REDACTED VERSION

* * *

> Reliance on multiple tests recognizes that no single methodology produces a precise definitive estimate of the cost of equity. As stated in Bonbright, Danielsen, and Kamerschen (1988), '*no single or group test or technique is conclusive*.' (italics in original)
>
> * * *
>
> **While it is certainly appropriate to use the DCF methodology to estimate the cost of equity, there is no proof that the DCF produces a more accurate estimate of the cost of equity than other methodologies.** Sole reliance on the DCF model ignores the capital market evidence and financial theory formalized in the CAPM and other risk premium methods. **The DCF model is one of many tools to be employed in conjunction with other methods to estimate the cost of equity.** It is not a superior methodology that supplants other financial theory and market evidence. The broad usage of the DCF methodology in regulatory proceedings in contrast to its virtual disappearance in academic textbooks does not make it superior to other methods. The same is true of the Risk Premium and CAPM methodologies. (emphasis added)[146]

Finally, Brigham and Gapenski note:

> In practical work, *it is often best to use all three methods* – CAPM, bond yield plus risk premium, and DCF – and then apply judgment when the methods produce different results. People experienced in estimating equity capital costs recognize that both careful analysis and some very fine judgments are required. It would be nice to pretend that these judgments are unnecessary and to specify an easy, precise way of determining the exact cost of equity capital. Unfortunately, this is not possible. Finance is in large part a matter of judgment, and we simply must face this fact. (italics in original)[147]

146 Morin, at 476-480.
147 Eugene F. Brigham and Louis C. Gapenski, Financial Management – Theory and Practice, 4th Ed. (The Dryden Press, 1985) at 256.

REDACTED VERSION

In the academic literature cited above, three methods are consistently mentioned: the DCF, CAPM, and the RPM, all of which I used in my analyses.

Q. ARE THERE OTHER REASONS WHY PRIMARY RELIANCE ON THE DCF MODEL IS PROBLEMATIC AT THIS TIME?

A. Yes, there is. Traditional rate base / rate of return regulation, where a market-based common equity cost rate is applied to a book value rate base, presumes that the M/B ratios are at unity or 1.00. However, that is rarely the case. Morin states:

> The third and perhaps most important reason for caution and skepticism is that application of the DCF model produces estimates of common equity cost that are consistent with investors' expected return only when stock price and book value are reasonably similar, that is, when the M/B is close to unity. As shown below, application of the standard DCF model to utility stocks understates the investor's expected return when the M/B ratio of a given stock exceeds unity. This was particularly relevant in the capital market environment of the early 2020s when utility stocks are trading at M/B ratios well above unity and have been for nearly two decades. The converse is also true, that is, the DCF model overstates the investor's return when the stock's M/B ratio is less than unity. The reason for the distortion is that the DCF market return is applied to a book value rate base by the regulator, that is, a utility's earnings are limited to earnings on a book value rate base[148].

As Morin explains, DCF models assume an M/B ratio of 1.0 and therefore under- or over-states investors' required return when market value exceeds or is less than book value, respectively. It does so because equity investors evaluate and receive their returns on the market value of a utility's common equity, whereas regulators authorize returns on the book value of common equity. This means that the market-based DCF will produce the

148 Morin, at 481-482.

REDACTED VERSION

total annual dollar return expected by investors, only when market and book values of common equity are equal, a very rare and unlikely situation.

Q. WHY DO MARKET AND BOOK VALUES DIVERGE?

A. Market values can diverge from book values for a myriad of reasons including, but not limited to, EPS and dividends per share ("DPS") expectations, merger/acquisition expectations, interest rates, etc. As noted by Phillips and Bonbright, above.

Q. CAN THE UNDER- OR OVER-STATEMENT OF INVESTORS' REQUIRED RETURN BY THE DCF MODEL BE DEMONSTRATED MATHEMATICALLY?

A. Yes. Exhibit DWD-R-15, pages 1 and 2, demonstrate how Ms. Reno's and Dr. Woolridge's market-based DCF cost rates, when applied to a book value substantially below market value, will understate investors' required return on market value. As shown, there is no realistic opportunity to earn the expected market-based rate of return on book value. Using Ms. Reno's DCF cost rate, for example, in Column [A], investors expect a 9.10% return on an average market price of $71.78 for Ms. Reno's proxy group. Column [B] shows that when Ms. Reno's 9.10% return rate is applied to a book value of $38.73,[149] the total annual return opportunity is $3.53. After subtracting dividends of $2.52, the investor only has the opportunity for $1.01 in market appreciation, or 1.40%. The magnitude of the understatement of investors' required return on market value using Ms. Reno's 9.10% cost rate is 4.19%, which is calculated by subtracting the market appreciation based on book value of 1.40% from Ms. Reno's expected growth rate of 5.59%. As shown on page 2 of Exhibit DWD-R-15, Dr. Woolridge's DCF result understates the investor required returns by 4.73%.

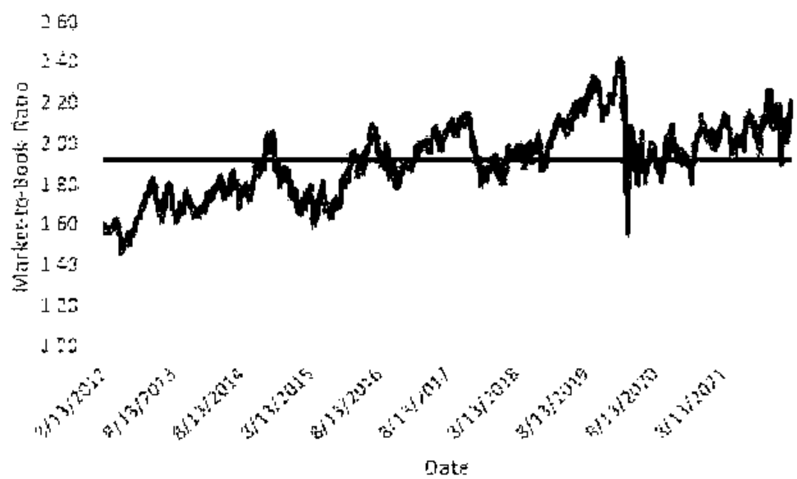
149 Representing a market-to-book ratio of 185.31%.

REDACTED VERSION

Q. HOW DO THE M/B RATIOS OF MS. RENO'S AND DR. WOOLRIDGE'S PROXY GROUPS COMPARE TO THE TEN-YEAR AVERAGE?

A. The M/B ratios of the Opposing Witnesses' proxy groups are currently close to their ten-year averages. As shown in Chart 11 below, with the exception of more recent periods, since 2016, the M/B ratios of the Combined Proxy Group have generally been in-line or above the ten-year average M/B ratios of approximately 1.92 times, and significantly above 1.0 times.

Chart 11: M/B Ratios of the Opposing ROE Witness' Combined Proxy Group Compared With Ten-Year Average[150]



Q. IS THERE ANOTHER WAY TO QUANTIFY THE INACCURACY OF THE DCF MODEL WHEN M/B RATIOS ARE NOT AT UNITY?

A. Yes. One can quantify the inaccuracy of the DCF model when M/B ratios are not at unity by estimating the implied DCF model results (based on a market-value capital structure) to reflect a book-value capital structure. This can be measured by first calculating the market value of each proxy company's capital structure, which consists of the market value of the

150 Source: S&P Capital IQ.

REDACTED VERSION

company's common equity (shares outstanding multiplied by price), and the fair value of the company's long-term debt and preferred stock. All of these measures, except for price, are available in each company's SEC Form 10-K.

Second, one must de-leverage the implied cost of common equity based on the DCF. This is derived using the Modigliani / Miller equation[151] as illustrated in Exhibit DWD-16-R and shown below:

$$ku = ke - (((ku - i)(1 - t))\ D/E) - (ku - d)\ P/E$$

where:

ku	=	Unlevered (i.e., 100% equity) cost of common equity;
ke	=	Market determined cost of common equity;
i	=	Cost of debt;
t	=	Income tax rate;
D	=	Debt ratio;
E	=	Equity ratio;
d	=	Cost of preferred stock; and
P	=	Preferred equity ratio.

For example, using data specific to Ms. Reno's proxy group, the equation becomes:

$$ku = 9.10\% - (((ku - 3.75\%)(1 - 21\%))\ 42.52\% / 57.04\%) - (ku - 5.13\%)\ 0.44\% / 57.04\%$$

Solving for ku results in an unlevered cost of common equity of 7.11%. Next, one must re-lever those costs of common equity by relating them to each proxy group's average book capital structure as shown below:

$$ke = ku + (((ku - i)(1 - t))\ D/E) + (ku - d)\ P/E$$

Once again, using data specific to Ms. Reno's proxy group, the equation becomes:

151 The Modigliani / Miller theorem is an influential element of economic theory and forms the basis for modern theory on capital structure. *See*, F. Modigliani and M. Miller, "The Cost of Capital, Corporation Finance and the Theory of Investment", *The American Economic Review*, Vol. 48, No. 3, (June 1958), at 261-297.

REDACTED VERSION

ke =7.11% + (((7.11%-3.75%)(1-21%))56.51%/42.88%) + (7.11%-5.13%)0.61%/42.88%

Solving for ke results in an 10.63% indicated cost of common equity relative to the book capital structure of the proxy group, which is an increase of 1.53% over Ms. Reno's indicated DCF result of 9.10%.[152]

Q. ARE YOU ADVOCATING A SPECIFIC ADJUSTMENT TO THE DCF RESULTS TO CORRECT FOR ITS MIS-SPECIFICATION OF THE INVESTOR-REQUIRED RETURN?

A. No. The purpose of this discussion is to demonstrate that, like all cost of common equity models, the DCF has its limitations and that the use of multiple cost of common equity models in conjunction with informed expert judgment provides a more accurate and reliable picture of the investor-required ROE than does a narrow evaluation of the results of one model. In view of all of the above, I recommend that the Commission consider multiple models in determining the ROE for Oncor in this proceeding.

B. Application of the Discounted Cash Flow Model

Q. PLEASE SUMMARIZE MS. RENO'S APPLICATION OF THE DCF MODEL?

A. Ms. Reno applies a constant growth DCF model using analysts' growth rates, price data for the 30-and-90-day periods ending July 29, 2022, and the annualized quarterly dividend most recently paid as reported in *Value Line*.[153] For her projected three- to five-year EPS growth rates, Ms. Reno uses Value Line, Zacks, CNN, and Yahoo! Finance.[154] Ms. Reno also uses an alternative DCF model which also incorporates Value Line's projected DPS and book-value-per-share ("BVPS") estimates.[155] Lastly, Ms. Reno

152 On page 2 of Exhibit DWD-16-R, using the Modigliani/Miller equation relative to Dr. Woolridge's proxy group result in an indicated DCF result of 10.56%.
153 Reno Direct Testimony, at 29-30; Exhibits MLR-5, MLR-6.
154 Reno Direct Testimony, at 30.
155 Reno Direct Testimony, at 31

REDACTED VERSION

also develops a DCF model using sustainable growth rates derived from Value Line data.[156] From these results, Ms. Reno concludes that the indicated DCF model result is between 7.95% and 9.43% with a point estimate of 8.69%.[157]

Q. WHAT CONCERNS DO YOU HAVE WITH MS. RENO'S DCF ANALYSIS?

A. I am concerned with the following: (1) her use of projected DPS and BVPS growth rates; and (2) her use of a sustainable growth rate.

Q. WHY DO YOU DISAGREE WITH MS. RENO'S USE OF DPS AND BVPS GROWTH RATES?

A. Over the long run, there can be no growth in DPS or BVPS without growth in EPS. Earnings expectations have a more significant, but not sole, influence on market prices than dividend expectations. Thus, the use of earnings growth rates in a DCF analysis provides a better match between investors' market appreciation expectations implicit in market prices and the growth rate component of the DCF. Consequently, earnings expectations have a significant influence on market prices which affect market price appreciation, and hence, the "growth" experienced by investors. This should be evident just by listening to financial news reports on radio, TV, or reading newspapers. In fact, Morin states:

> Because of the dominance of institutional investors and their influence on individual investors, analysts' forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial analysts exert a strong influence on the expectations of many investors who do not possess the resources to make their own forecasts, that is, they are a cause of g. The accuracy of these forecasts in the sense of whether they turn out to be correct is not at issue here, as long as they reflect widely held expectations. As long as the forecasts are typical and/or influential in that they are consistent with current stock price levels, they are relevant.

156 Reno Direct Testimony, at 32-33.
157 Reno Direct Testimony, at 35.

REDACTED VERSION

> The use of analysts' forecasts in the DCF model is sometimes denounced on the grounds that it is difficult to forecast earnings and dividends for only one year, let alone for longer time periods. This objection is unfounded, however, because it is present investor expectations that are being priced; it is the consensus forecast that is embedded in price and therefore in required return, and not the future as it will turn out to be.
>
> * * *
>
> Published studies in the academic literature demonstrate that growth forecasts made by security analysts represent an appropriate source of DCF growth rates, are reasonable indicators of investor expectations and are more accurate than forecasts based on historical growth. These studies show that investors rely on analysts' forecasts to a greater extent than on historic data.[158]

In addition, studies performed by Cragg and Malkiel demonstrate that analysts' forecasts are superior to historical growth rate extrapolations. They state:

> Efficient market hypotheses suggest that valuation should reflect the information available to investors. Insofar as analysts' forecasts are more precise than other types we should therefore expect their differences from other measures to be reflected in the market. It is therefore noteworthy that our regression results do support the hypothesis that analysts' forecasts are needed even when calculated growth rates are available. As we noted when we described the data, security analysts do not use simple mechanical methods to obtain their evaluations of companies. The growth-rate figures we obtained were distilled from careful examination of all aspects of the companies' records, evaluation of contingencies to which they might be subject, and whatever information about their prospects the analysts could glean from the companies themselves of from other sources. It is therefore notable that the results of their efforts are found to be so much more

158 Morin, at 371-373.

REDACTED VERSION

> relevant to the valuation than the various simpler and more "objective" alternatives that we tried.[159]

In addition, Vander Weide and Carleton conclude:

> . . . . our studies affirm the superiority of analysts' forecasts over simple historical growth extrapolations in the stock price formation process. Indirectly, this finding lends support to the use of valuation models whose input includes expected growth rates.[160]

Burton G. Malkiel, the Chemical Bank Chairman's Professor of Economics at Princeton University and author of the widely read national bestseller book on investing entitled, A Random Walk Down Wall Street (2011), also expressed support for projected EPS growth rates in testimony before the Public Service Commission of South Carolina in November 2002. Malkiel affirmed his belief in the superiority of analysts' earnings forecasts when he testified:

> With all the publicity given to tainted analysts' forecasts and investigations instituted by the New York Attorney General, the National Association of Securities Dealers, and the Securities & Exchange Commission, I believe the upward bias that existed in the late 1990s has indeed diminished. In summary, I believe that current analysts' forecasts are more reliable than they were during the late 1990s. *Therefore, analysts' forecasts remain the proper tool to use in performing a Gordon Model DCF analysis.* (Rebuttal testimony, South Carolina Electric and Gas Co., pp. 16-17, Docket No. 2002-223-E) (italics added)

Q. IN REVIEWING THE FINANCIAL LITERATURE, DID YOU DISCOVER ANY PUBLICATIONS THAT SUPPORTED THE USE OF PROJECTED

---

159 John G. Cragg and Burton G. Malkiel, Expectations and the Structure of Share Prices (University of Chicago Press, 1982) Chapter 4.

160 James H. Vander Weide and Willard T. Carleton, *Investor Growth Expectations: Analysts vs. History* (The Journal of Portfolio Management, Spring 1988) 78-82.

REDACTED VERSION

DPS OR PROJECTED BVPS GROWTH RATES FOR USE IN A DCF MODEL?

A. No, I did not.

Q. LIKEWISE, ARE YOU AWARE OF ANY SOURCES OF DATA WHICH PROVIDE PROJECTED DPS OR BVPS GROWTH RATES TO INVESTORS?

A. *Value Line* is the only source of which I am aware that publishes projected DPS and BVPS growth rates. If investors indeed valued projected DPS and BVPS growth rates there would be a market for that data. As they are not relied on by investors to determine their required returns on investments, there is no such market. Conversely, projected EPS growth rates are widely available to investors through many sources.[161]

In view of all of the above, the use of a constant growth DCF model using projected EPS growth rates is the appropriate application of the DCF model for utility companies like Oncor.

Q. WHY DO YOU DISAGREE WITH MS. RENO'S SUSTAINABLE GROWTH DCF MODEL?

A. Morin discusses the sustainable growth model and shows that it relies on knowledge of several factors, including:

- "b": the fraction of earnings per share retained;
- "r": the rate of return on equity (ROE);
- "s": the growth rate in common equity due to the sale of stock; and
- "v": the fraction of a stock sale that increases existing book value.

Specifically, Morin, states the following:

161 For example, I use projected EPS growth rates from *Value Line*, Yahoo! Finance, and Zacks.

REDACTED VERSION

There are three problems in the practical application of the sustainable growth method:

(1) It may be even more difficult to estimate what b, r, s and v investors have in mind than it is to estimate what g they envisage. It would appear far more economical and expeditious to use available growth forecasts and obtain g directly instead of relying on four individual forecasts of the determinants of such growth. *It seems only logical that the measurement and forecasting errors inherent in using four different variables to predict growth far exceed the forecasting error inherent in the direct forecast of growth itself.*

(2) There is an element of circularity in estimating g by a forecast of b and ROE for the utility being regulated, since ROE is determined in large part by regulation. To estimate what ROE resides in the minds of investors is equivalent to estimating the market's assessment of the outcome of regulatory hearings. Expected ROE is exactly what regulatory commissions set in determining an allowed rate of return. In other words, the method requires an estimate of ROE before it can even be implemented. *Common sense would dictate the inconsistency of a return on equity recommendation that is different than the expected ROE that the method assumes the utility will earn forever.*

For example, using an expected return on equity of 11% to determine the growth rate and using the growth rate to recommend a return on equity of 9% is inconsistent. *It is not reasonable to assume that this regulatory utility company is expected to earn 11% forever, but estimate a 9% return on equity. The only way this utility can earn 11% is that rates be set by the regulator so that the utility will in fact earn 11%....*

(3) The empirical finance literature discussed earlier demonstrates that the sustainable growth method of determining growth is not as significantly correlated to measures of value, such as stock price and price/earnings ratios, as other historical measures or analysts' growth forecasts. *Other proxies for growth such as historical growth*

REDACTED VERSION

> *rates and analysts' growth forecasts outperform retention growth estimates.* (emphasis added)[162]

The circular nature of the sustainable growth DCF is illustrated in the following steps:

1. The sustainable growth rate relies on an expected ROE on book common equity;
2. That expected ROE on book common equity is then used in a DCF analysis to establish an ROE cost rate related to the market value of the common stock; and
3. That market-related ROE, if authorized as the allowed ROE in a regulatory proceeding, becomes the expected ROE on book common equity.

Put simply, the estimated ROEs Ms. Reno used to derive his sustainable growth rate become the regulatory outcome of this proceeding, even as those ROEs are themselves based on regulatory outcomes.

Q. DO YOU HAVE ANY OTHER CONCERNS WITH THE USE OF THE SUSTAINABLE GROWTH RATE AS A MEASURE OF LONG-TERM GROWTH?

A. Yes. The sustainable growth rate assumes increasing retention ratios necessarily are associated with increasing future growth. The underlying premise is that future earnings will increase as the retention ratio increases. That is, if future growth is modeled as "b x r" (where "b" is the retention ratio and "r" is the earned return on book equity), growth will increase as "b" increases. There are several reasons, however, why that may not be the case. Consequently, it is appropriate to determine whether the data supports the assumption that higher earnings retention ratios necessarily are associated with higher future earnings growth rates.

162 Morin, at 383-384.

REDACTED VERSION

Q. DOES INDEPENDENT RESEARCH SUPPORT THE FINDING THAT FUTURE EARNINGS AND THE RETENTION RATIO ARE NOT POSITIVELY RELATED?

A. Yes. In 2006, for example, two articles in Financial Analysts Journal addressed the theory that high dividend payouts (*i.e.*, low retention ratios) are associated with low future earnings growth.[163] Both articles cite a 2003 study by Arnott and Asness,[164] who found that over the course of 130 years of data, future earnings growth is associated with high, rather than low, payout ratios.[165] In essence, the findings of all three studies found that there is a negative, not a positive, relationship between the two.

Q. DID YOU PERFORM ANY ANALYSES TO TEST THAT ASSUMPTION?

A. Yes, I did. Using EPS and DPS data from *Value Line*, I calculated the historical dividend payout ratio, retention ratio, and subsequent five-year average earnings growth rate for each company used in Mr. Gorman's proxy groups. I then performed a regression analysis in which the dependent variable was the five-year earnings growth rate, and the explanatory variable was the earnings retention ratio. The purpose of that analysis was to determine whether the data empirically supports the assumption that higher retention ratios necessarily produce higher earnings growth rates.

