 90 days of end of month), and (3) the Operator-Initiated Commitments Report (posting within 30 days of the end of month).

²⁹⁷ *Regulations Implementing the National Environmental Policy Act*, Order No. 486, 52 FR 47897 (Dec. 17, 1987), FERC Stats. & Regs. ¶ 30,783 (1987).

²⁹⁸ 18 CFR 380.4(a)(15) (2017).

²⁹⁹ 5 U.S.C. 601-612.

³⁰⁰ The RFA definition of "small entity" refers to the definition provided in the Small Business Act, which defines a "small business concern" as a business that is independently owned and operated and that is not dominant in its field of operation. The Small Business Administrations' regulations at 13 CFR 121.201 define the threshold for a small Electric Bulk Power Transmission and Control entity (NAICS code 221121) to be 500 employees. See 5 U.S.C. 601(3), citing to Section 3 of the Small Business Act, 15 U.S.C. 632.

Furthermore, because of their pivotal roles in wholesale electric power markets in their regions, none of the RTOs/ISOs meet the last criterion of the two-part RFA definition a small entity: “not dominant in its field of operation.” As a result, we certify that this Final Rule would not have a significant economic impact on a substantial number of small entities.

IX. Document Availability

149. In addition to publishing the full text of this document in the **Federal Register**, the Commission provides all interested persons an opportunity to view and/or print the contents of this document via the internet through FERC’s Home Page (<http://www.ferc.gov>) and in FERC’s Public Reference Room during normal business hours (8:30 a.m. to 5:00 p.m. Eastern time) at 888 First Street NE, Room 2A, Washington, DC 20426.

150. From the Commission’s Home Page on the internet, this information is available on eLibrary. The full text of this document is available on eLibrary in PDF and Microsoft Word format for viewing, printing, and/or downloading. To access this document in eLibrary, type the docket number excluding the last three digits of this document in the docket number field.

151. User assistance is available for eLibrary and the FERC’s website during normal business hours from FERC Online Support at (202) 502–6652 (toll free at 1–866–208–3676) or email at ferconlinesupport@ferc.gov, or the Public Reference Room at (202) 502–8371, TTY (202) 502–8659. Email the Public Reference Room at public.referenceroom@ferc.gov.

X. Effective Date and Congressional Notification

152. These regulations are effective July 9, 2018. The Commission has determined, with the concurrence of the Administrator of the Office of Information and Regulatory Affairs of OMB, that this rule is not a “major rule” as defined in section 251 of the Small

Business Regulatory Enforcement Fairness Act of 1996. The Final Rule will be provided to both Houses of Congress, the Government Accountability Office, and the Small Business Administration.

List of Subjects in 18 CFR Part 35

Electric power rates, Electric utilities, Reporting and recordkeeping requirements.

By the Commission.
 Issued: April 19, 2018.

Nathaniel J. Davis, Sr.,
Deputy Secretary.

Regulatory Text

In consideration of the foregoing, the Commission amends part 35, chapter I, title 18, *Code of Federal Regulations*, as follows:

PART 35—FILING OF RATE SCHEDULES AND TARIFFS

■ 1. The authority citation for part 35 continues to read as follows:

Authority: 16 U.S.C. 791a–825r, 2601–2645; 31 U.S.C. 9701; 42 U.S.C. 7101–7352.

■ 2. Amend § 35.28 by adding paragraph (g)(10) to read as follows:

§ 35.28 Non-discriminatory open access transmission tariff.

* * * * *
 (g) * * *

(10) *Transparency*—(i) *Uplift reporting*. Each Commission-approved independent system operator or regional transmission organization must post two reports, at minimum, regarding uplift on a publicly accessible portion of its website. First, each Commission-approved independent system operator or regional transmission organization must post uplift, paid in dollars, and categorized by transmission zone, day, and uplift category. Transmission zone shall be defined as the geographic area that is used for the local allocation of charges. Transmission zones with fewer than four resources may be aggregated with one or more neighboring transmission zones, until each

aggregated zone contains at least four resources, and reported collectively. This report shall be posted within 20 calendar days of the end of each month. Second, each Commission-approved independent system operator or regional transmission organization must post the resource name and the total amount of uplift paid in dollars aggregated across the month to each resource that received uplift payments within the calendar month. This report shall be posted within 90 calendar days of the end of each month.