Q. WHAT DID THAT ANALYSIS REVEAL?

A. As shown in Exhibit DWD-R-17 and Table 12, below, there was a statistically significant negative relationship between the five-year average

163 *See*, Ping Zhou, William Ruland, *Dividend Payout and Future Earnings Growth*, Financial Analysts Journal, Vol. 62, No. 3, 2006. *See also*, Owain ap Gwilym, James Seaton, Karina Suddason, Stephen Thomas, *International Evidence on the Payout Ratio, Earnings, Dividends and Returns*, Financial Analysts Journal, Vol. 62, No. 7, 2006.

164 *See*, Robert Arnott, Clifford Asness, *Surprise: Higher Dividends = Higher Earnings Growth*, Financial Analysts Journal, Vol. 59, No. 1, January/February 2003.

165 Because the payout ratio is the inverse of the retention ratio, the authors found that future earnings growth is negatively related to the retention ratio.

REDACTED VERSION

earnings growth rate and the earnings retention ratio. That is, based on *Value Line* data, earnings growth decreased as the retention ratio increased. Those findings clearly call into question Ms. Reno's use of the sustainable growth rate as a proxy for the long-term growth rate in her analysis.

Table 12: Retention Ratio / Earnings Growth[166]

	Coefficient	Standard Error	t-Statistic
Intercept	0.1827	0.0166	11.0284
Retention Ratio	-0.3538	0.0368	-9.6016

Q. DO THOSE RESULTS MAKE PRACTICAL SENSE?

A. Yes, they do. As a practical matter, dividend-paying companies (such as utilities) are reluctant to reduce dividends, given the often-disproportionate stock price reaction. Consequently, a higher than expected dividend increase may signal management's confidence in higher future earnings and cash flow. That is, a near-term reduction in the retention ratio supporting a higher dividend increase may provide information or "signaling" content regarding future growth prospects.[167] In view of the foregoing, Ms. Reno's use of a sustainable growth rate DCF analysis is an exercise in circularity which ignores the basic principle of rate base/rate of return regulation.

Q. WHAT IS MS. RENO'S INDICATED ROE USING THE DCF MODEL IF SHE CORRECTLY RELIED ONLY ON PROJECTED EPS GROWTH RATES?

A. As shown on Exhibits MLR-5a and 5c, the indicated range of ROEs would be between 9.37% to 9.43%.

166 Exhibit DWD-R-17.
167 *See*, Eugene F. Brigham, Louis C. Gapenski, Financial Management, Theory and Practice, Seventh Ed., 1994, at 618.

REDACTED VERSION

C. Application of the Capital Asset Pricing Model

Q. PLEASE BRIEFLY SUMMARIZE MS. RENO'S CAPM ANALYSIS AND RESULTS.

A. Ms. Reno's CAPM and ECAPM analysis uses a 90-day average 30-year Treasury bond (3.14%) as well as Kroll's normalized risk-free rate (3.50%), *Value Line* betas, and three market risk premium measures ranging from 5.50% to 7.46%.[168]

Q. WHAT CONCERNS DO YOU HAVE WITH MS. RENO'S CAPM ANALYSIS?

A. I am concerned with her use of a current risk-free rate and her choice of MRPs. I have previously discussed the inappropriate nature of current interest rates for cost of capital purposes in response to Mr. Ordonez and I will not repeat that discussion here.

Q. DO YOU AGREE WITH MS. RENO'S SUPPLY SIDE MRP OF 6.22%?

A. No, I do not. I do not agree with the supply side MRP because the MRP mismatches a projected return on the market with a historical bond yield. A more correct way to derive that MRP would be to use the projected return and subtract a projected risk-free rate. On page 208 of SBBI – 2022, the Ibbotson and Chen supply side model produces a forward-looking geometric return on the market of 9.38%.[169] Converting the 9.38% geometric mean return to an arithmetic mean return results in an arithmetic, forward-looking market return of 11.31%.[170] Subtracting the applicable risk-free rate of 3.54% results in a forward-looking MRP of 7.61%.

---

168 Reno Direct Testimony, at 35-39.
169 SBBI – 2022, at 208.
170 The conversion of a geometric mean return to an arithmetic mean return is shown in SBBI – 2022, at 209. $11.31\% = 9.38\% + 19.64\%^2/2$

REDACTED VERSION

Q. WHAT IS YOUR POSITION ON THE 5.50% MRP QUOTED BY KROLL?

A. A forecast is only as good as its inputs, and if the assumptions within those forecasts are by its nature unpredictable (*e.g.* productivity growth forecasts), they are of little value. In addition, the determination of the MRP as calculated by Kroll is not transparent, especially in view of the data presented in SBBI – 2022, which is already well known by investors.

Q. WHAT WOULD MS. RENO'S CAPM RESULTS BE AFTER UPDATING HER MRP AND RISK-FREE RATE?

A. As shown on Exhibit DWD-R-18, the indicated range of ROEs using the CAPM is from 10.15% to 10.40% with a midpoint of 10.27%.

D. Comparable Earnings Model

Q. PLEASE DESCRIBE MS. RENO'S COMPARABLE EARNINGS MODEL.

A. Ms. Reno's comparable earnings model examines the realized ROEs from her utility proxy group as reported by Value Line and compares the investor acceptance of those earned ROEs given the corresponding market-to-book ratios.[171] In calculating the M/B ratios of her proxy group Ms. Reno uses the annual average stock price divided by the Value Line reported BVPS. Given the data, Ms. Reno concludes that given the earned ROEs, the proxy group companies were able to attract investors, noting that the average M/B ratio was 1.73x and the median historical ROE was 9.83%

Q. DO YOU HAVE ANY CONCERNS WITH MS. RENO'S COMPARABLE EARNINGS MODEL?

A. Yes, I do. I am concerned with her use of historical earned returns on book equity, an accounting measure, as a proxy for an investor's required ROE, which is a market measure, and her assumption that there is a relationship between M/B ratios and ROEs. As I have shown that there is no relationship

171 Reno Direct Testimony, at 43-44.

FitchRatings

Fitch Downgrades CenterPoint Energy Houston Electric to 'BBB+'; Affirms CNP; Outlooks Negative

Fitch Ratings - New York - 19 February 2020:

Fitch Rating has downgraded CenterPoint Energy Houston Electric's (CEHE) Long-Term Issuer Default Rating (IDR) to 'BBB+' from 'A-'. The Rating Outlook has been revised to Negative from Stable. In addition, Fitch has affirmed CenterPoint Energy Corp.'s (CNP) Long-Term IDR at 'BBB' and has revised the Rating Outlook to Negative from Stable. A full list of rating actions follows at the end of this release.

Today's rating action follows the approval of CEHE's rate case settlement by the Public Utilities Commission of Texas (PUCT) on Feb. 14, 2020. Fitch believes that the unfavorable outcome signals a more challenging regulatory environment in Texas for CEHE. Lower authorized returns and equity capitalization, combined with tax-reform related refund will pressure CEHE's and CNP's credit metrics in the next few years. Further negative rating action is possible if CEHE's and CNP's FFO adjusted leverage sustains above 5x and 5.2x, respectively. Although the proposed sale of the Infrastructure Services business will facilitate debt reduction and improve CNP's operating risk modestly, Fitch estimates that the transaction has minimal impact on the consolidated FFO adjusted leverage ratio.

RATING ACTIONS

ENTITY/DEBT	RATING	PRIOR
CenterPoint Energy, Inc.	LT IDR BBB Affirmed	BBB
	ST IDR F2 Affirmed	F2
senior unsecured	LT BBB Affirmed	BBB
junior subordinated	LT BB+ Affirmed	BB+
senior secured	LT A Downgrade	A+
preferred	LT BB+ Affirmed	BB+
senior unsecured	ST F2 Affirmed	F2
senior unsecured	ULT BBB Affirmed	BBB

senior secured	LT A Downgrade	A+
CenterPoint Energy Houston Electric, LLC	LT IDR BBB+ Downgrade	A-
	ST IDR F2 Affirmed	F2
senior unsecured	LT A- Downgrade	A
senior secured	LT A Downgrade	A+

Key Rating Drivers

Negative Rate Case: On Feb. 14, 2020, the PUCT approved CEHE's rate case settlement, authorizing a $13 million or 0.52% base rate increase. The increase reflects a 9.4% Return on Equity (ROE) and 42.5% equity capitalization, below the existing 10% authorized ROE and 45% equity ratio, and lower than the industry's average authorized ROE. The ROE is the lowest among all transmission and distribution utilities operating in Texas while the equity capitalization is average. CEHE will refund $105 million federal tax reform-related unprotected excess accumulated deferred federal income tax, or UEDIT, over a three-year period. CEHE also agreed to not file for the Distribution Cost Recovery Factor (DCRF) in 2020. New rates will take effect 45 days after the approval of the order.

Credit Metrics: The rate case has material negative impact on CEHE and CNP's credit metrics. Barring any mitigating actions, Fitch estimates that CEHE's FFO adjusted leverage will range in the high 4x to low 5x in the next three years, and that CNP's FFO adjusted leverage will hover around the 5.3x guideline ratio for a downgrade. The leverage ratio has incorporated the expected sale of the Infrastructure Services business.

Regulatory Ring-fencing Enhances Protection: The rate order will impose a set of regulatory ring-fencing measures but does not include certain dividend restrictions. The ring-fencing provisions will further enhance credit separation among CEHE, CNP and affiliates and are complimentary to the existing corporate governance structure. The existing money pool arrangement will remain.

Asset Sale Modestly Improves Business Risk: The proposed sale of the unregulated Infrastructure Services business will mildly improve CNP's credit profile, increasing its utilities earnings to 80% over the next few years from 75%. However, the transaction has minimal impact on the consolidated FFO adjusted leverage ratio, as the earnings loss will largely offset the debt reduction.

Rating Linkages: Generally, absence of guarantees and cross-defaults, and dividend restrictions among other factors render legal ties weak between CEHE and CNP. While operational and strategic ties are strong between them, a prescribed regulatory capital structure for CEHE lead to weak linkage with CNP. Fitch typically restricts the IDR notching differential to two notches.

Fitch applies a bottom-up approach in rating CEHE and CNP. CEHE's ratings reflect their stand-alone credit profile while CNP's ratings reflect a consolidated credit profile. Fitch considers CEHE stronger than CNP, due to its lower operating risks as a fully regulated transmission and distribution company. Conversely, CNP's investment in Enable and other unregulated businesses carry higher risks than the regulated operations.

Historically, high level of parent only debt (>25%) have also resulted in weaker credit metrics at CNP. Upon the reduction of equity layer at CEHE and debt paydown at CNP as a result of the sale of the Infrastructure Services business, CNP's parent-level debt is expected to decline.

Derivation Summary

CNP carries higher operating risks than the fully regulated NiSource Inc. (NiSource, BBB/Stable), due to its investment in the Enable Midstream Partners (Enable; BBB-/Stable) and other non-utility businesses. Similar to Sempra Energy (BBB+/Stable), approximately 75% of CNP's earnings (including its share of Enable's distribution) is from regulated utilities. Upon the closing of the sale of the Infrastructure Services business, utilities could represent 80% of the total earnings over the next few years. However, Fitch considers Enable's midstream business riskier than Sempra's Cameron liquefied natural gas project, which is fully contracted and has no commodity risks. CNP's utilities are more geographically diversified and more insulated from the aggressive renewable standards and wildfire risks than Sempra's California utilities. CNP and OGE Energy (BBB+/Stable) are both exposed to the commodity sensitive midstream business through Enable. CNP's utility operations are diversified, whereas OGE's only utility is concentrated in Oklahoma. CNP and OGE both experienced negative regulatory treatment. Absent any offsetting measures after the rate case, CNP's FFO-adjusted leverage is estimated to be in the low to mid-5x in the next two years, weaker than Sempra Energy's 5x and OGE Energy's 3.8x. NiSource's credit metrics were affected by the gas explosions in 2018, but expected to return to normal after receiving insurance proceeds and equity issuances.

Prior to the rate case, CEHE benefited from slightly more favorable regulatory treatment than its peers. CEHE's 2010 rate case authorized a 45% equity ratio, higher than Oncor Electric Delivery Company's (BBB+/Stable) 42.5% and AEP Texas Inc.'s (BBB+/Stable) 40%, and the same as Texas-New Mexico Power Company's (TNMP; not rated) equity ratio. CEHE's existing 10% authorized ROE was higher than AEP Texas' 9.98%, Oncor's 9.8% and TNMP's 9.65%. Going forward, CEHE's 9.4% ROE will lag behind its peers while the 42.5% equity ratio is relatively on par. Fitch estimates that CEHE's FFO adjusted leverage could range from high 4x to low 5x in the next two to three years. Oncor and AEP Texas's FFO adjusted leverage are estimated to be in high 4x for the same period.

Key Assumptions

- New rates are implemented in April 2019;

- DCRF resumes in 2021;

- Incorporated the sale of Infrastructure Services business and reduce debt at CNP;

- No mitigating actions are assumed.

RATING SENSITIVITIES

CEHE

Developments That May, Individually or Collectively, Lead to Positive Rating Action

-The Rating Outlook can be revised to Stable if FFO adjusted leverage is below 5x on a sustained basis.

Developments That May, Individually or Collectively, Lead to Negative Rating Action

-FFO-adjusted leverage exceeds 5.0x on a sustained basis;

-Termination of the two trackers TCOS and DCRF;

-Further signs of deterioration of regulatory relationship.

CNP

Developments That May, Individually or Collectively, Lead to Positive Rating Action

-The Rating Outlook can be stabilized if the CNP's FFO adjusted leverage is below 5.3x on a sustained basis;

Developments That May, Individually or Collectively, Lead to Negative Rating Action

-FFO adjusted leverage reaches 5.3x on a sustained basis;

-If CNP and Vectren's utilities' regulatory environment becomes unfavorable to the point that they are unable to receive timely and reasonable recovery in rates;

-Enable requires a meaningful amount of equity support;

-Disproportionate expansion of unregulated businesses resulting in material increase in business risk.

ESG Considerations

Unless otherwise disclosed in this section, the highest level of Environmental, Social and Governance (ESG) credit relevance is a score of '3', which indicates ESG issues are credit neutral or have only a minimal credit impact on the entity, either due to their nature or the way in which they are being managed by the entity. For more information on Fitch's ESG Relevance Scores, visit www.fitchratings.com/esg.

Additional information is available on www.fitchratings.com

FITCH RATINGS ANALYSTS

Primary Rating Analyst
Julie Jiang
Director
+1 212 908 0708
Fitch Ratings, Inc.
33 Whitehall Street
New York 10004

Secondary Rating Analyst
Kevin Beicke, CFA
Director
+1 212 908 0618

Committee Chairperson
Philip Smyth, CFA
Senior Director
+1 212 908 0531

MEDIA CONTACTS

Elizabeth Fogerty
New York
+1 212 908 0526
elizabeth.fogerty@thefitchgroup.com

Applicable Criteria

Corporate Rating Criteria (pub. 19 Feb 2019)
Short-Term Ratings Criteria (pub. 02 May 2019)
Parent and Subsidiary Rating Linkage (pub. 27 Sep 2019)
Corporates Notching and Recovery Ratings Criteria (pub. 14 Oct 2019)
Corporate Hybrids Treatment and Notching Criteria (pub. 11 Nov 2019)

Additional Disclosures

Dodd-Frank Rating Information Disclosure Form
Solicitation Status
Endorsement Policy

DISCLAIMER

COPYRIGHT

 In issuing and maintaining its ratings and in making other reports (including forecast information), Fitch relies on factual information it receives from issuers and underwriters and from other sources Fitch believes to be credible. Fitch conducts a reasonable investigation of the factual information relied upon by it in accordance with its ratings methodology, and obtains reasonable verification of that information from independent sources, to the extent such sources are available for a given security or in a given jurisdiction. The manner of Fitch's factual investigation and the scope of the third-party verification it obtains will vary depending on the nature of the rated security and its issuer, the requirements and practices in the jurisdiction in which the rated security is offered and sold and/or the issuer is located, the availability and nature of relevant public information, access to the management of the issuer and its advisers, the availability of pre-existing third-party verifications such as audit reports, agreed-upon procedures letters, appraisals, actuarial reports, engineering reports, legal opinions and other reports provided by third parties, the availability of independent and competent third- party verification sources with respect to the particular security or in the particular jurisdiction of the issuer, and a variety of other factors. Users of Fitch's ratings and reports should understand that neither an enhanced factual investigation nor any third-party verification can ensure that all of the information Fitch relies on in connection with a rating or a report will be accurate and complete. Ultimately, the issuer and its advisers are responsible for the accuracy of the information they provide to Fitch and to the market in offering documents and other reports. In issuing its ratings and its reports, Fitch must rely on the work of experts, including independent auditors with respect to financial statements and attorneys with respect to legal and tax matters. Further, ratings and forecasts of financial and other information are inherently forward-looking and embody assumptions and predictions about future events that by their nature cannot be verified as facts. As a result, despite any verification of current facts, ratings and forecasts can be affected by future events or conditions that were not anticipated at the time a rating or forecast was issued or affirmed.

The information in this report is provided "as is" without any representation or warranty of any kind, and Fitch does not represent or warrant that the report or any of its contents will meet any of the requirements of a recipient of the report. A Fitch rating is an opinion as to the creditworthiness of a security. This opinion and reports made by Fitch are based on established criteria and methodologies that Fitch is continuously evaluating and updating. Therefore, ratings and reports are the collective work product of Fitch and no individual, or group of individuals, is solely responsible for a rating or a report. The rating does not address the risk of loss due to risks other than credit risk, unless such risk is specifically mentioned. Fitch is not engaged in the offer or sale of any security. All Fitch reports have shared authorship. Individuals identified in a Fitch report were involved in, but are not solely responsible for, the opinions stated therein. The individuals are named for contact purposes only. A report providing a Fitch rating is neither a prospectus nor a substitute for the information assembled, verified and presented to investors by the issuer and its agents in connection with the sale of the securities. Ratings may be changed or withdrawn at any time for any reason in the sole discretion of Fitch. Fitch does not provide investment advice of any sort. Ratings are not a recommendation to buy, sell, or hold any security. Ratings do not comment on the adequacy of market price, the suitability of any security for a particular investor, or the tax-exempt nature or taxability of payments made in respect to any security. Fitch receives fees from issuers, insurers, guarantors, other obligors, and underwriters for rating securities. Such fees generally vary from US$1,000 to US$750,000 (or the applicable currency equivalent) per issue. In certain cases, Fitch will rate all or a number of issues issued by a particular issuer, or insured or guaranteed by a particular insurer or guarantor, for a single annual fee. Such fees are expected to vary from US$10,000 to US$1,500,000 (or the applicable currency equivalent). The assignment, publication, or dissemination of a rating by Fitch shall not constitute a consent by Fitch to use its name as an expert in connection with any registration statement filed under the United States securities laws, the Financial Services and Markets Act of 2000 of the United Kingdom, or the securities laws of any particular jurisdiction. Due to the relative efficiency of electronic publishing and distribution, Fitch research may be available to electronic subscribers up to three days earlier than to print subscribers.

For Australia, New Zealand, Taiwan and South Korea only: Fitch Australia Pty Ltd holds an Australian financial

services license (AFS license no. 337123) which authorizes it to provide credit ratings to wholesale clients only. Credit ratings information published by Fitch is not intended to be used by persons who are retail clients within the meaning of the Corporations Act 2001
Fitch Ratings, Inc. is registered with the U.S. Securities and Exchange Commission as a Nationally Recognized Statistical Rating Organization (the "NRSRO"). While certain of the NRSRO's credit rating subsidiaries are listed on Item 3 of Form NRSRO and as such are authorized to issue credit ratings on behalf of the NRSRO (see https://www.fitchratings.com/site/regulatory), other credit rating subsidiaries are not listed on Form NRSRO (the "non-NRSROs") and therefore credit ratings issued by those subsidiaries are not issued on behalf of the NRSRO. However, non-NRSRO personnel may participate in determining credit ratings issued by or on behalf of the NRSRO.

SOLICITATION STATUS

The ratings above were solicited and assigned or maintained at the request of the rated entity/issuer or a related third party. Any exceptions follow below.

Endorsement Policy

Fitch's approach to ratings endorsement so that ratings produced outside the EU may be used by regulated entities within the EU for regulatory purposes, pursuant to the terms of the EU Regulation with respect to credit rating agencies, can be found on the EU Regulatory Disclosures page. The endorsement status of all International ratings is provided within the entity summary page for each rated entity and in the transaction detail pages for all structured finance transactions on the Fitch website. These disclosures are updated on a daily basis.

Fitch Updates Terms of Use & Privacy Policy

We have updated our Terms of Use and Privacy Policies which cover all of Fitch Group's websites. Learn more.

FitchRatings

RATING ACTION COMMENTARY

Fitch Downgrades Pinnacle West Capital & Arizona Public Service to 'BBB+'; Outlooks Remain Negative

Tue 12 Oct, 2021 - 10:52 AM ET

Fitch Ratings - Chicago - 12 Oct 2021: Fitch Ratings has downgraded the Issuer Default Ratings (IDRs) of both Pinnacle West Capital Corp. (PNW), and its regulated utility subsidiary, Arizona Public Service Co. (APS) to 'BBB+' from 'A-'. The Rating Outlook remains Negative for PNW and APS. Fitch has also downgraded the unsecured ratings of PNW and APS one-notch to 'BBB+' from 'A-' and to 'A-' from 'A', respectively. In addition, Fitch has affirmed the CP and short-term ratings of both PNW and APS at 'F2'.

The one-notch rating downgrade and Negative Outlook for PNW and APS reflect anticipation of an adverse final order in APS's pending general rate case (GRC), resulting pressure on credit metrics and a heightened risk profile. The rating action follows recent amendments to the Administrative Law Judge's (ALJ) recommended order as voted on by the Arizona Corporation Commission (ACC) that, if finalized, would reduce rates at APS more than previously anticipated and lower its authorized ROE to 8.7% from 10%.

Absent future regulatory relief or management action to rebalance its capital structure, Fitch believes FFO leverage could deteriorate to 5.0x or more for PNW and APS in 2023. In that scenario, weaker credit metrics combined with significantly higher regulatory risk would likely result in future adverse credit rating actions.

A final GRC decision expected in late-October or early November along with clarity on management's capital spending plans and funding needs will be key factors in resolving the Negative Outlooks.

KEY RATING DRIVERS

GRC Update: Fitch views ACC amendments to the ALJ's pending GRC that would result in a lower revenue requir authorized ROE as punitive. Based on the ACC amendments, APS's authorized ROE would be reduced to 8.7% from 10% and recovery of investment in selective catalytic reduction (SCR) pollution controls at the Four Corners coal plant would be moved to a separate proceeding further delaying potential cost recovery. APS has been seeking recovery of SCR related costs since 2017.

While the ACC withdrew amendments to eliminate APS's fuel and purchased power adjustment mechanism, Fitch believes roll back of the cost recovery mechanism would significantly heighten business risk, underscoring the regulatory uncertainty facing APS.

Recommended ALJ Order: The ALJ recommendation calls for a revenue increase of $3.6 million based on a 9.16% ROE and an equity layer of 54.7%. APS had previously requested a revised revenue increase of $169 million based on a 10% ROE and an equity layer of 54.7%. Costs associated with the SCR's accounted for nearly half of the requested rate increase. Fitch notes that the recommended ROE of 8.7% is meaningfully below the 2020 national average of 9.4% for electric utilities and materially below APS's current authorized ROE of 10%.

Fitch's rating case reflects recent amendments to the ALJ recommended order as voted on by the ACC. The outcome of the GRC will be a key determinant of credit quality, this being APS's first rate case before the ACC in over three years based on a rate base that is 33% higher than the prior rate case.

Growing Regulatory Headwinds: Recent efforts by regulators to reduce rates, lower authorized returns and promote retail competition highlights the deterioration of the regulatory compact in Arizona. A series of recent decisions by the ACC that has delayed rate recovery and exacerbated regulatory lag have had negative implications for APS's and PNW's credit quality. In Fitch's view, recent amendments to the ALJ's recommended order by the ACC to lower rates and authorized returns, continued delays in approval of the second-step Four Corners rate increase, a recent proposal to remove the fuel and purchased power adjustor among other tracking mechanisms and an investigation into the prudency of the Solana PPA underscores regulatory risk and could result in future adverse credit rating actions.

Weakening Credit Metrics: Assuming APS receives a fina
recent ACC amendments, Fitch estimates FFO leverage
could weaken to 5.8x and 5.3x, respectively, by 2023, su
Negative Outlook.

Large Utility Capex Program: Fitch expects capex to be elevated throughout the forecast period. Fitch notes that management has lowered the pace of its capital spending program relative to last year as it navigates an increasingly challenging regulatory environment. PNW is targeting average annual utility capex of $1.5 billion in 2021-2023, levels approximately 22% higher than the preceding three-year period but approximately $600 million less than the prior plan.

PNW is focused on achieving a cleaner generation mix while modernizing the electrical grid and spending levels support average rate base growth of 6% through 2023. Capex is earmarked for new generation, distribution and transmission investments including increasing solar generation with battery storage. Generation and distribution investments represent the lion's share of capex, accounting for approximately 75% of total expenditures.

Going forward, PNW plans to align its utility generation mix with Arizona's energy policy goals by divesting its coal fleet by 2031 and investing in new gas-fired generation and solar-battery storage investments. Due to its large capex program, Fitch expects FCF to be moderately negative through 2023, funding the majority of projected capex internally. PNW's external capital needs are expected to be funded by a balanced mix of debt and equity.

Clean Energy Plan: On Jan. 22, 2020, APS announced a self-imposed goal to deliver 100% clean, carbon-free electricity to its customers by 2050. In addition, APS intends to achieve a 2030 resource mix that is 65% clean energy with 45% from renewables while ceasing all coal-fired generation operations by 2031. The company's latest Integrated Resource Plan highlights the need for approximately 2,500MW of renewable energy, demand response, energy efficiency and energy storage resources over the next five years. The clean energy plan is consistent with the ACC proposals for increased renewable standards and should garner support from stakeholders who have been advocating for a cleaner energy future in Arizona.

Strong Economy in Arizona: Economic conditions are strong in Arizona. The utility continues to benefit from strong demographic trends including accelerated customer and retail sales growth. Customer growth approximated 2.3% and retail sales growth of 5.7% during the second quarter.

Parent and Subsidiary Linkage: Operating utility APS acc
PNW's consolidated earnings and cash flows. As such, Fi
parent-strong subsidiary approach in assessing parent-s

PNW's dependence on APS to meet its obligations. APS's ratings reflect its standalone credit profile, while PNW's ratings reflect a consolidated credit profile.

Strategic and operational ties between PNW and APS are strong and include common call centers and a shared treasury team while legal ties are weak due to regulatory ring- fencing provisions at the utility. Financial ties are moderate as APS has direct access to debt capital markets, but is reliant on equity from its corporate parent. Overall, Fitch assesses parent subsidiary linkage as weak. Consequently, Fitch considers the maximum difference between the IDRs of APS and PNW to be two notches. However, PNW's IDR is the same as APS's, reflecting required support from the utility to meet corporate parent obligations and dependence of APS on equity infusions from PNW and the structural subordination of PNW's debt relative to APS.

ESG RELEVANCE FACTOR THAT IS A KEY RATING DRIVER

ESG Factors: Fitch has revised the ESG relevance score to '5' for '4' for both Social - Human Rights, Community Relations, Access & Affordability and Social - Customer Welfare-Fair Messaging, Privacy & Data Security factors for both PNW and APS to reflect recent deterioration in the regulatory environment in Arizona and expectations for a challenging decision in APS's pending GRC. Regulatory risk has increased following a recent decision by the ACC to reduce customer rates and authorized returns. This has a negative impact on the credit profile and is relevant to the ratings in conjunction with other factors.

DERIVATION SUMMARY

Pinnacle West Capital Corp.:

Pinnacle West Capital Corp.'s credit profile is in line with lower rated peer utility parent holding companies DTE Energy Co. (BBB/Stable) and CMS Energy Corp. (BBB/Stable). A weakening financial profile resulting from regulatory lag due to a deteriorating regulatory environment has pressured credit metrics, which are in line with 'BBB' peers. While the regulatory environment in Michigan remains supportive, the regulatory environment in Arizona has become challenging as evidenced by the punitive recommended order in APS's pending GRC and recent amendments voted out by the commission. For 2020, FFO adjusted leverage at PNW was 5.6x, worse than DTE at 4

PNW's business risk profile reflects ownership of sole su
to peers with predominantly electric operations in single
regulated utility operations comprise 100% of EBITDA a

CMS -- which derives approximately 95% of EBITDA from its regulated utility and DTE -- which derives more than 90% of EBITDA from regulated utility businesses. In terms of scale, PNW's utility operations are the largest in Arizona with total assets of $21 billion as of 2020 but are smaller in size relative to CMS and DTE. DTE and CMS are the largest utility providers in Michigan with total assets of $50 billion and $30 billion as of 2020, respectively.

Arizona Public Service Company:

The credit profile of APS is weaker than utility peers DTE Electric Co. (A-/Stable) and Florida Power and Light Co. (A/Stable). APS's credit profile is comparable with peers that have sizable electric utility operations in single-state jurisdictions with historically constructive regulatory environments. The regulatory environment in Arizona has deteriorated meaningfully becoming significantly more challenging from a credit perspective compared to Michigan or Florida. The ACC appears to be focused on potential overearnings and reducing customer rates. This is most evident in the ALJ's unfavorable recommended order in APS's latest GRC and recent amendments by the ACC to the ALJ's recommended order.

Credit metrics for APS are weaker than peers due to regulatory lag resulting from a protracted GRC proceeding during a period of heavy capex. For 2020, FFO adjusted leverage at APS was 5.2x, worse than DTE Electric at 3.9x and Florida Power and Light Co. at 2.9x. In terms of scale, APS's utility operations are the largest in Arizona but smaller relative to DTE Electric and Florida Power and Light

KEY ASSUMPTIONS

--Assumes a rate reduction based on 8.7% ROE;

--Continued customer growth averaging 2% per annum;

--Capex averaging $1.5 billion per annum through 2023.

RATING SENSITIVITIES

PNW:

Factors that could, individually or collectively, lead to po

--A positive rating action is unlikely at this time given the

--However, improvement in the regulatory compact in Arizona could stabilize the Negative Rating Outlook;

--Sustained FFO leverage of better than 4.0x along with an improving regulatory compact could lead to a favorable rating action.

Factors that could, individually or collectively, lead to negative rating action/downgrade:

--Continued deterioration in the regulatory compact in Arizona.

--A material increase in parent-level debt;

--A downgrade at APS;

--Sustained FFO leverage greater than 5.0x.

APS:

Factors that could, individually or collectively, lead to positive rating action/upgrade:

--A positive rating action is unlikely at this time given the Negative Outlook;

--However, improvement in the regulatory compact in Arizona could stabilize the Negative Outlook;

--Sustained FFO leverage of better than 4.0x along with an improving regulatory compact could lead to a favorable rating action.

Factors that could, individually or collectively, lead to negative rating action/downgrade:

--Continued deterioration in the regulatory compact in Arizona;

--Sustained FFO leverage greater than 5.0x.

BEST/WORST CASE RATING SCENARIO

International scale credit ratings of Non-Financial Corpc
upgrade scenario (defined as the 99th percentile of ratin
positive direction) of three notches over a three-year rat
rating downgrade scenario (defined as the 99th percenti

a negative direction) of four notches over three years. The complete span of best- and worst-case scenario credit ratings for all rating categories ranges from 'AAA' to 'D'. Best- and worst-case scenario credit ratings are based on historical performance. For more information about the methodology used to determine sector-specific best- and worst-case scenario credit ratings, visit https://www.fitchratings.com/site/re/10111579.

LIQUIDITY AND DEBT STRUCTURE

Sufficient Liquidity: Fitch considers liquidity for PNW to be adequate with $709 million of available liquidity under its consolidated credit facilities as of June 30, 2021, including $14 million of unrestricted cash and cash equivalents. PNW's liquidity is provided by a $200 million unsecured credit facility that matures in May 2026 and a $150 million term loan that matures in June 2022. APS's liquidity is provided by two $500 million unsecured credit facilities that mature in May 2026. These facilities support its $750 million CP program. PNW and APS can upsize their $200 million and $500 million credit facilities to $300 million and $700 million, respectively, with lender consent.

The credit facilities are subject to a maximum debt/capitalization covenant of 65% and as of June 30, 2021, PNW and APS complied with debt/capitalization ratios of 55% and 50% as defined under the agreement. APS requires modest cash on hand and, being a summer peaking utility, capital needs are typically highest during the second and third quarters. PNW's long-term debt maturities are minimal over the next five years and includes $250 million in 2024 and $300 million in 2025 at APS.

ISSUER PROFILE

PNW is a parent holding company which derives virtually all of its revenue from its wholly owned sole operating subsidiary, APS. APS is a regulated vertically integrated electric utility, serving 1.3 million customers in a 34,646-square-mile service territory. APS is the largest electric utility in Arizona and serves most of the Phoenix metropolitan area.

REFERENCES FOR SUBSTANTIALLY MATERIAL SOURCE CITED AS KEY DRIVER OF RATING

The principal sources of information used in the analysis are described in the Applicable Criteria.

ESG CONSIDERATIONS

ESG Factors: We have revised the ESG relevance score t
Rights, Community Relations, Access & Affordability anc

Messaging, Privacy & Data Security factors for both PNW and APS to reflect recent deterioration in the regulatory environment in Arizona and expectations for a challenging decision in APS's pending GRC. Regulatory risk has increased following a recent decision by the ACC to reduce customer rates and authorized returns. This has a negative impact on the credit profile and is relevant to the ratings in conjunction with other factors.

In 2019, both PNW and APS were assigned an ESG relevance score of '4' for Social issues following complaints of excessive bills by customers following the implementation of time-of-use rates. Regulators have found that customer education and outreach efforts were insufficient, which has led to increased regulatory scrutiny and the absence of rate recovery.

Unless otherwise disclosed in this section, the highest level of ESG credit relevance is a score of '3'. This means ESG issues are credit-neutral or have only a minimal credit impact on the entity, either due to their nature or the way in which they are being managed by the entity. For more information on Fitch's ESG Relevance Scores, visit www.fitchratings.com/esg.

RATING ACTIONS

ENTITY / DEBT	RATING			PRIOR
Arizona Public Service Company	LT IDR	BBB+ Rating Outlook Negative	Downgrade	A- Rating Outlook Negative
	ST IDR	F2	Affirmed	F2
senior unsecured	LT	A-	Downgrade	A
senior unsecured	LT	A-	Downgrade	
senior unsecured	ST	F2	Affirmed	

Pinnacle West Capital Corporation	LT IDR	BBB+ Rating Outlook Negative	Downgrade	A- Rating Outlook Negative
	ST IDR	F2	Affirmed	F2
senior unsecured	LT	BBB+	Downgrade	A-
senior unsecured	ST	F2	Affirmed	F2

VIEW ADDITIONAL RATING DETAILS

FITCH RATINGS ANALYSTS

Daniel Neama
Associate Director
Primary Rating Analyst
+1 212 908 0561
daniel.neama@fitchratings.com
Fitch Ratings, Inc.
One North Wacker Drive Chicago, IL 60606

Philip Smyth, CFA
Senior Director
Secondary Rating Analyst
+1 212 908 0531
philip.smyth@fitchratings.com

Barbara Chapman, CFA
Senior Director
Committee Chairperson
+1 646 582 4886
barbara.chapman@fitchratings.com

MEDIA CONTACTS

Elizabeth Fogerty
New York

+1 212 908 0526
elizabeth.fogerty@thefitchgroup.com

Additional information is available on www.fitchratings.com

PARTICIPATION STATUS

The rated entity (and/or its agents) or, in the case of structured finance, one or more of the transaction parties participated in the rating process except that the following issuer(s), if any, did not participate in the rating process, or provide additional information, beyond the issuer's available public disclosure.

APPLICABLE CRITERIA

Parent and Subsidiary Linkage Rating Criteria - Effective from 26 August 2020 to 1 December 2021 (pub. 26 Aug 2020)

Corporate Rating Criteria -- Effective from 21 December 2020 to 15 October 2021 (pub. 21 Dec 2020) (including rating assumption sensitivity)

Corporates Recovery Ratings and Instrument Ratings Criteria - Effective from 9 April 2021 to 13 October 2023 (pub. 09 Apr 2021) (including rating assumption sensitivity)

Sector Navigators - Addendum to the Corporate Rating Criteria - Effective from 30 April 2021 to 15 October 2021 (pub. 30 Apr 2021)

APPLICABLE MODELS

Numbers in parentheses accompanying applicable model(s) contain hyperlinks to criteria providing description of model(s).

Corporate Monitoring & Forecasting Model (COMFORT Model), v7.9.0 (1)

ADDITIONAL DISCLOSURES

Dodd-Frank Rating Information Disclosure Form

Solicitation Status

Endorsement Policy

ENDORSEMENT STATUS

Arizona Public Service Company	EU Endc
Pinnacle West Capital Corporation	EU Endc

DISCLAIMER

READ LESS

COPYRIGHT

appraisals, actuarial reports, engineering reports, legal opinions and other reports provided by third parties, the availability of independent and competent third- party verification sources with respect to the particular security or in the particular jurisdiction of the issuer, and a variety of other factors. Users of Fitch's ratings and reports should understand that neither an enhanced factual investigation nor any third-party verification can ensure that all of the information Fitch relies on in connection with a rating or a report will be accurate and complete. Ultimately, the issuer and its advisers are responsible for the accuracy of the information they provide to Fitch and to the market in offering documents and other reports. In issuing its ratings and its reports, Fitch must rely on the work of experts, including independent auditors with respect to financial statements and attorneys with respect to legal and tax matters. Further, ratings and forecasts of financial and other information are inherently forward-looking and embody assumptions and predictions about future events that by their nature cannot be verified as facts. As a result, despite any verification of current facts, ratings and forecasts can be affected by future events or conditions that were not anticipated at the time a rating or forecast was issued or affirmed. The information in this report is provided "as is" without any representation or warranty of any kind, and Fitch does not represent or warrant that the report or any of its contents will meet any of the requirements of a recipient of the report. A Fitch rating is an opinion as to the creditworthiness of a security. This opinion and reports made by Fitch are based on established criteria and methodologies that Fitch is continuously evaluating and updating. Therefore, ratings and reports are the collective work product of Fitch and no individual, or group of individuals, is solely responsible for a rating or a report. The rating does not address the risk of loss due to risks other than credit risk, unless such risk is specifically mentioned. Fitch is not engaged in the offer or sale of any security. All Fitch reports have shared authorship. Individuals identified in a Fitch report were involved in, but are not solely responsible for, the opinions stated therein. The individuals are named for contact purposes only. A report providing a Fitch rating is neither a prospectus nor a substitute for the information assembled, verified and presented to investors by the issuer and its agents in connection with the sale of the securities. Ratings may be changed or withdrawn at any time for any reason in the sole discretion of Fitch. Fitch does not provide investment advice of any sort. Ratings are not a recommendation to buy, sell, or hold any security. Ratings do not comment on the adequacy of market price, the suitability of any security for a particular investor, or the tax-exempt nature or taxability of payments made in respect to any security. Fitch receives fees from issuers, insurers, guarantors, otl rating securities. Such fees generally vary from US$1,00(currency equivalent) per issue. In certain cases, Fitch wil issued by a particular issuer, or insured or guaranteed by for a single annual fee. Such fees are expected to vary frc the applicable currency equivalent). The assignment, publication, or dissemination of a rating by Fitch shall not constitute a consent by Fitch to use its name as an expert in connection with any registration statement filed under the United States securities laws, the Financial Services and Markets Act of 2000 of the United Kingdom, or the securities laws of any particular jurisdiction. Due to the relative efficiency of electronic publishing and distribution, Fitch research may be available to electronic subscribers up to three days earlier than to print subscribers.

For Australia, New Zealand, Taiwan and South Korea only: Fitch Australia Pty Ltd holds an Australian financial services license (AFS license no. 337123) which authorizes it to provide credit ratings to wholesale clients only. Credit ratings information published by Fitch is not intended to be used by persons who are retail clients within the meaning of the Corporations Act 2001

Fitch Ratings, Inc. is registered with the U.S. Securities and Exchange Commission as a Nationally Recognized Statistical Rating Organization (the "NRSRO"). While certain of the NRSRO's credit rating subsidiaries are listed on Item 3 of Form NRSRO and as such are authorized to issue credit ratings on behalf of the NRSRO (see https://www.fitchratings.com/site/regulatory), other credit rating subsidiaries are not listed on Form NRSRO (the "non-NRSROs") and therefore credit ratings issued by those subsidiaries are not issued on behalf of the NRSRO. However, non-NRSRO personnel may participate in determining credit ratings issued by or on behalf of the NRSRO.