(ii) *Reporting Operator-Initiated Commitments*. Each Commission-approved independent system operator or regional transmission organization must post a report of each operator-initiated commitment listing the size of the commitment, transmission zone, commitment reason, and commitment start time on a publicly accessible portion of its website within 30 calendar days of the end of each month. Transmission zone shall be defined as a geographic area that is used for the local allocation of charges. Commitment reasons shall include, but are not limited to, system-wide capacity, constraint management, and voltage support.

(iii) *Transmission constraint penalty factors*. Each Commission-approved independent system operator or regional transmission organization must include, in its tariff, its transmission constraint penalty factor values; the circumstances, if any, under which the transmission constraint penalty factors can set locational marginal prices; and the procedure, if any, for temporarily changing the transmission constraint penalty factor values. Any procedure for temporarily changing transmission constraint penalty factor values must provide for notice of the change to market participants.

Note: The following appendix will not appear in the Code of Federal Regulations.

Appendix—List of Short Names/ Acronyms of Commenters

Short name/acronym	Commenter
APPA/NRECA	American Public Power Association and National Rural Electric Cooperative Association.
Appian Way	Appian Way Energy Partners, LLC.
AWEA	American Wind Energy Association.
Brookfield	Brookfield Energy Marketing LP.
CAISO	California Independent System Operator Corporation.
CAISO Market Monitor	Department of Market Monitoring for the California Independent System Operator Corporation.
California SWP	California Department of Water Resources State Water Project.
Calpine	Calpine Energy Solutions, LLC.
Competitive Suppliers	Electric Power Supply Association; PJM Power Providers; and Western Power Trading Forum.
Direct Energy	Direct Energy Business, LLC, on behalf of itself and its affiliate, Direct Energy Business Marketing, LLC.
Diversified Trading/eXion Energy	Diversified Trading Company, LLC and eXion Energy, Inc.
EDF	EDF Renewable Energy, Inc.

Short name/acronym	Commenter
EEI	Edison Electric Institute.
ELCON	Electricity Consumers Resource Council.
Exelon	Exelon Corporation.
Financial Marketers Coalition	Financial Marketers Coalition.
Golden Spread	Golden Spread Electric Cooperative, Inc.
ISO-NE	ISO New England, Inc.
IRC	ISO/RTO Council.
Joint Marketers	DC Energy, LLC; Mercuria Energy Trading, Inc.; and Perdisco Trading, LLC.
MISO	Midcontinent Independent System Operator, Inc.
MISO Transmission Owners	Ameren Services Company, as agent for Union Electric Company d/b/a Ameren Missouri, Ameren Illinois Company d/b/a Ameren Illinois and Ameren Transmission Company of Illinois; Big Rivers Electric Corporation; Central Minnesota Municipal Power Agency; City Water, Light & Power (Springfield, IL); Cleco Power LLC; Cooperative Energy; Dairyland Power Cooperative; Duke Energy Business Services, LLC for Duke Energy Indiana, LLC; East Texas Electric Cooperative; Entergy Arkansas, Inc.; Entergy Louisiana, LLC; Entergy Mississippi, Inc.; Entergy New Orleans, Inc.; Entergy Texas, Inc.; Great River Energy; Hoosier Energy Rural Electric Cooperative, Inc.; Indiana Municipal Power Agency; Indianapolis Power & Light Company; MidAmerican Energy Company; Minnesota Power (and its subsidiary Superior Water, L&P); Missouri River Energy Services; Montana-Dakota Utilities Co.; Northern Indiana Public Service Company; Northern States Power Company, a Minnesota corporation, and Northern States Power Company, a Wisconsin corporation, subsidiaries of Xcel Energy Inc.; Northwestern Wisconsin Electric Company; Otter Tail Power Company; Prairie Power Inc.; Southern Illinois Power Cooperative; Southern Indiana Gas & Electric Company (d/b/a Vectren Energy Delivery of Indiana); Southern Minnesota Municipal Power Agency; Wabash Valley Power Association, Inc.; and Wolverine Power Supply Cooperative, Inc.
NCPA	Northern California Power Agency.
NYISO	New York Independent System Operator, Inc.
PG&E	Pacific Gas and Electric Company.
PJM	PJM Interconnection, L.L.C.
PJM Market Monitor	Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor for PJM.
Potomac Economics	Potomac Economics, Ltd.
R Street Institute	R Street Institute.
Six Cities	Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside, California.
SPP	Southwest Power Pool, Inc.
SPP Market Monitor	Southwest Power Pool, Inc. Market Monitoring Unit.
TAPS	Transmission Access Policy Study Group.
XO Energy	XO Energy, LLC.

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