READ LESS

SOLICITATION STATUS

The ratings above were solicited and assigned or maintained by Fitch at the request of the rated entity/issuer or a related third party. Any exceptions follow below.

ENDORSEMENT POLICY

Fitch's international credit ratings produced outside the EU or the UK, as the case may be, are endorsed for use by regulated entities within the EU or the UK, respectively, for regulatory purposes, pursuant to the terms of the EU CRA Regulation or the UK Credit Rating Agencies (Amendment etc.) (EU Exit) Regulations 2019, as the case may be. Fitch's approach to endorsement in the EU and the UK can be found on Fitch's Regulatory Affairs page on Fitch's website. The endorsement status of international credit ratings is provided within the entity summary page for each rated entity and structured finance transactions on the Fitch website. Th daily basis.

MOODY'S
INVESTORS SERVICE

Rating Action: Moody's downgrades Pinnacle West to Baa1 and Arizona Public Service to A3; outlook negative

17 Nov 2021

Approximately $6.5 billion of debt securities downgraded

New York, November 17, 2021 -- Moody's Investors Service ("Moody's") downgraded the long-term ratings of Pinnacle West Capital Corporation (Pinnacle) including its senior unsecured and Issuer ratings to Baa1 from A3. Pinnacle's short-term rating for commercial paper was affirmed at Prime-2. Concurrently, Moody's downgraded the ratings of utility subsidiary Arizona Public Service Company (APS) including its senior unsecured and Issuer ratings to A3 from A2 and its short-term rating for commercial paper to Prime-2 from Prime-1. The outlooks for both companies are negative. This concludes the review for downgrade initiated on 12 October 2021.

A complete list of rating actions appears below.

RATINGS RATIONALE

"The downgrades of Pinnacle and APS are prompted by the recent decline in Arizona regulatory environment following the conclusion of the utility's 2019 rate case as well as the organization's weakened credit metrics" stated Edna Marinelarena, Assistant Vice President. The rate case proceedings were highly contentious, and the final outcome will result in both companies sustaining credit metrics well below historical levels. We expect APS's cash flow from operations before changes in working capital (CFO pre-WC) to debt ratio to range between 19% and 20% over the next several years while Pinnacle's CFO pre-WC to debt ratio is projected to be between 17% and 19% over the same period. This compares to CFO pre-WC to debt ratios that had historically been comfortably above 20% at both the utility and the parent company.

The rate case decision will result in a base rate decrease of $119.8 million and a substantive decline in the authorized ROE to 8.7% from 10%, which is well below the national average of 9.5%. Additionally, the Arizona Corporation Commission (ACC) voted to disallow $215.5 million of the utility's selective catalytic reduction (SCR) investments made at the Four Corners plant in 2018 and also disallowed a grid access fee charge. These results are indicative of a less credit supportive and predictable regulatory framework in Arizona compared to the rest of the country, materially increasing regulatory risk for both Pinnacle and APS going forward. Partially offsetting these adverse developments is an equity layer that remains among the highest in the nation at 54.7%.

Since 2018, both APS and Pinnacle's financial metrics had already been declining primarily because of the effect of 2017 tax reform and regulatory lag largely related to the deferrals of the Four Corners SCR and Ocotillo plant upgrades. The CFO pre-WC to debt ratios have dropped significantly from the mid 20% range to a weak 17% for APS and 16% for Pinnacle at the end of 2020. We see the ratio remaining below 20% for both companies through 2021 as debt funded capital investments outpace cash flow. We expect credit metrics to marginally improve in 2022 as the company collects revenue associated with the Four Corners and Ocotillo plant investments that were authorized in the 2019 rate case; including the partial disallowance of the SCR, but they will not approach historical levels. We expect CFO pre-WC to debt to be about 20% for APS and 18% for Pinnacle in 2022.

APS plans to maintain its elevated capital spending amidst this period of higher regulatory risk. The company expects to invest about $1.5 billion annually, or a total of $4.7 billion, through 2024. Pinnacle plans to issue about $1 billion in debt to supporting capex at APS increasing its holding company debt to about 17% of consolidated debt from 7% at the end of 2020. We expect holding company debt to remain below 20% over the next several years. Although Arizona regulators have thus far not typically focused on the amount of debt issued at the holding company, given the recent negative regulatory developments, the higher debt levels at the holding company could fall under scrutiny.

Although we expect APS's and Pinnacle's credit metrics to improve slightly, the negative outlooks reflects the organization's limited financial flexibility to manage unforeseen events. Additionally, there is increased uncertainty over APS's ability to recover its 100% of its future capital investments in a timely manner following the conclusion of the 2019 rate case. APS is now operating in a regulatory environment that is prioritizing customer bill impact and affordability concerns to the detriment of credit supportive cost recovery for the utility, unlike most other regulatory frameworks where utilities and their regulators have been more balanced and achieved both goals. The utility's future rate case filings will likely receive higher scrutiny, potentially leading to an increase in regulatory lag and disallowances of other mechanisms which could further pressure credit ratings going forward.

We note that APS's regulatory relationship had already become increasingly challenged for a number of reasons prior to the recent rate case outcome, including the utility's poor implementation of new rate plans in 2018, controversial disconnection policies during times of excessive heat in 2019, its provision of a faulty rate comparison tool to customers and the level of campaign contributions made by Pinnacle. These issues stressed the company's relationship with the ACC and led regulators to open an investigation into APS's earnings, require the utility to file a new rate case in 2019, and customer outreach programs. These issues plagued the company during the rate case proceedings despite several of these matters having been resolved separately. APS filed the recently concluded rate case just over two years ago, on 31 October 2019, originally requesting a $184 million (5.4%) revenue increase and a 10.15% ROE, and ultimately falling well short of its initial request.

ESG Considerations

Pinnacle's ESG Credit Impact Score is CIS-3 (Moderately Negative), where its ESG attributes are overall considered as having a limited impact on the current rating, with greater potential for future negative impact over time. Pinnacle's CIS-3 reflects its highly negative exposure to social risk, moderately negative exposure to environmental risk and neutral to low exposure to governance risk.

Pinnacle's exposure to environmental risk is moderate (E-3 issuer profile score) and driven by its moderately negative physical climate and water management risks, because the state of Arizona, Pinnacle's primary service territory, is exposed to heat and water stress. These risks are offset by neutral to low exposure to waste and pollution and natural capital.

The organization's exposure to social risk is highly negative (S-4 issuer profile score) driven by demographics and societal trends that could increase public concern over environmental, social or affordability issues that could lead to adverse regulatory or political decisions. While the ACC has been constructive and credit supportive historically, it has been less consistent and predictable more recently. Furthermore, as the owner and operator of the nation's largest nuclear facility, the Palo Verde Nuclear Generation Station, Pinnacle's risk of responsible production is heightened. Pinnacle also faces high risks associated with customer relations and a neutral to low risk related to health and safety and human capital.

Governance is broadly in line with other utilities and does not pose a particular risk (G-2 issuer profile score). For Pinnacle, the board structure primarily stands out as moderately negative due to having a less independent board and committees, however it is balanced by other aspects of governance strength that are derived in part by management credibility and track record as well as financial policy and risk management.

Rating Outlook

The negative outlook reflects increased regulatory risk, uncertainty over future rate case filings, and the lack of financial flexibility as credit metrics have fallen. APS is operating in a more challenging regulatory jurisdiction, could experience higher scrutiny over future investments and may face disallowances of other cost recovery mechanisms given the ACC's focus on customer affordability.

FACTORS THAT COULD LEAD TO AN UPGRADE OR DOWNGRADE OF THE RATINGS

Factors that could lead to an upgrade

A rating upgrade is unlikely over the next 12 to 18 months because of the negative outlook on both APS and Pinnacle. Both companies' outlooks could return to stable if there is evidence of a more constructive and credit supportive regulatory framework in Arizona. Longer term, greater regulatory predictability combined with stronger financial metrics, such that the CFO pre-WC to debt ratio is above 24% for APS and 23% for Pinnacle, could result in upward rating movement.

Factors that could lead to a downgrade

Pinnacle and APS's ratings could be downgraded if the Arizona regulatory environment deteriorates further, such as through additional cost recovery disallowances, prolonged rate case proceedings or adverse regulatory outcomes. A rating downgrade could also occur if APS experiences prolonged operational difficulties, lower cash flow or higher unrecoverable costs that would lead to the CFO pre-WC to debt ratio to fall below 20%. For Pinnacle, a ratio below 18% or an increase in parent level debt above 25% of consolidated debt could result in a rating downgrade.

Headquartered in Phoenix, AZ, Pinnacle is a holding company whose principal operating subsidiary, APS, is a regulated, vertically integrated electric utility providing electric service to more than 1.2 million customers in 11 of the 15 counties in Arizona. APS currently represents essentially all of Pinnacle's consolidated assets and revenues.

Affirmations:

..Issuer: Pinnacle West Capital Corporation

....Senior Unsecured Commercial Paper, Affirmed P-2

Downgrades:

..Issuer: Pinnacle West Capital Corporation

.... Issuer Rating, Downgraded to Baa1 from A3

....Senior Unsecured Bank Credit Facility, Downgraded to Baa1 from A3

....Senior Unsecured Regular Bond/Debenture, Downgraded to Baa1 from A3

..Issuer: Arizona Public Service Company

.... Issuer Rating, Downgraded to A3 from A2

....Senior Unsecured Bank Credit Facility, Downgraded to A3 from A2

....Senior Unsecured Commercial Paper, Downgraded to P-2 from P-1

....Senior Unsecured Regular Bond/Debenture, Downgraded to A3 from A2

....Senior Unsecured Shelf, Downgraded to (P)A3 from (P)A2

..Issuer: Maricopa Co. Pollution Control Corp., AZ

....Senior Unsecured Revenue Bonds, Downgraded to A3 from A2

....Senior Unsecured Revenue Bonds, Downgraded to P-2 from P-1

Outlook Actions:

..Issuer: Arizona Public Service Company

....Outlook, Changed To Negative From Rating Under Review

..Issuer: Pinnacle West Capital Corporation

....Outlook, Changed To Negative From Rating Under Review

The principal methodology used in these ratings was Regulated Electric and Gas Utilities published in June 2017 and available at https://www.moodys.com/researchdocumentcontentpage.aspx?docid=PBC_1072530 . Alternatively, please see the Rating Methodologies page on www.moodys.com for a copy of this methodology.

REGULATORY DISCLOSURES

For further specification of Moody's key rating assumptions and sensitivity analysis, see the sections Methodology Assumptions and Sensitivity to Assumptions in the disclosure form. Moody's Rating Symbols and Definitions can be found at: https://www.moodys.com/researchdocumentcontentpage.aspx?

docid=PBC_79004.

For ratings issued on a program, series, category/class of debt or security this announcement provides certain regulatory disclosures in relation to each rating of a subsequently issued bond or note of the same series, category/class of debt, security or pursuant to a program for which the ratings are derived exclusively from existing ratings in accordance with Moody's rating practices. For ratings issued on a support provider, this announcement provides certain regulatory disclosures in relation to the credit rating action on the support provider and in relation to each particular credit rating action for securities that derive their credit ratings from the support provider's credit rating. For provisional ratings, this announcement provides certain regulatory disclosures in relation to the provisional rating assigned, and in relation to a definitive rating that may be assigned subsequent to the final issuance of the debt, in each case where the transaction structure and terms have not changed prior to the assignment of the definitive rating in a manner that would have affected the rating. For further information please see the ratings tab on the issuer/entity page for the respective issuer on www.moodys.com.

For any affected securities or rated entities receiving direct credit support from the primary entity(ies) of this credit rating action, and whose ratings may change as a result of this credit rating action, the associated regulatory disclosures will be those of the guarantor entity. Exceptions to this approach exist for the following disclosures, if applicable to jurisdiction: Ancillary Services, Disclosure to rated entity, Disclosure from rated entity.

The ratings have been disclosed to the rated entity or its designated agent(s) and issued with no amendment resulting from that disclosure.

These ratings are solicited. Please refer to Moody's Policy for Designating and Assigning Unsolicited Credit Ratings available on its website www.moodys.com.

Regulatory disclosures contained in this press release apply to the credit rating and, if applicable, the related rating outlook or rating review.

Moody's general principles for assessing environmental, social and governance (ESG) risks in our credit analysis can be found at http://www.moodys.com/researchdocumentcontentpage.aspx?docid=PBC_1288235 .

At least one ESG consideration was material to the credit rating action(s) announced and described above.

The Global Scale Credit Rating on this Credit Rating Announcement was issued by one of Moody's affiliates outside the EU and is endorsed by Moody's Deutschland GmbH, An der Welle 5, Frankfurt am Main 60322, Germany, in accordance with Art.4 paragraph 3 of the Regulation (EC) No 1060/2009 on Credit Rating Agencies. Further information on the EU endorsement status and on the Moody's office that issued the credit rating is available on www.moodys.com.

The Global Scale Credit Rating on this Credit Rating Announcement was issued by one of Moody's affiliates outside the UK and is endorsed by Moody's Investors Service Limited, One Canada Square, Canary Wharf, London E14 5FA under the law applicable to credit rating agencies in the UK. Further information on the UK endorsement status and on the Moody's office that issued the credit rating is available on www.moodys.com.

Please see www.moodys.com for any updates on changes to the lead rating analyst and to the Moody's legal entity that has issued the rating.

Please see the ratings tab on the issuer/entity page on www.moodys.com for additional regulatory disclosures for each credit rating.

Edna Marinelarena
Asst Vice President - Analyst
Infrastructure Finance Group
Moody's Investors Service, Inc.
250 Greenwich Street
New York, NY 10007
U.S.A.
JOURNALISTS: 1 212 553 0376
Client Service: 1 212 553 1653

Michael G. Haggarty

Associate Managing Director
Infrastructure Finance Group
JOURNALISTS: 1 212 553 0376
Client Service: 1 212 553 1653

Releasing Office:
Moody's Investors Service, Inc.
250 Greenwich Street
New York, NY 10007
U.S.A.
JOURNALISTS: 1 212 553 0376
Client Service: 1 212 553 1653

MOODY'S
INVESTORS SERVICE

MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any credit rating, agreed to pay to MJKK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY100,000 to approximately JPY550,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

Illinois Commerce Commission	:	
On Its Own Motion	:	
vs.	:	
Commonwealth Edison Company	:	
	:	**22-0486**
Order Requiring Commonwealth Edison	:	
Company to file an Initial Multi-Year	:	
Integrated Grid Plan and Initiating	:	
Proceeding to Determine Whether the	:	
Plan is Reasonable and Complies	:	
with the Public Utilities Act.	:	
	:	
Commonwealth Edison Company	:	
	:	**23-0055**
Verified Petition for Approval of a	:	
Multi-Year Rate Plan under Section	:	
16-108.18 of the Public Utilities Act.	:	

ORDER

December 14, 2023

Table of Contents

STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

Illinois Commerce Commission	:	
On Its Own Motion	:	
vs.	:	
Commonwealth Edison Company	:	
	:	**22-0486**
Order Requiring Commonwealth Edison	:	
Company to file an Initial Multi-Year	:	
Integrated Grid Plan and Initiating	:	
Proceeding to Determine Whether the	:	
Plan is Reasonable and Complies	:	
with the Public Utilities Act.	:	
	:	
Commonwealth Edison Company	:	
	:	**23-0055**
Verified Petition for Approval of a	:	
Multi-Year Rate Plan under Section	:	
16-108.18 of the Public Utilities Act.	:	

ORDER

By the Commission:

I. INTRODUCTION

On July 21, 2022, the Illinois Commerce Commission ("Commission") issued an Order requiring Commonwealth Edison Company ("ComEd" or "Company") to file its Multi-Year Integrated Grid Plan ("MYIGP" or "Grid Plan") and initiating Docket No. 22-0486. As required pursuant to Section 16-105.17 of the Public Utilities Act ("the Act"), ComEd filed its MYIGP on January 17, 2023. Also on January 17, 2023, ComEd filed its Multi-Year Rate Plan ("MYRP" or "Rate Plan") pursuant to Section 16-108.18 of the Act, initiating Docket No. 23-0055. The two dockets were consolidated on January 19, 2023.

ComEd's Grid Plan details the investments, expenses, initiatives, and activities that ComEd plans to undertake over the five-year period from 2023 through 2027 and includes information in response to the requirements of Section 16-105.17 of the Act.

ComEd's Rate Plan proposes a general increase in rates for electric service covering billing periods from January 2024 through December 2027, as well as other proposed changes in terms and conditions. ComEd petitioned the Commission to authorize and direct ComEd to make compliance filings necessary to place into effect ComEd's proposed Rate MRPP – Multi-Year Rate Plan Pricing ("Rate MRPP") tariff.

II. FRAMEWORK FOR GRID PLANS AND MULTI-YEAR RATE PLANS

On September 15, 2021, Governor J.B. Pritzker signed into law Public Act 102-0662 ("P.A. 102-0662"). The intent of P.A. 102-0662 is to facilitate Illinois' transition to clean energy, encourage transparency in electric utility regulation, and promote greater diversity in the renewable energy industry. Central to P.A. 102-0662 is the State's transition to clean energy and decarbonization in the electric power sector. The General Assembly found that cost-effective system investments are necessary to support and to improve the existing distribution system so that electric utilities can integrate distributed energy resources ("DER") into the grid; support beneficial electrification ("BE") for electric vehicle ("EV") use and adoption; and promote opportunities for third-party investment in nontraditional, grid-related technologies and resources such as batteries, solar panels and smart meters. 220 ILCS 5/16-105.17(a). P.A. 102-0662 encourages nontraditional solutions to utility, customer, and grid needs that may be more efficient and cost effective, and less environmentally harmful than traditional solutions. *See* 220 ILCS 5/16-105.17(a)(6). Improvements and investments to the utility grid system must be made in a manner that ensures the transition to clean energy includes and equitably benefits all communities and residents, expressly including those who reside in Equity Investment Eligible Communities ("EIEC"), low-income and environmental justice ("EJ") communities (EIEC and EJ are used interchangeably in this Order except where distinction is required). *Id.*

To that end, Section 16-105.17(c) requires electric utilities serving more than 500,000 retail customers in Illinois to submit, for Commission approval, a Grid Plan. 220 ILCS 5/16-105.17(c). The Grid Plan must be designed, among other things, to (1) coordinate the State's clean energy, climate and environmental goals with utility grid investments that are made to effectuate the policy goals of P.A. 102-0662 over a five-year planning horizon; (2) ensure cost-effective improvement and optimization of electricity grid assets; (3) facilitate an increase in DER connected to the grid; (4) support efforts to bring the benefits of grid modernization and clean energy to all retail customers, with at least 40% of those benefits going to EIEC; (5) provide customers with "greater engagement, empowerment and options for energy services"; (6) reduce grid congestion and increase grid capacity for DER interconnection; (7) ensure opportunities for public participation throughout the planning process; (8) provide for the analysis of the cost-effectiveness of the proposed system investments that take into account environmental costs and benefits; (9) support the achievement of the State's environmental goals and emissions reductions, support the long-term growth of energy efficiency ("EE"), demand response and investments in renewable energy; (10) provide sufficient public information to enable grid interconnection; and (11) provide delivery services at rates affordable to low-income customers. 220 ILCS 5/16-105.17(d)(1)-(11).

The General Assembly further determined it was "necessary for electric utilities, the Commission, and stakeholders to have an independently verified set of data to establish the baseline for future distribution grid spending." 220 ILCS 5/16-105.10. The Commission, prior to issuing an Initiating Order on July 21, 2022, pursuant to 220 ILCS 5/16-105.17(e)(8), ordered a third-party independent audit of ComEd's current grid infrastructure and investments, called the Baseline Distribution Grid Assessment ("Grid Assessment"). *See* ComEd. Ex. 2.01.

Additionally, the General Assembly provided for participation by diverse stakeholders to provide real-time information and feedback in the distribution grid planning process. 220 ILCS 5/16-105.17(e). Thus, also prior to the Commission's Initiating Order, the Commission ordered a set of workshops where the public and interested stakeholders could participate in the grid planning process and provide their own input and priorities.

The Grid Plan must include, at a minimum:

- a description of the utility's distribution system planning process;
- a description of the current operating conditions for the distribution system;
- historical and forecasted financial data that includes distribution system investments by investment categories, as well as operating and maintenance expenses;
- system data on DER on the utility's distribution system;
- hosting capacity and interconnection needs;
- a discussion of the scenarios that were considered in developing the Grid Plan;
- evaluation of the short-term and long-run benefits and costs of the DERs located on the distribution system,
- a long-term distribution system investment plan that includes the utility's planned capital investments and planned projects for the five-year plan period;
- a description of the utility's historic distribution system operations and maintenance expenditures for the preceding 5 years;
- a detailed plan for achieving the performance and tracking metrics approved by the Commission including how the utility's programs support efforts to bring 40% of the benefits in the Grid Plan to low-income and EJ communities;
- identification of cost-effective solutions from non-traditional and third-party owned investments; and
- a detailed description of the utility's interoperability plan.

220 ILCS 5/16-105.17(f)(1), (f)(2)(A)-(K).

In addition to requiring a Grid Plan, P.A. 102-0662 established a new, optional multi-year performance-based electric delivery service ratemaking framework. Prior to P.A. 102-0662, ComEd elected to be a "participating utility" within the meaning of Section 16-108.5 of the Act, under which its delivery services rates were set pursuant to a formula established by that section. 220 ILCS 5/16-108.5(a), (c). However, Section 16-108.5, the formula rate statute, became inoperative by its terms on December 31, 2022. 220 ILCS 5/16-108.5(h). Instead, P.A. 102-0662 directed electric utilities serving more than 500,000 customers to either elect traditional rate-setting under Section 9-201 of the Act, 220 ILCS 5/9-201, or file a petition seeking approval of a MYRP to establish base rates over a four-year period. 220 ILCS 5/16-108.18(d)(1), (9). ComEd elected to proceed under the MYRP framework.

The MYRP must contain a four-year investment plan with a description of the utility's major planned investments, including at a minimum, all investments of $2,000,000 or greater over the planned period for a utility that serves more than 3,000,000 retail customers. 220 ILCS 5/16-108.18(d)(2). It must also incorporate the approved performance incentive mechanisms ("PIM"), pursuant to which the return on equity ("ROE") approved in the MYRP is adjusted upwards or downwards, based on the utility's performance with respect to certain Commission-approved metrics. 220 ILCS 5/16-108.18(e)(2)(B). The four-year investment plan provided in the MYRP must be consistent with the Grid Plan. 220 ILCS 5/16-108.18(d)(3)(H).

In addition, the Commission-approved MYRP must:

- provide for recovery of ComEd's forecasted rate base, where rates are based on average annual plant investment and investment-related costs;
- authorize a cost of equity consistent with Commission practice and law, as well as a prudent and reasonable capital structure to be reflected in the revenue requirement;
- provide for recovery of prudent and reasonable projected operating expenses;
- amortize the amount of unprotected property-related excess accumulated deferred income taxes in rates as of January 1, 2023 over a period ending December 31, 2027, unless otherwise required to amortize the excess deferred income tax pursuant to Section 16-108.21; and
- allow for recovery of incentive compensation expenses based on achievement of certain operational metrics, excluding those expenses based on net income or earnings per share.

220 ILCS 5/16-108.18(d)(3)(A)-(G).

ComEd has the burden of establishing by a preponderance of evidence the prudence of its investments and expenditures and the burden of proof to establish that those investments are reasonably necessary to meet the requirements of ComEd's first Commission-approved Grid Plan. 220 ILCS 5/16-108.18(d)(4); *see also* 5 ILCS 100/10-15. The fact that a cost in the MYRP is different from the same cost item in the MYIGP does not, without more, imply that either is imprudent or unreasonable; by the same token, similarity of costs between the MYRP and MYIGP does not imply prudency or reasonableness. 220 ILCS 5/16-108.18(d)(4).

III. FACTUAL AND PROCEDURAL BACKGROUND

A. The Parties

In addition to ComEd, Staff of the Commission ("Staff") participated in this proceeding. The Office of the Illinois Attorney General ("AG") and the City of Chicago (the "City") filed appearances. Petitions to Intervene were filed on behalf of the Citizens

Utility Board ("CUB"); the Chicago Transit Authority ("CTA"); the Northeast Illinois Regional Commuter Railroad Corporation and the Commuter Rail Division of the Regional Transportation Authority (collectively, "Metra"); the Natural Resources Defense Council ("NRDC"), the Environmental Law and Policy Center ("ELPC"), Vote Solar, and the Union of Concerned Scientists (collectively, "JNGO"); the Environmental Defense Fund ("EDF"); Sunrun, Inc. ("Sunrun"); the Solar Energy Industries Association, the Coalition for Community Solar Access, and the Illinois Solar Energy Association (collectively, "Joint Solar Parties" or "JSP"); the Building Owners and Managers Association of Chicago ("BOMA"); Charter Dura-Bar, Inc. and CITGO Petroleum Corp. ("REACT"); Nucor Steel Kankakee, Inc. ("Nucor"); Walmart, Inc. ("Walmart"); the Retail Energy Supply Association ("RESA"); the People for Community Recovery ("PCR"); the Community Development Corporation of Pembroke and Hopkins Park ("CDC"); Sterling Steel, LLC as a member of the Illinois Industrial Energy Consumers ("IIEC"); the Little Village Environmental Justice Organization ("LVEJO"); the Illinois Power Agency ("IPA"); the Data Center Coalition ("DCC"); the Brotherhood of Electrical Workers, AFL-CIO, Local Union 15 ("IBEW"); the Illinois Public Interest Research Group ("PIRG"); and Climate Jobs Illinois, Inc. ("CJI"). The Administrative Law Judges ("ALJs") granted each of these Petitions.

B. Procedural History

Pursuant to due notice as required by law and by the rules and regulations of the Commission, a prehearing conference was held via videoconference in this matter before duly-authorized ALJs on September 28, 2022. An evidentiary hearing in the consolidated cases was conducted on August 22, 2023, and all testimony and exhibits were entered by affirmation and without objection.

The following witnesses testified on behalf of ComEd: Gil Quinones, Chief Executive Officer of ComEd; Terence Donnelly, President and Chief Operating Officer, ComEd; Hon. Susan Tierney, Ph.D., Senior Advisor, Analysis Group, Inc.; Chad Newhouse, Vice President of Regulatory Strategies and Services, ComEd; Craig Creamean, Vice President of Distribution System Operations, ComEd; Lisa Graham, Senior Vice President and Chief Financial Officer, ComEd; Patrick Arns, Director of Distribution Planning, Smart Grid, and Innovation, ComEd; Marina Mondello, Director of Engineering, ComEd; Peter Tyschenko, Director of Asset Performance, ComEd; Nichole Owens, Vice President of Customer Channels, ComEd; Mark Baranek, Vice President of Projects and Contract Management, ComEd; Robert Mudra, Senior Manager of Revenue Policy, ComEd; Rachel Isbell, Director of Financial Planning and Analysis, ComEd; Frank Graves, Principal, Brattle Group; Michael Adams, Senior Vice President, Concentric Energy Advisors; Ned Allis, Vice President, Gannett Fleming Valuation and Rate Consultants; John Leick, Senior Manager of Retail Rates, ComEd; Bradley R. Perkins, Director of Rates & Revenue Policy, ComEd; Michelle Blaise, Senior Vice President of Technical Services, ComEd; Karl A. McDermott, Ameren Distinguished Professor of Business and Government at the University of Illinois Springfield and Chair of the Accounting, Economics, and Finance Department; Nick Day, Principal Program Manager, ComEd; Nwabueze Phil-Ebosie, Director of Engineering, ComEd; Jie Chu, Director of Revenue Management, ComEd; Jason Decker, Vice President of Customer Financial Operations, ComEd; Erica Borggren, Vice President of Customer Solutions, ComEd;

Joshua Levin, Senior Vice President, Chief Financial Officer, and Treasurer, ComEd; and Marzena Walker, Senior Manager of Accounting, ComEd.

The following witnesses testified on behalf of Staff: Curtis N. Sanders, Rate Analyst, Integrated Distributed Planning Division; Scott Tolsdorf, Accountant, Financial Analysis Division; Kenrick Au, Accountant, Financial Analysis Division; Michael McNally, Senior Financial Analyst, Financial Analysis Division; Eric Lounsberry, Director, Safety and Reliability Division; James T. Harmening, Director, Cybersecurity & Risk Management Department; Scott A. Struck, Director, Integrated Distribution Planning Division; Ronaldo V. Jenkins, Policy Analyst (Environmental), Integrated Distribution Planning Division; David Rearden, Senior Economist, Policy Division; Larry Borum III, Clean Energy Innovator Fellow, Policy Division; Suraj Bhan Dhankher, Electrical Engineer, Integrated Distribution Planning Division; Bill Daniel, JULIE Investigator, Safety and Reliability Division; John Antonuk, President, Liberty Consulting Group; Christine Kozlosky, Consultant, Liberty Consulting Group; Mark Lautenschlager, Consultant, Liberty Consulting Group; June Poon, Accountant, Integrated Distribution Planning Division; David Brightwell, Economic Analyst, Policy Program; Prabesh Bista, Financial Analyst, Financial Analysis Division; Latifat Moradeyo, Policy Analyst, Integrated Distribution Planning Division; Buren Ulziiburen, Policy Analyst, Integrated Distribution Planning Division; and Torsten Clausen, Director, Policy Division.

The following witnesses testified on behalf of the AG: Paul J. Alvarez, Consultant, Wired Group; Dennis Stephens, Independent Utility Distribution Consultant; David J. Effron, Utility Regulation Consultant; Mary E. Selvaggio, Utility Regulation Consultant, MES Consulting LLC; and Dr. Lee L. Selwyn, Senior Vice President, Economics and Technology, Inc.

The following witnesses testified on behalf of LVEJO: Juliana Pino, Policy Director, LVEJO.

The following witnesses testified on behalf of BOMA: T.J. Brookover, Regional Manager, AmTrust Realty Corp., and Member of the Board of Directors, BOMA; and Mark J. Pruitt, Principal, The Power Bureau.

The following witness testified on behalf of the City of Chicago: Kyra D. Woods, Climate and Energy Policy Advisor, City of Chicago.

The following witness testified on behalf of the CTA: Kate Tomford, Senior Analyst in Energy, CTA.

The following witnesses testified on behalf of the EDF: Cheryl Watson, Founder and Owner, Equitable Resilience & Sustainability, LLC; Ryan O'Donnell, Founder and Owner, For All Of Us Strategies, LLC; Wasiu Adesope, Sustainable Energy Associate, Blacks in Green, Co-Director, Green Energy Justice Cooperative; and Andrew A. Bochman, Senior Grid Strategist-Defender in the National and Homeland Security Directorate, Department of Energy Idaho National Laboratory.

EDF, CUB, CDC, and PCR ("ECCP") jointly presented the following witness: David G. Hill, Managing Consultant, Energy Futures Group, Inc.

The following witness testified on behalf of the IBEW: Chris Riser, President/Business Manager/Financial Secretary, IBEW.

IIEC, CUB, CDC, and PCR (collectively, "IIEC/CUB/CDC/PCR" or "ICCP") jointly presented the following witnesses: Greg R. Meyer, Principal, Brubaker & Associates, Inc. ("BAI"); Ali Al-Jabir, Consultant, BAI; Colin T. Fitzhenry, Senior Consultant, BAI; Michael P. Gorman, Managing Principal, BAI.

The following witnesses testified on behalf of JNGO: Willam D. Kenworthy, Senior Regulatory Director – Midwest, Vote Solar; Curt Volkmann, President and Founder, New Energy Advisors LLC; Ronald Nelson, Senior Director, Strategen Consulting; and Boratha Tan, Regulatory Manager – Midwest, Vote Solar.

The JNGO and the EDF jointly presented the following witnesses: Dr. Guillermo Pereira, Senior Energy Analyst in the Climate and Energy Program, UCS; Dr. Gabriel Chan, Associate Professor, Charles M. Denny Jr., Chair in Science, Technology, and Environmental Policy and Co-Director, the Center for Science, Technology, Environmental Policy at the Humphry School of Public Affairs, University of Minnesota; Dr. Destenie Nock, Assistant Professor of Engineering & Public Policy and Civil & Environmental Engineering, Carnegie Mellon University;

The following witnesses testified on behalf of JSP: Kevin Lucas, Senior Director of Utility Regulation and Policy, Solar Energy Industries Association; Steven Rymsha, Director of Grid Solutions and Public Policy, Sunrun; and Divya Balakrishnan, Manager of Grid Integration Engineering, Nexamp, Inc.

The following witnesses testified on behalf of Metra: Lynnette Ciavarella, Senior Division Director – Strategic Planning & Performance, Metra; and Edward Schafroth, Director of Electrical Maintenance – Electric District, Metra.

The following witnesses testified on behalf of Walmart: Alex J. Kronauer, Senior Manager of Energy Services, Walmart; and Lisa V. Perry, Senior Manager of Energy Services, Walmart.

The following witnesses testified on behalf of PIRG: Edward Bodmer, Consultant.

The following witness testified on behalf of CJI: Joe Duffy, Executive Director, Climate Jobs Illinois.

CTA and Metra jointly presented the following witnesses: James G. Bachman, Partner, SPI Energy Group.

On September 12, 2023, the following parties filed Initial Briefs ("IB"): ComEd, Staff, the AG, JNGO, JSP, EDF, ICCP, CTA, BOMA, the City, Walmart, IBEW, PIRG, and LVEJO. On September 13, 2023, Metra filed an IB. On September 27, 2023, the following parties filed Reply Briefs ("RB"): ComEd, Staff, the AG, JNGO, JSP, EDF, ICCP, CTA, Metra, the City, Walmart, PIRG, and LVEJO.

A Proposed Order was served on October 23, 2023. On November 8, 2023, Briefs on Exceptions ("BOEs") were filed by ComEd, Staff, the AG, JSP, PIRG, JNGO, LVEJO, IBEW, Walmart, the City, EDF, CTA, Metra, and ICCP. In their BOEs, ComEd, the AG, PIRG, ICCP, and JSP requested oral argument, which was granted. On November 20, 2023, Reply Briefs on Exceptions ("RBOEs") were filed by ComEd, Staff, the AG, JSP, PIRG, JNGO, LVEJO, the City, EDF, and ICCP. The Commission heard oral argument on November 28, 2023.

1. Grid Assessment

To assess the current status of a utility's grid distribution system, P.A. 102-0662 required that the Commission issue an order initiating an independent audit of each electric utility serving over 300,000 retail customers in the State. 220 ILCS 5/16-105.10. The Commission initiated the audit of ComEd on October 14, 2021. *Ill. Commerce Comm'n On Its Own Mtn. v. Commonwealth Edison Co.*, Docket No. 21-0737, Order (Oct. 14, 2021). The grid assessment audit was intended to determine the progress made by the utilities in their investments since their deployment of advanced metering infrastructure and other programs to assist customers decrease their energy usage. The audit is described in detail in the Grid Assessment conducted by Liberty Consulting Group ("Liberty"), which was submitted to the Commission on April 12, 2022. *See* ComEd Ex. 2.01.

2. Stakeholder Engagement

Prior to filing a MYIGP, Section 16-105.17(e) required an extensive workshop process be conducted prior to the initiation of contested proceedings, enabling stakeholders and members of the public to offer comments regarding what should be contained in each utility's Grid Plan. In a Staff Report dated July 19, 2022, Staff stated that in compliance with this requirement, a series of workshops – six for each utility - were conducted between December 20, 2021, and May 20, 2022; these workshops were facilitated by a Commission-retained Facilitator, EnerNex. The workshop process is described in detail in the Facilitator's Report, which was submitted to the Commission in July 2022.

While no party disputes that an extensive workshop process was held pursuant to Section 16-105.17(e), the AG argues that the process did not allow for meaningful stakeholder input as was intended by P.A. 102-0662. The AG complains that ComEd did not provide meaningful investment information in the workshop process, which led to the resolution of very few issues.

The Commission finds that the requirements of Section 16-105.17 were met in an extensive workshop process, as described in the Facilitator's Report. Whether the Grid Plan process included sufficient customer engagement and public and stakeholder participation pursuant to Section 16-105.17(d)(4) and (d)(6) is addressed in Sections V.B.2. and V.B.9.

PART I – MULTI-YEAR INTEGRATED GRID PLAN

IV. APPLICABLE LAW

A. Statutory Framework

1. Standard for Approval

ComEd filed a Grid Plan pursuant to Section 16-105.17 of the Act, which was enacted as part of P.A. 102-0662. 220 ILCS 5/16-105.17. The specific requirements for the information that must, at a minimum, be included in the Grid Plan are set forth in Section 16-105.17(f)(2)(A)-(L) of the Act. 220 ILCS 5/16-105.17(f)(2)(A)-(L).

In evaluating the Grid Plan, the Commission must consider, at a minimum, whether the Grid Plan:

- meets the objectives set forth in 220 ILCS 5/16-105.17(d);
- contains the information required under subsection (f)(2) of the Grid Plan statute;
- considers and incorporates, where practicable, input from interested stakeholders, including parties and people who offer public comment without legal representation;
- considers nontraditional, including third-party owned, investment alternatives that can meet grid needs and provide additional benefits (including consumer, economic, and environmental benefits) beyond comparable, traditional utility-planned capital investments;
- equitably benefits EJ communities; and
- maximizes consumer, environmental, economic and community benefits over a 10-year horizon.

220 ILCS 5/16-105.17(f)(5)(A).

After reviewing the Grid Plan, the Commission may modify ComEd's Grid Plan as necessary to comply with the objectives of the statute and may approve, or modify and approve, ComEd's Grid Plan only "if it finds that the [Grid] Plan is reasonable, complies with the objectives and requirements of" Section 16-105.17, and "reasonably incorporates input from parties." 220 ILCS 5/16-105.17(f)(5)(B). The Commission may reject the Grid Plan in its entirety if it does not comply with the objectives of the statute. 220 ILCS 5/16-105.17(f)(5)(B).

2. Statutory Objectives

The Grid Plan must propose distribution system investments designed to achieve the objectives set forth in Section 16-105.17(d) of the Act and to achieve the metrics previously approved by the Commission pursuant to Section 16-108.18 of the Act in Docket No. 22-0067. 220 ILCS 5/16-105.17(d); 220 ILCS 5/16-105.17(f)(1); *Commonwealth Edison Co.*, Docket No. 22-0067, Order (Sept. 27, 2022). Under Section 16-105.17(d), the Grid Plan must be designed to:

(1) ensure coordination of the State's renewable energy goals, climate and environmental goals with the utility's distribution system investments, and programs and policies over a 5-year planning horizon to maximize the benefits of each while ensuring utility expenditures are cost-effective;

(2) optimize utilization of electricity grid assets and resources to minimize total system costs;

(3) support efforts to bring the benefits of grid modernization and clean energy, including, but not limited to, deployment of DER, to all retail customers, and support efforts to bring at least 40% of the benefits of those benefits to [EIEC];

(4) enable greater customer engagement, empowerment, and options for energy services;

(5) reduce grid congestion, minimize the time and expense associated with interconnection, and increase the capacity of the distribution grid to host increasing levels of DER, to facilitate the availability and development of DER, particularly in locations that enhance consumer and environmental benefits;

(6) ensure opportunities for robust public participation through open, transparent planning processes;

(7) provide for the analysis of the cost-effectiveness of proposed system investments, which takes into account environmental costs and benefits;

(8) to the maximum extent practicable, achieve or support the achievement of Illinois environmental goals, including those described in Section 9.10 of the Environmental Protection Act and Section 1-75 of the Illinois Power Agency Act, and emissions reductions required to improve the health, safety, and prosperity of all Illinois residents;

(9) support existing Illinois policy goals promoting the long-term growth of energy efficiency, demand response, and investments in renewable energy resources;

(10) provide sufficient public information to the Commission, stakeholders, and market participants in order to enable nonemitting customer-owned or third-party DER, acting individually or in aggregate, to seamlessly and easily connect to the grid, provide grid benefits, support grid services, and achieve environmental outcomes, without necessarily requiring utility ownership or controlling interest over those resources, and enable those resources to act as alternatives to utility capital investments; and

(11) provide delivery services at rates that are affordable to all customers, including low-income customers.

220 ILCS 5/16-105.17(d).

B. Considerations in Grid Planning

1. ComEd's Position

ComEd explains that it developed the Grid Plan to ensure that ComEd's distribution grid will continue to provide the safe, reliable, resilient, and affordable service that is essential to its customers. *See* ComEd Ex. 5.01 2nd Corr. at 13, 23-30, 44-66; *see also* ComEd Ex. 26.0 at 1. ComEd contends that planning a grid to meet the objectives of P.A. 102-0662 necessitates investments designed to do more than just maintain the status quo since P.A. 102-0662 establishes ambitious goals for the integration of DERs, adoption of electric vehicles, and the transition of the grid from fossil fuels to decarbonized energy. ComEd Ex. 5.01 2nd Corr. at 14-16, 32-44; *see, e.g.*, 415 ILCS 5/9.15 (requiring the entire electric power sector to be fully decarbonized by 2050); 20 ILCS 627/45(a) (calling for 1 million electric vehicles on the road by 2030). ComEd agrees that realization of these goals will provide substantial environmental, economic, and other societal benefits. *See* 220 ILCS 5/16-105.17(a)(1), (a)(2); ComEd Ex. 5.01 2nd Corr. at 14-16, 32-44. However, as ComEd points out, meeting these goals will require changes to the current distribution grid to meet the challenges that new types of resources, customer choices, and technological innovations bring. *Id.* ComEd states that the Grid Plan considers all of these benefits and challenges, and proposes investments to cost-effectively meet these goals while maintaining the high standards of reliable, resilient, and safe service that ComEd has achieved in recent years.

ComEd maintains that its efforts to plan its grid are comprehensive, appropriately balance the numerous objectives and data inputs, and reflect the considerations identified in Section 16-105.17 of the Act. 220 ILCS 5/16-105.17. ComEd states that the Grid Plan was developed with robust public participation through an open, transparent process and informed by extensive analysis to ensure that ComEd's grid will be ready and able to advance the energy policy goals set forth by P.A. 102-0662 as well as the performance metrics that have been put in place by the Commission. ComEd Ex. 5.01 2nd Corr. at 13-14; *see also* ComEd Ex. 26.0 at 1. ComEd further states that these considerations encompass all of the statutory objectives set forth in Sections 16-105.17(a) and 16-105.17(d)(1)-(11) of the Act. 220 ILCS 5/6-105.17(a); 220 ILCS 5/16-105.17(d)(1)-(11).

ComEd asserts that the law requires proposed Grid Plan investments be evaluated in the context of whether the investment meets the objectives of P.A. 102-0662, complies with the specific filing requirements, incorporates stakeholder input where practicable, equitably benefits environmental justice communities, and maximizes consumer, environmental, economic, and community benefits over a 10-year horizon. 220 ILCS 5/16-6-105.17(f)(5)(A)((1)-(6). ComEd maintains that the Act specifically prohibits the evaluation of investments in isolation from their role in meeting P.A. 102-0662's requirements and requires consideration of total benefits over a long-term period. 220 ILCS 5/16-105.17(f)(4); *see also* 220 ILCS 5/16-105.17(f)(5)(A).

ComEd notes that the AG argues some investments are "discretionary" and should therefore be subject to additional scrutiny. However, ComEd maintains there are no "discretionary" investments in the Grid Plan. ComEd Ex. 47.0 at 3. Rather, ComEd states that all of the investments proposed in the Grid Plan are necessary to maintain the service standards required of ComEd's grid and to achieve, cost-effectively, the functions that P.A. 102-0662 expects the distribution grid to perform. *Id.* ComEd asserts that the term "discretionary" is used by various parties in this case in an arbitrary, undefined context that is not useful to the Commission in determining the prudence and reasonableness of any investment. It is not a term used by ComEd in the Grid Plan, and ComEd states the implication that investments can be deferred or eliminated without impact on customers and the system is incorrect. *Id.*

ComEd states that, to the extent there is a dispute among the parties regarding the considerations applicable to grid planning, that dispute centers on the opinion of some parties who believe that grid investment levels should be tied to past levels of expenditure, with only minimal adjustments in future years based on measures of inflation. AG Ex. 1.0 at 84, 87, 89-90, 98-99; ICCP Ex. 2.0 at 14-16; Staff Ex. 5.0 at 23-24. ComEd explains, however, that these proposals are not tied to any engineering or planning considerations and must be rejected. ComEd states that investments made within these constraints will – at best – maintain the grid as it exists today. They will not allow ComEd to meet the ambitious policy goals set forth by the Illinois General Assembly. ComEd therefore concludes that the Commission should find that ComEd's Grid Plan satisfies all applicable requirements, and the investments proposed within the Grid Plan will enable achievement of P.A. 102-0662's policy goals while continuing to meet the core reliability service needs of customers cost effectively.

2. Staff's Position

Staff explains that P.A.102-0662 added Section 16-105.17, entitled "Multi-Year Integrated Grid Plan," to the Act. Section 16-105.17, in broad summary, requires each electric utility serving more than 500,000 retail customers in Illinois to formulate and submit for Commission approval a Grid Plan that complies with the section. Under Section 16-105.17, each utility must formulate its Grid Plan so that the Grid Plan, over a five-year planning horizon, coordinates distribution system investments in such a way as to effectuate the broad policy goals expressed in Section 16-105.17(d). Section 16-105.17(f) prescribes detailed substantive and informational requirements with which Grid Plans must comply.

ComEd's MYIGP must propose distribution system investment programs, policies, and plans designed to optimize achievement of the objectives of Section 16-105.17 and achieve the performance and tracking metrics that were approved by the Commission in Docket No. 22-0067.

3. AG's Position

P.A. 102-0662 identifies multiple goals for the grid as itemized in the prior section. To achieve those goals, the AG asserts that it is critical that discretionary and non-discretionary investments be appropriately considered. Certain investments are necessary for safe and reliable service. For example, non-discretionary spending may arise to connect new customers, relocate facilities in the way of public works projects, replace equipment that fails a functional or diagnostic test, replace equipment damaged by a storm. AG Ex. 1.0 at 53. Other expenses that do not have an immediate need, however, are more discretionary.

The AG stresses that regulators and stakeholders should be able to help define the scope of investments that are discretionary, thereby preserving affordability while advancing state policy. *Id.* at 52. The scope and timing of these expenditures should be subject to a meaningful benefit-cost analysis and stakeholder review. The AG explains that the Risk-Informed Decision Support model ("RIDS") described by AG witnesses Alvarez and Stephens, allows the utility, the Commission and other stakeholders to quantify risks and benefits to inform the development of the discretionary investment portfolio, and provides an appropriate model for review of discretionary spending within the context of Grid Plan development. *Id.* at 53-54.

4. EDF's Position

EDF explains that the focus of P.A. 102-0662's integrated grid and rate planning framework is two-fold. First, it must minimize long-term costs for Illinois customers. Second, it must support the achievement of State renewable energy development and other clean energy, public health, and environmental policy goals. 220 ILCS 5/16-105.17(a). The Commission must keep customers' best interests and experiences top of mind. 220 ILCS 5/16-105.17(a)(5). With that requirement firmly established, the Commission should consider foremost the customers and community leaders called by the EDF to explain the importance of the customer and community experience historically and in this grid planning process.

EDF witnesses Adesope and O'Donnell illustrate the ways in which affordability, EE, equity, and clean energy interact with one another. Mr. O'Donnell explains how electricity is a basic human right. EDF Ex. 3.0 at 10-11. Mr. Adesope's work with Blacks in Green seeks to democratize energy and ensure that the dividends from the energy transition are also delivered to low-income people, to increase affordability. EDF Ex. 7.0 at 2. Solar energy delivers customer choice, independence, and control. *Id.*; EDF Ex. 3.0 at 11. As explained by Mr. O'Donnell, "Changing a person's access to electricity directly impacts that person's quality of life. That is why it is so important that [P.A. 102-0662] make the system fairer and more balanced environmentally and economically." *Id.* To pursue energy sovereignty, ComEd's Grid Plan must shift its focus away from traditional investments that keep customers dependent upon ComEd and toward investments that empower people to make their own energy choices to serve their own needs. *Id.* In pursuing energy sovereignty equitably, the Commission must keep in mind how the energy system serves local communities that are part of global communities; the Commission should drive for equity here without undermining equity elsewhere. *Id.* at 5. Mr. O'Donnell also wants the Commission to require ComEd to work with local community members and companies to deliver culturally competent messaging and education on the opportunities P.A. 102-0662 will provide, as well as provide broader opportunities throughout its organization from entry level to management and executive levels. *Id.* at 9. Finally, he wants data access and transparency, to allow local citizens, journalists, and community organizations to identify and solve disparities resulting from the energy system. *Id.* at 3-4.

Solar can deliver on goals of clean energy, customer choice, and equity, but solar developers are at the mercy of utilities when it comes to outcomes according to EDF. EDF Ex. 7.0 at 4. For example, even though the developer or interconnecting party is responsible for the cost of any identified upgrades, it is not always clear how the utility calculated the cost of those upgrades, and there is no way to verify the validity of the required upgrades. *Id.* EDF therefore asks the Commission to approve of ComEd's commitment to more frequent updates to its hosting capacity maps and asks the Commission to require ComEd to provide regular updates to Staff and other stakeholders on progress on its hosting capacity analyses. Mr. Adesope further asks the Commission to require ComEd to provide the basis for its interconnection cost estimates. Finally, Mr. Adesope asks the Commission to initiate a formal proceeding to investigate adoption of the proposals on hosting capacity reporting and verification raised in the report, Data Validation for Hosting Capacity Analyses, authored by the National Renewable Laboratory ("NREL") and Interstate Renewable Energy Council, Inc. ("IREC"), available at https://www.nrel.gov/docs/fy22osti/81811.pdf.

EDF asks the Commission to pursue policies that provide clean air and a healthy environment. EDF Ex. 3.0 at 3. Ms. Watson testified to the EJ challenges she and her community in Chatham face. EDF Ex. 2.0 at 3, 9. Based on Ms. Watson's experiences, she asks the Commission to approve a Grid Plan that does not place the burden of fossil fuel infrastructure and budget overruns that will result in under-used stranded utility assets (i.e., natural gas infrastructure) on the communities that can least afford the cost of the energy transition and electrification. *Id.* at 6. She asks the Commission instead for a Grid Plan that results in clean, affordable energy. *Id.* She also asks the Commission to approve job training opportunities. *Id.* The cumulative impacts on the health and wealth of consumers make it impossible for disenfranchised areas to participate in the city reaching its greenhouse gas ("GHG") reduction goals, community attaining building improvements, and gaining improved health outcomes. *Id.* at 7. In the end, Ms. Watson wants the Commission to approach this case knowing that people's lives and the planet are at stake. EDF Ex. 2.0 at 12

As reflected in EDF's witness testimony, the Grid Plan as modified and approved by the Commission must aim to achieve Energy Justice. EDF explains that Energy Justice is "the goal of achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those historically harmed by the energy system." JNGO/EDF Ex. 5.0 at 15-18 (*citing* JNGO/EDF Ex. 5.03 (Initiative for Energy Justice, Energy Justice Workbook). P.A. 102-0662 provides a critical juncture to consider how Illinois' energy-system regulators can make decisions that build toward a future vision that aligns with the goals of Energy Justice. JNGO/EDF Ex. 5.0 at 9-17. Energy Justice offers a frame to reimagine energy systems as tools for revitalization and systems change. JNGO/EDF Ex. 5.0 at 6; JNGO/EDF Ex. 5.02.

5. Commission Analysis and Conclusion

The Commission will carefully consider parties' comments and the objectives of P.A. 102-0662 when approving a Grid Plan in this Order.

V. COMED'S MYIGP

A. Introduction

The Commission finds the Company's proposed Grid Plan does not meet several statutorily mandated requirements set forth in Section 16-105.17 of the Act and must be rejected.

The Act's requirements for approval of a Multi-Year Grid Plan are demanding but clear. *See* 220 ILCS 5/16-105.17(f)(5)(A)(1)-(6). The Commission considered whether the Plan satisfied the Act's approval criteria, including: (1) the pre-filing workshop mandates of Section 16-105.17(e); (2) the Plan content requirements of Section 16-105.17(f)(2); (3) the equity, affordability, and cost-effectiveness Plan design requirements of Section 16-105.17(d); and (4) the intentionality (design goals) of planned DER grid investments. *See* 220 ILCS 5/16-105.17. Section 16-105.17(f)(5)(A) guides the Commission's review of an electric utility's Multi-Year Integrated Grid Plan by providing six minimum considerations for evaluation. *See* 220 ILCS 5/16-105.17(f)(5)(A)(1)-(6). Adherence to the standards of the Act is required to ensure that the Multi-Year Grid Plan delivers benefits to ratepayers and meets the mandates established by P.A 102-0662. Simultaneously, the Commission must ensure that the magnitude of costs imposed on ratepayers is justified under the requirements of Section 16-105.17.

Development of the Company's Grid Plan and the Commission's assessments have been challenging, especially since this is the first iteration of a multi-year infrastructure planning process in Illinois. The Commission has three choices with respect to evaluating a MYIGP, it may: (1) approve; (2) approve with modifications; or (3) reject the plan. *See* 220 ILCS 5/16-105.17(f)(5)(B). The Commission has the authority to modify deficient elements of a plan to bring it into compliance and to open implementation proceedings to review, refine, supplement, or execute approved Grid Plan proposals. *See id.* P.A. 102-0662 also anticipates the possibility that the Commission would be unable to modify a Grid Plan to meet compliance requirements. In such cases, the Commission may reject the Grid Plan, and the utility must file a revised Grid Plan within three months of the Commission's rejection order. *See id.*

The parties in the docket present the Commission with two options: (1) approve the Grid Plan as submitted; or (2) approve the Grid Plan with modifications. The Commission cannot approve the Grid Plan as filed given its failure to demonstrate compliance with the Act.

Parties in this docket largely suggest the Commission approve the Grid Plan with modifications. However, as identified by the parties, the record is replete with instances of the Grid Plan's noncompliance. The areas of non-compliance are foundational components that are necessary not only for the Commission, but also the Company, to determine whether certain investments are prudent and reasonable. *See* Section V.B. The Commission finds the filed Grid Plan lacks necessary information and frameworks for meaningful evaluation, and application, of Grid Plan components. The Commission is unable to modify the Grid Plan as necessary to cure the areas of non-compliance based on this record. A compliant Grid Plan requires consistency with key ratepayer protections—cost-effectiveness, equity, and affordability—and requires the Company to associate proposed investments with P.A. 102-0662's intentional design goal requirements. *See* 220 ILCS 5/16-105.17(d) and (f)(2). It is the Company's responsibility to provide sufficient detail in its Grid Plan. Ultimately, the Commission concludes it is unable to "modify [the] electric utility's Plan as necessary to comply with the objectives" of Section 16-105.17 of the Act. 220 ILCS 16-105.17(f)(5)(B).

Multiple parties recognize the Grid Plan's deficiencies and suggest using post-order activities to bring the Grid Plan into compliance. During oral argument, Staff suggested the Grid Plan could be approved "contingent" upon the Company and parties working towards consensus through the post-docket obligations and stakeholder engagement. *See* Oral Argument Tr. 179:3-6, Docket Nos. 22-0486 & 23-0055 (Nov. 28, 2023) (Staff). However, this remedy is statutorily unavailable. Staff later suggested the contingency could be a form of modification, facilitated through the MYIGP reconciliation process. *See id.* at 259:4-11 (Staff). This approach would require the Commission to approve a modification deferring statutory requirements that could ultimately be deficient to satisfy compliance. Reconciliation is designed to allow a presumption of reasonableness for any spending up to 105% of the revenue requirement allotment for that year, but the allotment is based on an approved Grid Plan. This option requires the Commission to grant approval prematurely. The requisite information needed to evaluate the Grid Plan approval criteria within Section 16-105.17(f)(5)(A) is not within this record.

The Commission declines to use reconciliation proceedings to remedy non-compliant components of this Grid Plan.

The Commission declines to approve a Grid Plan based on information to be developed at a later date in order to protect ratepayers from paying for investments that do not conform to P.A. 102-0662's statutory criteria. While the evidence in this docket may allow the Commission to make choices on some of the spending tied to the P.A. 102-0662 criteria, the Commission cannot allow such a result for the entirety of the Grid Plan. Moreover, the Commission is concerned with the limited opportunities to correct an approved Grid Plan throughout the four years it is in effect.

The last option for the Commission that adheres to P.A. 102-0662 is rejection of the Grid Plan. *See* 220 ILCS 5/16-105.17(f)(5)(B). The Commission finds the Company's filed Grid Plan does not satisfy the statutory requirements for approval, or approval with modification, and rejects it in its entirety. As prescribed in the Act, the Commission directs the Company to refile a Grid Plan within three months of this Order. *See* 220 ILCS 5/16-105.17(f)(5)(B).

The Commission does not make this decision lightly. The Commission recognizes parties to this proceeding invested a great deal of effort in the pre-filing workshops and in litigation before the Commission. The Commission notes significant advances were made. The collaborative process through which parties addressed aspects of this multi-year proceeding is itself one of those accomplishments.

The Commission appreciates the urgency of having a compliant Grid Plan in place and is eager to move forward with a Grid Plan that satisfies the statutory requirements for approval. Given the urgency of P.A. 102-0662's implementation, Section V of this Order identifies and offers the Commission's perspective and guidance related to the Grid Plan components that can be preserved, or modestly revised, in the Company's refiled Grid Plan. Preserving uncontested Grid Plan components should ease litigation burdens and streamline approval of the refiled Grid Plan. This Order endeavors to provide a full assessment of Grid Plan components and characteristics to facilitate compliance on refiling.

This Grid Plan's deficiencies are discussed below.

B. Affordability, community, and environmental benefits

1. Efforts to Bring Customer Benefits to EIEC, Low-Income and EJ Communities (Section 16-105.17(d)(3) / Section 16-105.17(f)(2)(J)(i))

a. ComEd's Position

As described by ComEd, its Grid Plan satisfies the two requirements of P.A. 102-0662 related to bringing customer benefits to EIECs, low-income, and EJ communities. First, under P.A. 102-0662, ComEd must present a plan "designed to … support efforts to bring the benefits of grid modernization and clean energy, including, but not limited to, deployment of [DERs], to all retail customers, and support efforts to bring at least 40% of the benefits of those benefits to [EIECs]." 220 ILCS 5/16-105.17(d)(3). Second, ComEd's Grid Plan must include a detailed plan for achieving the performance metrics approved by the Commission which apply to ComEd, including "[a] description of, exclusive of low-income rate relief programs and other income-qualified programs, how the utility is supporting efforts to bring 40% of the benefits from programs, policies, and initiatives proposed in their [MYIGP] to ratepayers in low-income and environmental justice communities." 220 ILCS 5/16-105.17(f)(2)(J)(i). ComEd contends that, in both cases, the law is clear that there is no requirement for a specific amount of spending in a particular geographic area. 220 ILCS 5/16-105.17(d)(3); 220 ILCS 5/16-105.17(f)(2)(J)(i). ComEd further contends that its Grid Plan satisfies both requirements. It is, in accordance with subsection (d)(3), designed to support efforts to bring 40% of the benefits of the Plan to customers in EIECs. And it includes information about how ComEd is supporting those efforts, in accordance with subsection (f)(2)(J)(i). 220 ILCS 5/16-105.17(f)(2)(J)(i).

In preparation for developing the Grid Plan, ComEd states that it changed the risk assessment processes it uses to identify and prioritize investments to place additional emphasis on the impact of interruptions on customers and communities. ComEd Ex. 1.0 at 10. That updated risk assessment process was used to identify and prioritize investments included in the Grid Plan. *See* ComEd Ex. 43.0 at 15–17; *see also* ComEd Ex. 31.02 Conf.

ComEd points out that, once ComEd had developed its proposed investments for inclusion in the Grid Plan, ComEd analyzed those investments to ensure that the statutory objectives were satisfied. ComEd states that analysis demonstrates that, in 2023 and 2024, the years of the Grid Plan period in which discrete investments are most well-defined, approximately 50% of the planned investments in the System Performance and Capacity Expansion categories will impact the quality of electric service in EIEC areas. ComEd Ex. 1.0 at 10, 11; *see also* ComEd Ex. 5.01 2nd Corr. at 173, Table 5.4-2. As ComEd explains, the Grid Plan, if fully funded, will deliver more than 40% of the benefits of clean energy and grid modernization to EIEC, low-income, and EJ communities. *See* 220 ILCS 5/16-105.17(d)(3); *see also* 220 ILCS 5/16-105.17 (f)(2)(J)(i).

ComEd's analysis focused on two categories of investment, System Performance and Capacity Expansion, where the location and nature of investments are within ComEd's control, and the investments will impact specific subsets of customers, rather than all customers across the system. ComEd Ex. 26.0 at 36-37. ComEd states, moreover, that these are also the two categories that focus on grid modernization and clean energy integration, (*see* 220 ILCS 5/16-105.17(d)(3); (f)(2)(J)(i)), include work that supports improving reliability, resiliency, and the health and safety of the electric grid, and will help meet new customer demand associated with the integration of DERs, adoption of EVs, and other beneficial electrification measures. ComEd Ex. 26.0 at 38. ComEd notes that System Performance investments include advanced telemetry, replacement of obsolete cable, distribution automation, intelligent substations, and communication equipment. ComEd Ex. 47.0 at 9. ComEd further notes that Capacity Expansion investments include new substations and substation reconfiguration, energy storage implementation to alleviate congestion, voltage optimization, feeder enhancements to accommodate EVs, and public school electrification work. *Id.* Again, more than 50% of this work impacts customers in EIECs.

For purposes of the analysis, ComEd determined that an investment "impacts" an EIEC if the investment serves at least five customers located in an EIEC. ComEd Ex. 26.0 at 37. ComEd describes an investment that impacts a customer as one that benefits that customer, ComEd Ex. 47.0 at 9, since a customer that is impacted by a System Performance investment is receiving the benefit of improvements in reliability and resiliency, and a customer that is impacted by a Capacity Expansion investment is receiving the benefit of improvements in the ability of the local grid to meet load. *Id.* In addition, ComEd states that work in other investment categories also supports the goals of grid modernization and clean energy, (*see* 220 ILCS 5/16-105.17(d)(3)), and those benefits are not reflected in the results of the analysis. As a result, ComEd contends that its analysis is conservative but demonstrates the Grid Plan will result in benefits of grid modernization and clean energy in excess of the statutory minimum towards customers located in EIECs and EJ communities.

Despite this evidence, ComEd notes that some parties challenge whether ComEd has satisfied the Act's EIEC provisions. As a result, ComEd asserts is imperative to understand exactly what the Act requires, and why the Grid Plan meets those requirements.

ComEd states that P.A. 102-0662 requires that the Grid Plan be designed to "support efforts to bring the benefits of grid modernization and clean energy, including, but not limited to, deployment of distributed energy resources, to all retail customers, and support efforts to bring at least 40% of the benefits of those benefits to [EIECs]." 220 ILCS 5/16-105.17(d)(3). The Act further specifies that "[n]othing in this paragraph is meant to require a specific amount of spending in a particular geographic area." *Id.* Near identical language is included in the section of the Act setting forth Grid Plan requirements. 220 ILCS 5/16-105.17(f)(2)(J)(i).

ComEd explains that Staff and ComEd agree that this statutory language does "not ultimately require the Company to successfully meet the 40% objective at the conclusion of the MYIGP." Staff IB at 18. ComEd states that other parties' arguments that the Grid Plan fails to deliver benefits to EIEC customers in a specified manner at a specified time are based on a fundamental misunderstanding of the Act's requirements. ComEd addresses these arguments below, but stresses that there is consensus on the need for additional stakeholder discussions and a separate proceeding to develop a method of identifying and calculating benefits arising from grid investments.

For example, ComEd notes that EDF argues the Grid Plan falls short because it lacks detail measuring (i) specific benefits being created; (ii) magnitude of benefits; and (iii) who is receiving those benefits. EDF IB at 31-32. ComEd asserts that this level of specificity is not what the law requires. ComEd notes that EDF cites no legal requirement that such detail be included in the Grid Plan and cannot do so because the Act contains no such requirement. Nevertheless, ComEd states the Grid Plan does in fact include information about the benefits, and the record evidence demonstrates that more than 50% of the benefits of grid modernization and clean energy will be directed to customers in EIECs. ComEd Ex. 26.0 at 36-38, ComEd Ex. 47.0 at 9-10. EDF further argues that "impacts" and "benefits" are separate, as some investments serving particular customers in EIECs may not be "want[ed]" by other customers in the EIEC. EDF IB at 36. This argument does not account for ComEd's obligation to serve all customers and would create a requirement for the evaluation of EIEC benefits that is not in the Act.

ComEd notes that Staff asserts ComEd's analysis of the allocation of EIEC benefits is based solely on the geographic location of particular investments. *See* Staff IB at 16. ComEd states this criticism is misplaced as ComEd's analysis is based on where the customers served by the investment are located, not the location of the investment. ComEd Ex. 26.0 at 37. If at least five customers served by an investment are in an EIEC, the investment is considered to benefit an EIEC. ComEd Ex. 26.0 at 37. ComEd maintains this methodology is reasonable, and accurately captures which customers are receiving the benefits of which investment.

ComEd states that Staff further criticizes ComEd's EIEC benefit analysis on the basis that it does not identify the "types" of benefits that will accrue to customers in EIECs and does not establish a "causal connection" between investments and EIEC benefits. Staff IB at 16-17. However, ComEd's analysis focused on the categories of System Performance and Capacity Expansion. The types of investments that fall into each of these categories, and the benefits to customers arising from them, are well documented in the Grid Plan and supporting testimony. *See, e.g.*, ComEd. Ex. 47.0 at 9 (noting that System Performance investments improve reliability and resiliency, and Capacity Expansion investments improve the ability of the grid to meet load). Moreover, Staff does not propose any method of establishing such a "causal connection" or explain why ComEd's identification of benefits is insufficient. And, again, ComEd states no such specific analysis or demonstrations are required by any section of the Act.

ComEd notes that JNGO and EDF argue that ComEd's EIEC benefit analysis is flawed because the benefits of investments are not shown to be proportional to the dollars invested in the project. ComEd states there is no evidence in the record in support of that contention. ComEd states there is consensus, however, on the need for a separate proceeding to develop a method of identifying and calculating benefits arising from grid investments.

ComEd notes Staff recommends that the Commission "clarify ComEd's responsibility" with respect to the statutory language requiring that the Grid Plan be "designed to … support efforts to bring at least 40% of the benefits of those benefits [i.e., grid modernization and clean energy] to [EIECs]." 220 ILCS 5/16-105.17(d)(3). ComEd welcomes direction from the Commission on how grid investment benefits to EIECs should be evaluated. ComEd agrees with Staff that the focus of the statutory language is on the design of the Grid Plan, rather than on retrospective enforcement to ensure that no less than 40% of the benefits of grid modernization and clean energy are received by customers in EIECs. ComEd explains that the Grid Plan has been designed to accomplish that objective.

ComEd states it has agreed to engage in a stakeholder process to evaluate the benefits of grid investments and proposes that some aspects of this process be conducted collaboratively between ComEd and Ameren Illinois Company d/b/a Ameren Illinois ("Ameren") where practical and beneficial. ComEd Ex. 26.0 at 59-60; ComEd Ex. 47.0 at 5. However, ComEd recommends that it be able to conduct its own stakeholder engagement processes within its specific service territory, and that ultimately ComEd and Ameren should present their own methodologies of benefit analysis.

With respect to Staff's suggestion that ComEd be required to measure progress towards that goal, ComEd explains that an annual, retrospective analysis of the number of customers impacted by investments would be possible, so long as it is limited to the investments placed in service over the prior year. *See* ComEd Ex. 26.0 at 40. ComEd states that, given the rate of change in the distribution grid over time, the number of customers impacted by any individual investment will also change over time, making it very burdensome to track the impact by customers of every investment in every year. *Id.*

Finally, ComEd notes that EDF proposes the Commission should require ComEd to report on "equitable job outcomes at the entry level, management level, and executive level, as well as contracting opportunities." EDF IB at 39. ComEd states that it is not aware of EDF testimony supporting this recommendation or defining what an "equitable job outcome" would be. Because this proposal is not supported by record evidence, ComEd asserts it should be rejected.

b. Staff's Position

It is Staff's position that ComEd has not established a clear causal connection between the anticipated outcomes of its MYIGP investments and the benefits allocation required by Sections 16-105.17(d)(3) and 16-105.17(f)(2)(J)(i), referred to jointly as the "Benefits Requirements". As EDF notes, ComEd's primary focus in addressing the requirement that 40% of the benefits of the grid modernization to ratepayers in EIEC, EJ, and low-income communities is based on the location of investments for years 2023 and 2024. Staff Ex. 8.0 at 9.

Staff recommends the Commission clarify ComEd's responsibility to demonstrate support of the Benefits Requirements. Staff Ex. 24.0 at 20. Staff believes the Company is required to design the MYIGP so as to achieve the goals set by the Benefits Requirements and that the Company must measure progress towards meeting those goals. Staff recommends the Commission accept Staff's position that ComEd is required to demonstrate the MYIGP was designed to meet the 40% target set in the Benefits Requirements and clarify ComEd's responsibilities as to the Benefits Requirements in light of that position.

ComEd, on the other hand, argues it is not required to demonstrate that 40% of the benefits from the MYIGP will be directed to EIECs. ComEd Ex. 26 at 36. However, ComEd also argues its MYIGP nonetheless meets this goal, based on a limited review of two categories of grid investments in 2023 and 2024. *Id.* In reaching this conclusion, ComEd asserted that, if an investment served five or more customers located in an EIEC community, the investment was considered to impact that community. *Id.* at 37.

ComEd misses the mark on its statutory duties. Staff, the AG, EDF, JNGO, LVEJO, and Metra determined that the Company has failed to design the MYIGP so as to achieve the Benefits Requirements. CTA also expressed concerns that ComEd could not identify specific projects that support the CTA's mission and that ComEd does not take vital environmental and societal factors into account in its grid planning process. CTA Ex. 1.0 at 10-11.

As pointed out by EDF, the location of investments is not sufficient to meet the standard of directing benefits of the grid equitably and the benefits of grid investments are not proportional to the dollar value of the investments made in EIEC communities. Neither Section 16-105.17(d)(3) nor 16-105.17(f)(2)(J)(i) require a certain amount of spending in a particular geographic area. Investing in a location alone may or may not impact EIEC, EJ, or low-income communities. Likewise, the Company's emphasis on dollars invested as a measure of "impact" does not provide information on the types or categories of benefits that the investment dollars will deliver for EIECs. The idea that five or more customers in an EIEC may be "impacted" by an investment does not eliminate Staff's concerns over whether ComEd has demonstrated its MYIGP complies with the Act. Additionally, Staff points out that ComEd's planned capacity expansion and system performance category investments for EIEC, EJ, or low-income communities do not cover years 2025 through 2027. *Id.* at 19.

The Company's MYIGP does not provide sufficient information to enable Staff to determine how planned projects, programs, and activities in the MYIGP will be effectively leveraged to benefit EIEC, EJ, and low-income communities. Staff Ex. 24 at 19. Reporting on investments does not provide a measure of the outcomes of the proposed investments, and it is the outcome that demonstrates how the Grid Plan is delivering benefits to EIECs. MYIGP benefits must be tracked and measured to promote transparency as to the Company's compliance with this requirement, and the Commission should direct ComEd to do so. Staff Ex. 24.0 at 18, 20.

Staff also recommends the Commission require ComEd address, as a part of its filing in the Company's next MYIGP, JNGO/EDF's recommendations to consider improving equity quality attributes (i.e., distribution, assessment granularity, and dimensions) and incorporating equity in its investment planning and spending processes for ratepayers in EIEC, EJ and low-income communities. Staff Ex. 24.0 at 8-12. As JNGO point out, the Grid Plan should measure how effective ComEd's investments are, not just how much the company is spending. The Company should estimate where it believes benefits will flow at the beginning of the Grid Plan and use this as a benchmark against which to measure actual benefits. *Id.* at 15.

Finally, given the overwhelming rejection of ComEd's approach in this matter by intervenors, Staff supports the JNGO recommendation that the Commission direct the Company to use the Staff/JNGO framework in further stakeholder meetings to refine and improve a methodology for quantifying and tracking benefits. Staff also recommends the Commission clarify ComEd's responsibilities relative to the Benefits Requirements and require ComEd to work with Ameren to host future, utility-run stakeholder meetings.

As a remedy to the deficiencies of the ComEd approach to the Benefits Requirements, Metra proposed that the rates paid by the Railroad ("RR") Class members be frozen or lowered since those members provide critical public transportation powered by clean energy to EIECs. Given that the applicable statutes do not require a specific amount of spending in a particular geographic area, customer rates which would pay for said spending is not relevant to the resolution of concerns in this matter. *See* 220 ILCS 5/16-105.17(d)(3); *see also* 220 ILCS 5/16-105.17(f)(2)(J)(i). Further, Metra's proposal suggests a change in rate design which is not at issue in this proceeding. Metra should raise this issue in ComEd's rate design docket, which will be filed in 2024. Staff recommends that the Commission reject Metra's recommendation to freeze or lower the rates paid by the RR Class members.

c. AG's Position

As part of P.A. 102-0662's commitment to equity, the Grid Plan must "support efforts to bring the benefits of grid modernization and clean energy, including, but not limited to, deployment of DERs, to all retail customers, and support efforts to bring at least 40% of the benefits of those benefits to [EIECs]." 220 ILCS 5/16-105.7(d)(3). ComEd asserts that approximately 50% of its Capacity Expansion and System Performance investments will "impact" service to EIEC areas. ComEd Ex. 26.0 at 36. ComEd claims that an investment "impacts" an EIEC area "if it serves at least five customers located in an EIEC." *Id.* at 37. The AG agrees with Staff witness Jenkins that ComEd has not adequately demonstrated that projects, programs, and activities in the Grid Plan will benefit EIEC communities. Staff Ex. 24.0 at 18-20.

d. LVEJO's Position

Multiple parties, including Staff and LVEJO, have repeatedly expressed concern with the Grid Plan's compliance with the 40% benefit requirement. These concerns include not only how ComEd is calculating the Grid Plan's compliance, but also the lack of meaningful tracking and reporting of benefits over the life of the Grid Plan. As a means to begin to address these concerns, Staff, JNGO, and EDF proposed a framework for equity benefits reporting that they developed for the Ameren MYIGP, Docket Nos. 22-0487/23-0082 (Consol.). LVEJO and the City also support the framework. ComEd's repeated response to the parties' tracking and reporting proposal is to reject the proposed framework and to reject the idea that an equity tracking and reporting system should be included in this proceeding at all. No party aside from ComEd has objected to the proposed Equity Reporting Framework.

LVEJO states that the inclusion of an equity tracking and reporting framework in the Grid Plan is essential to ensuring the high quality delivery of equity benefits over time. It is necessary to ensuring the Grid Plan meets its equity goals. It is also an important step towards compliance with P.A. 102-0662's transparency requirements. Regular reporting will allow the Commission and interested stakeholders to better evaluate the Grid Plan's progress towards meeting its equity goals, and it will help inform the development of future Grid Plans. There is also a particular need for tracking and reporting for this inaugural Grid Plan, where there is ongoing uncertainty and disagreement among stakeholders and ComEd about how the Grid Plan is defining and meeting its equity goals. For all of these reasons, it is necessary for the Grid Plan to include an equity tracking and reporting framework, with the initial one proposed by Staff and EDF as a starting point to build on.

e. IBEW's Position

IBEW supports ComEd's Grid Plan because it ensures skilled union employees are performing the work. A skilled workforce is needed to execute the Grid Plan including, for example, upgrading and replacing infrastructure in the overhead and underground electric grid to ensure safe and reliable electric service to customers. IBEW members pride themselves on being a well-trained and highly skilled workforce. Many members spend years training to become qualified technical experts in their respective fields in the electric trade. IBEW and its members are ready to partner with ComEd and execute the work necessary to accomplish the Grid Plan. IBEW Ex. 1.0 at 3.

IBEW also supports ComEd's Grid Plan not only because its proposed investments to the grid infrastructure will increase the number of good-paying skilled union jobs to work on the grid but because of its commitment to the building of a diverse pipeline of talent to work in the skilled trades. IBEW shares a similar goal of building an inclusive and diverse skilled union workforce that reflects the makeup of the community. *Id.*

Finally, IBEW also supports the Grid Plan because its members live and raise their families in ComEd's electric service territory. IBEW and its members are a part of the community who will benefit from ComEd's grid investments. As such, IBEW supports ComEd's commitment to invest in grid projects that continue ComEd's high level of reliability and reduced customer outages, address the impacts of climate change and need for clean energy, and protect against security threats. *Id.* at 3-4.

f. City's Position

The City argues that the Equity Reporting Framework proposal, included as JNGO/EDF Ex. 11.01, can help to address deficiencies in the MYIGP. The City explains that the framework is informed by the Justice40 reporting framework and specifically tailored to P.A. 102-0662's requirements. Among other requirements, it would require ComEd to report on metrics that address energy equity, including reporting separately for both EIECs and non-EIECs on: (1) investments, (2) shutoffs, (3) disconnection notices, (4) outages, and (5) information and education. JNGO/EDF Ex. 11.0 at 20-21. The City adds that this information will help the City address and understand the energy burden that is experienced in communities across the West, South, and far South sides of Chicago. City Ex. 1.0 at 18-19 (presenting Chicago's energy burden using data provided by Greenlink Analytics). The City supports this framework as an important starting place that can be improved upon through a joint stakeholder workshop process. For these reasons, the City urges the Commission to direct ComEd to adopt the Staff/JNGO initial Equity Reporting Framework.

g. CTA/Metra's Position

Based on ComEd's creative redefinition of the word "benefits," and the fact that ComEd's Grid Plan benefits analysis is based on location of investments for years 2023 and 2024, but did not cover years 2025 through 2027, CTA/Metra note that Staff concluded that ComEd did not establish a clear causal connection between anticipated outcomes of its MYIGP investments and the benefits allocations required by Sections 16-105.17(d)(3) and 16-105.17(f)(2)(5)(i) of the Act. CTA/Metra argue that ComEd's creative definition of the word "benefits" is enough reason to conclude that ComEd's Grid Plan failed to satisfy these statutory criteria. CTA/Metra agree with Staff's analysis and finds the Grid Plan fails to meet this requirement.

h. EDF's Position

EDF recommends that the Commission require ComEd to adopt the Equity Reporting Framework developed by JNGO/EDF witness Pereira and Staff witness Jenkins, and to diligently require ComEd to pursue equity, focusing on measures that deliver customers energy sovereignty and create equitable job and work opportunities.

Section 16-105.17(d)(3) requires ComEd's Grid Plan to be designed to "support efforts to bring the benefits of grid modernization and clean energy, including, but not limited to, deployment of distributed energy resources, to all retail customers, and support efforts to bring at least 40% of the benefits of those benefits to [EIECs]." 220 ILCS 5/16-107.5(d)(3). EDF opines that this provision is focused on benefits, not spending. *Id.* Similarly, Section 16-105.17(f)(2)(J)(j), the Grid Plan must include, at a minimum, a "detailed plan" containing a "description of, exclusive of low-income rate relief programs and other income-qualified programs, how the utility is supporting efforts to bring 40% of benefits from programs, policies, and initiatives proposed in their [MYIGP] to ratepayers in low-income and [EJ] communities." 220 ILCS 5/16-105.17(f)(2)(J)(j). P.A. 102-0662 also requires ComEd's Grid Plan to be evaluated on whether it "considers and incorporates, where practicable, input from interested stakeholders, including parties and people who offer public comment without legal representation." 220 ILCS 5/16-105.17(f)(5)(A)(3).

P.A. 102-0662's provisions require a Grid Plan that delivers energy justice through grid investments. JNGO/EDF Ex. 4.0 at 6. EDF explains that energy justice refers to the goal of achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those historically harmed by the energy system ('frontline communities'). Energy justice explicitly centers the concerns of marginalized communities and aims to make energy more accessible, affordable, clean, and democratically managed for all communities. Under this definition of energy justice, the MYIGP should be structured such that EIECs receive an equitable share of benefits from grid investments. JNGO/EDF Ex. 4.0 at 8.

With respect to the tenet of recognition justice, ComEd's MYIGP notes that approximately 1.2 million customers, or 30% of its total customer base, "fall within" an EIEC. JNGO/EDF Ex. 5.0 at 38. ComEd's Grid Plan does not, however, provide sufficient detail or communication about the hardships faced by many of its customers. In future Grid Plans, ComEd must take steps to assess and communicate energy inequities among the communities it serves so that it can work to develop comprehensive planning that can address energy justice. *Id.* The Commission can also order ComEd to adopt the data transparency and reporting proposals from JNGO/EDF. *See also* Section V.B.9.

EDF asserts that the area where ComEd's MYIGP needs the most improvement is the area of distributional justice. EDF agrees with Staff that "ComEd did not establish a clear causal connection between the anticipated outcomes of its MYIGP investments and the benefits allocation required by Sections 16105.17(d)(3) and 16-105.17(f)(2)(J)(i)." Staff IB at 16. JNGO likewise concludes that ComEd's narrative discussion of so-called "impact" does not meet the requirement of a "detailed plan" under Section 16-105.17(f)(2)(J)(i).

With respect to procedural justice, the Commission should continue extensive third-party facilitated workshops. JNGO/EDF Ex. 5.0 at 38. The Company should specifically describe how it plans to continue to engage with EIECs in subsequent grid plans. *Id.* at 38-39. Before ComEd can claim to be "supporting efforts" to bring 40% of benefits to EIECs, it will take more than simply tracking investment dollars, and will require an understanding of benefits and outcomes. JNGO/EDF Ex. 11.0 at 17. Benefits are not proportional to the dollar value of the investments made. JNGO/EDF Ex. 11.0 at 17.

Given the weaknesses in ComEd's MYIGP, the Commission should approve the requests of multiple parties to require ComEd to adopt the Equity Reporting Framework. EDF argue that ComEd's point that it is not party to the Ameren MYIGP, in which multiple parties also support the Equity Reporting Framework, is irrelevant. The Equity Reporting Framework was introduced in this docket, in response to specific concerns raised by multiple parties that ComEd's efforts to address P.A. 102-0662's requirement to deliver at least 40% of grid benefits to EIECs and EJ communities were not sufficient. JNGO/EDF Ex. 11.0 at 16. EDF maintains that parties gave ComEd opportunities to address their concerns in testimony, but ComEd doubled down on its original approach, which "provides a definition of impact that includes no measures of outcomes or benefits, instead arguing that its grid plan need only demonstrate that the 'impact' of its proposed investments occurs in EIECs." JNGO/EDF Ex. 11.0 at 16.

The Equity Reporting Framework is informed by the frameworks in place at the federal level and other states as they work to implement their own Justice40 initiatives. *See* JNGO/EDF Ex. 4.0 at 14-32. At every level of government, entities are focused on identifying and tracking benefits, not mere spending, in pursuit of their goals. For example, EDF notes that at the federal level, Executive Order 14008 requires federal agencies to: (1) identify benefits of Justice40 programs; (2) determine how those programs distribute benefits; and (3) calculate and report on how they are reaching the 40% goal set by the Justice40 initiative. EDF Ex. 4.0 at 15.

EDF asserts that the Commission must pursue equity with urgency. EDF Ex. 3.0 at 4. Mr. O'Donnell appreciates ComEd's efforts to deliver benefits to EIECs, but P.A. 102-0662 requires equity generally as well. EDF Ex. 10.0 at 5. To ensure that no customer, no matter where they live, is left behind, ComEd and the Commission need to track who is receiving the benefits of grid investments and who is paying for those benefits. EDF Ex. 10.0 at 5. Energy sovereignty plays a role in delivering equity. Energy sovereignty means recognizing how local communities fit within the larger global community. EDF Ex. 3.0 at 5. Energy sovereignty also means equity and accessibility for ComEd's service area and globally. *Id.* at 5.

Finally, a big part of the Commission's push to require equity must focus on jobs. EDF Ex. 3.0 at 9. The Commission should require ComEd to demonstrate that people who have not previously had roles in energy be part of the energy transition, and not just at the entry level position, but at all levels including management, executive, and contractors. *Id.* To pursue equity, ComEd needs more active recruitment for community members through workforce development for fields like EE and community engagements, including work with community colleges and high school vocational training. EDF Ex. 2.0 at 11.

For the reasons stated above, EDF asks the Commission to: (1) require ComEd to adopt the proposed Equity Reporting Framework, JNGO/EDF Exhibit 11.01, as the starting point for ComEd to track benefits of its grid plan; (2) review the remainder of ComEd's MYIGP by prioritizing programs, policies, and projects that get customers closer to energy sovereignty; and (3) require ComEd to report progress on equitable job outcomes at the entry level, management level, and executive level, as well as contracting opportunities. In all of this, EDF asks the Commission to pursue equity with urgency.

i. JNGO's Position

The parties continue to dispute how ComEd should measure and quantify progress towards the 40% benefits target for EIECs in Sections 105.17(d)(3) and 105.17(f)(2)(J)(i). JNGO disagree with ComEd's proposal to count dollars from investments that "impact" five or more customers in an EIEC. ComEd's claim that "more than 50%" of its Grid Plan investments "impact" customers in EIECs does not meet the letter or spirit of P.A. 102-0662's Justice40 requirement and the Commission should reject it.

JNGO recommend that the Commission modify ComEd's Grid Plan and require ComEd to adopt the Staff/JNGO Equity Reporting Framework as a starting point for quantifying and tracking benefits to EIECs. JNGO are willing to participate in further discussions with ComEd to improve upon this initial tracking and reporting framework for use in future grid plans.

j. Commission Analysis and Conclusion

The Commission agrees with Staff, JNGO, AG, City, and EDF that ComEd's Grid Plan does not sufficiently describe how the Company is supporting efforts to bring at least 40% of benefits from proposed programs, policies, and initiatives to ratepayers in low-income and EJ communities. The Commission further agrees that the Company does not clearly describe how its Grid Plan is designed to bring benefits from clean energy and grid modernization to all retail customers, and to bring 40% of those benefits to EIECs. JNGO/EDF witness Dr. Pereira and Dr. Chan explained ComEd's Grid Plan lacks important details on the approach or framework used to "identify, measure, track, and report (1) what specific benefits are being created, (2) how much these benefits are resulting from Grid Plan investments, and (3) who is receiving those benefits." JNGO.EDF Ex. 4.0 at 10. These are requirements derived directly from P.A. 102-0662. *See* 220 ILCS 5/16-105.17(f)(2)(J)(i) and 220 ILCS 5/16-105.17(d)(3). The Commission directs the Company to provide additional information regarding its proposed Grid Plan's compliance with 220 ILCS 5/16-105.17(d)(3) and 220 ILCS 5/16-105.17(f)(2)(J)(i) upon refiling (*See* Section V.A of this Order). Moreover, the Commission finds that the adoption of post-order workshops does not satisfy the requirements for approval in Sections 16-105.17(d)(3) and 16-105.17(f)(2)(J)(i).

The Company's assertion that it is not required to provide a detailed description of its efforts under Sections 16-105.17(d)(3) and 16-105.17(f)(2)(J)(i) is incorrect. "[T]he [MYIGP] shall comprehensively detail the relationship between these plans, tariffs, and programs and to the electric utility's achievement of the objectives in subsection (d)." 220 ILCS 5/16-105.17(f)(4); *see also* 220 ILCS 5/16-105.17(f)(2)(J)(i). It is the burden of the utility to prove compliance with relevant law. A sufficiently detailed description of the Company's compliance under Sections 16-105.17(f)(2)(J)(i) and 16-105.17(d)(3) is necessary to properly inform the Commission's decision in this case. The Commission may approve an MYIGP "only if it finds that the [p]lan is reasonable, complies with the objectives and requirements of this Section, and reasonably incorporates input from parties." 220 ILCS 5/16-105.17(f)(5)(B). The record in this proceeding does not adequately support the Company's efforts related to bringing at least 40% of benefits to low-income and EJ communities and EIECs sufficient to allow the Commission to approve the MYIGP.

The Company argues its Grid Plan complies with Sections 16-105.17(d)(3) and 16-105.17(f)(2)(J)(i) by counting an investment that serves five or more customers located in an EIEC community to be benefiting EIECs. *See* ComEd Ex. 26.0 at 37. Staff notes the Company's emphasis on dollars invested as a measure of "impact" does not provide information on the types or categories of benefits that the investment dollars will deliver for EIECs and questions the Company's use of five or more customers in an EIEC as the appropriate measure of "impact." *See* Staff Ex. 24.0, at 7, 18. The Commission agrees with Staff and encourages the Company to collaborate with stakeholders to address the requirements of 220 ILCS 5/16-105.17(d)(3) and 220 ILCS 5/16-105.17(f)(2)(J)(i) when refiling its Grid Plan.

The Company must use an appropriate measuring framework to show compliance with Sections 16-105.17(d)(3) and 16-105.17(f)(2)(J)(i). The Equity Reporting Framework Strawman Proposal ("Strawman"), supported and developed by JNGO, EDF, LVEJO, City, and Staff, is informed by a review of extensive literature and Justice40 efforts already in place in several other jurisdictions. *See e.g.,* JNGO/EDF Ex. 4.0 and JNGO/EDF Ex. 11.0. Staff, JNGO, and EDF collaboratively tailored the Strawman to Illinois to ensure environmental and energy goals under P.A. 102-0662 would be achieved. *See id.* All parties, except ComEd, have agreed to use the Strawman to inform the MYIGP's compliance in this docket. ComEd instead urges "flexibility to take the JNGO strawman framework into consideration, but not mandate its use." ComEd Reply BOE at 7. The Commission believes the Strawman, while subject to further improvement, presents a transparent, measurable process for ensuring the Company's compliance with Sections 16-105.17(d)(3) and 16-105.17(f)(2)(J)(i). The emphasis for the new framework in the refiled Grid Plan must be on demonstrating progress toward specific benefits flowing to EIEC communities, both in terms of targeted investment amounts and other, non-monetary metrics. In the new framework, the Company must identify, at minimum: (1) what specific efforts and benefits are being supported, (2) the magnitude and type of anticipated benefits, and (3) who is receiving those benefits. With this information, ComEd will be better informed in its grid planning efforts, and the Commission will be better informed about the prudence and reasonableness of such grid planning. Such an equity framework will facilitate EDF's additional proposal regarding a solar initiative, energy sovereignty, and job creation.

With an established framework in place, the Company is directed to employ the refined reporting proposal to track benefits to EIECs, and EJ and low-income communities, and provide the results in the Annual MYIGP Reports and in future MYIGP filings. ComEd also is directed to work with Ameren on development of a common framework, to the extent feasible. The Commission recognizes the existence of meaningful differences in their systems and grid plans.

EDF's additional proposal regarding a solar initiative, energy sovereignty, and job creation are laudable and the Commission hopes that going forward with better understanding and analysis provided by the Strawman will enable the Company and the Commission to ensure that these goals are being addressed.

As for the proposals of Metra and CTA, although the Commission agrees that public transportation plays an important role in reaching the goals of P.A. 102-0662, the

Commission is not making rate design decisions in this proceeding. Metra and CTA are encouraged to participate in the rate design proceeding to be initiated next year.

In conclusion, the Commission finds the Grid Plan does not comply with 220 ILCS 5/16-105.17(d)(3) and 220 ILCS 5/16-105.17(f)(2)(J)(i). ComEd shall refile its Grid Plan as prescribed in Section V.A of this Order. ComEd is directed to work with Ameren and stakeholders during the development of its revised Grid Plan, using the Strawman to ensure benefits accrue to EIEC, EJ, and low-income communities as required by the Act upon refiling.

2. Customer Engagement (Section 16-105.17(d)(4))

a. ComEd's Position

ComEd maintains that its Grid Plan meets the requirements set forth in P.A. 102-0662 for customer engagement and empowerment. Section 16-105.17(d)(4) of the Act provides that the Grid Plan must be designed to "enable greater customer engagement, empowerment, and options for energy services." 220 ILCS 5/16-105.17(d)(4). ComEd explains that its Grid Plan meets these goals by describing multiple touchpoints with ComEd's customers and programs to educate them and enable them to take control of their energy usage. ComEd further explains that the Grid Plan outlines ComEd's holistic approach to ensure broad customer engagement through various communication channels such as customer satisfaction surveys, call center customer service representatives, mail, e-mail, website, and social media channels, as well as in-person touchpoints, such as community fairs, customer education and awareness campaigns, and stakeholder forums. *See* ComEd Ex. 5.01 2nd Corr. at 9-10; ComEd Ex. 33.0 at 19-21, 22-23. ComEd states that each of these customer touchpoints provides ComEd with an opportunity to learn from, assist, and collaborate with customers and stakeholders. ComEd notes that its Grid Plan also explains how ComEd empowers customers to manage their energy use and educates them about available energy management and assistance options through various customer outreach programs (e.g., the Community Energy Assistance Ambassador Program) and marketing and customer communications (e.g., solar customer education programs). ComEd Ex. 5.01 2nd Corr. at 227; ComEd Ex. 33.0 at 16-18, 21-22, 27; ComEd Ex. 54.0 at 19, 21. ComEd notes that Staff agrees ComEd has met this requirement of the Act.

ComEd points out that only the AG suggests, without factual support, that the Grid Plan does not meet the engagement and empowerment goals of Section 16-105.17. ComEd argues that the AG's assertions are incorrect. ComEd argues that many of its programming and proposals, such as the Disconnection Protection Programs ("DPPs") and fee-free bill payment kiosks, are in direct response to stakeholder and customer feedback, and are specifically designed to engage and empower customers. ComEd Ex. 5.01 2nd Corr. at 227; ComEd Ex. 33.0 at 16-23, 27; ComEd Ex. 54.0 at 19, 21-22.

In totality, ComEd observes that neither the AG, EDF, nor any other party directly objects to ComEd's engagement plan.

b. Staff's Position

Staff reviewed the Company's MYIGP with respect to this statutory requirement and did not have concerns; therefore, Staff did not offer specific testimony on it. Staff Ex. 16.01; Staff Ex. 1.0 at 3-4.

c. AG's Position

The Grid Plan must be designed to "enable greater customer engagement, empowerment, and options for energy services." 220 ILCS 5/15-105.17(d)(4). The AG contends that customers are neither engaged nor empowered when their voices are not heard and their needs are treated as subordinate to the needs of the utility's shareholders. The AG asserts that the overriding concern of ComEd's customers is rate increases. Yet, the AG points out, the Company has proposed massive rate increases driven by unnecessary capital spending and excessive shareholder profits.

d. EDF's Position

Recognizing that traditional grid planning procedures have not always best served customers' needs, the General Assembly has directed a more open, transparent, and responsive process in Section 16-105.17(a)(5). Under Section 16-105.17(d)(4), this open and transparent grid planning process, utilities must pursue greater customer engagement, empowerment, and options for energy services. EDF states that customer engagement, empowerment, and options are part of P.A. 102-0662's overarching goal of incorporating cost-effective integration of renewable energy resources, beneficial electrification, providing opportunities for third-party investment in non-traditional, grid-related technologies and resources such as batteries, solar photovoltaic panels, smart thermostats, and reducing energy usage generally but especially during times of greatest reliance on dirty fossil fuels. EDF asserts that the Grid Plan must maximize the benefits of ComEd's plans, programs, and tariffs for all customers pursuant to Section 16-105.17(f)(4).

Under the traditional utility model that P.A. 102-0662 is meant to revolutionize, most people defaulted to the choices made by their utility, or to some broader market forces outside of their control. EDF Ex. 3.0 at 6. In comparison, distributed generation and community participation models give people more autonomy to opt out of that default position. However, to change the paradigm and return the power of choice to the people, the people need to be aware of this opportunity and know the role they can have in the transition to clean energy, a healthy environment, and a more equitable energy economy. *Id.*

Education is therefore a big part of P.A. 102-0662's outreach and equity goals. EDF Ex. 3.0 at 6. Educating people about opportunities means more than formal education. *Id.* Peer-to-peer learning, especially in libraries or after-school programs, is a great opportunity. *Id.* at 6-7. It is important to build on existing networks to streamline community knowledge, allowing adults to educate children who will naturally ask questions about the solar technology they will see in their communities. *Id.* at 7. Career opportunities go together with that education and practical knowledge. Learning how energy works also creates a new expectation, or paradigm shift, away from fossil fuels and toward solar panels (and not just in rich neighborhoods). Finally, education empowers future generations and is the key to engaging those who have been historically left out. Education is the segue to career opportunities. *Id.*

In summary, EDF asks the Commission to require ComEd to engage in culturally competent outreach, especially through diverse small businesses in its service territory, to educate customers on the opportunities for clean energy and energy equity in the approved Grid Plan.

e. Commission Analysis and Conclusion

The Commission finds that ComEd has complied with Section 16-105.17(d)(4) of the Act. The record shows many instances where ComEd has modified its MYIGP in response to proposals to better serve customers. EDF, however, raises many areas where improvements could be made. The Commission directs ComEd to work with EDF and interested stakeholders to further the customer engagement goals of the Act upon refiling.

3. Grid Performance (Section 16-105.17(d)(5))

a. ComEd's Position

ComEd states that, as required by Section 16-105.17(d)(5) of the Act, the Grid Plan describes in detail the analyses and investments that ComEd will utilize to maintain and improve grid performance during the Grid Plan period by reducing grid congestion, facilitating the interconnection of DERs and other customer-owned resources, and increasing the hosting capacity of the grid reliably and safely. 220 ILCS 5/16-15.17(d)(5); ComEd Ex. 5.01 2nd Corr. at 39-58.

Specifically, ComEd points to planned investments to facilitate interconnection of DERs and EVs, including the DER Management System ("DERMS"), Advanced Distribution Management System ("ADMS"), 4kV to 12kV conversions, and investments to improve grid communications infrastructure known as Renewable Energy Advanced Control and Telemetry Systems ("REACTS"). ComEd Ex. 5.01 2nd Corr. at 39-58, 135-142, 177-179. ComEd states that the Grid Plan also identifies the current challenges and planned solutions for interconnection of DERs to enhance their availability and deployment. ComEd Ex. 5.01 2nd Corr. at 96-102, 130-132. ComEd explains that, among planned solutions, its efforts to further the capacity of the grid to host DERs and streamline interconnection times and costs include the flexible and modular electrical operational technology and informational technology architecture of ADMS, Advanced Telemetry to build intelligent connections between the grid and customer devices, Intelligent Substations and other DERMS to improve hosting capacity by minimizing the system upgrades required to interconnect DERs, and Voltage Optimization improvements to minimize the impact of momentary outages from using DERs. ComEd Ex. 5.01 2nd Corr. at 122-123. ComEd maintains that all of these investments will reduce grid congestion, minimize the time and expense of interconnection, and increase the grid's capacity to host a growing volume of DER, in accordance with Section 16-105.17(d)(5).

b. Staff's Position

Staff reviewed the Company's MYIGP with respect to this statutory requirement and did not have concerns; therefore, Staff did not offer specific testimony on it. Staff Ex. 16.01; Staff Ex. 1.0 at 3-4.

c. City's Position

The City maintains that the record in this case makes clear the need to improve grid performance. The City cites JNGO expert Kenworthy's statement that "[t]here has not yet been a systematic approach to understanding whether and to what extent EIEC[s] have been disproportionately impacted by poor reliability, underinvestment in distribution systems, and/or other dimensions of distribution system performance such as lack of grid access/hosting capacity or low power quality in ComEd's service territory." JNGO IB at 18 (*citing* JNGO Ex. 1.0 at 29). Answering these questions is important to the City and its residents. As the City's expert testified, "investments and programs must maximize community-level benefits and prioritize residents who are disproportionately impacted by pollution burden, extreme weather threats, and energy burden." City Ex. 1.0 at 20. The City maintains that further understanding the relationship between customer demographics and service quality could help alleviate these already burdened customers. For all of these reasons, the City supports JNGO's request that the Commission direct ComEd to conduct a more granular regression analysis at a census block group level to better understand service quality in EIECs.

d. EDF's Position

EDF states that ComEd's MYIGP must be designed to "reduce grid congestion, minimize the time and expense associated with interconnection, and increase the capacity of the distribution grid to host increasing levels of [DER], to facilitate availability and development of distributed energy resources, particularly in locations that enhance consumer and environmental benefits." 220 ILCS 5/16-105.17(d)(5). Consistent with EDF's recommendations under Section 16-105.17(d)(11), and Section V.B.8, EDF respectfully asks the Commission to prioritize grid performance measures that also accomplish the goals of affordability and equity.

e. JNGO's Position

JNGO witness Kenworthy points out that "[t]here has not yet been a systematic approach to understanding whether and to what extent EIEC's have been disproportionately impacted by poor reliability, underinvestment in distribution systems, and/or other dimensions of distribution system performance such as lack of grid access/hosting capacity or low power quality in ComEd's service territory." JNGO Ex. 1.0 at 29. He concludes that this fundamental analysis "is badly needed to understand, measure, and advance grid equity, and should then be used to inform the utility's strategic outlook and plans, capital investments, distribution system operations decisions, and the Commission's evaluation of those proposals." *Id.*

JNGO witness Tan's preliminary regression analysis indicates that there are some unanswered questions that remain about the relationships between customer demographics and service quality. This analysis indicates that ComEd should dig deeper and perform its own regression analysis using appropriately granular demographic and geographic data. JNGO strongly recommend that ComEd examine its data at a more granular census block group level rather than the zip code level it currently uses to report reliability statistics. As explained by JNGO witnesses Nock and Kenworthy, zip codes are not designed for demographic research. Using census block group data rather than zip codes for demographic analysis "allows for a more granular and accurate understanding of population characteristics, which can be crucial for research, policy-making, business decisions, public health planning, and many other applications." JNGO Ex. 8.0 at 4-6.

The Commission should therefore direct ComEd to: (1) develop a plan to evaluate equity across multiple dimensions of utility performance (e.g., power quality, customer service, affordability, safety, hosting capacity); (2) conduct this analysis at a sufficiently detailed level of geographic granularity, such as the census block group level; and (3) use the results of that analysis to inform the Company's investment and planning decision-making processes in its next Grid Plan.

f. Commission Analysis and Conclusion

As discussed further in Section VII.B.2.g, the Commission agrees with the collection of data at the census block level to help ensure that the equity goals of the Act are being addressed. The Commission is unable to meaningfully evaluate whether this Grid Plan meets this statutory requirement because to do so would require vital information and frameworks that have not been produced or fully developed in this record. See Sections V.B.4.h, V.B.5.a.vii, and V.B.7.e below. Therefore, for the reasons stated in Section V.A above, the Commission is unable to find ComEd's Grid Plan meets this requirement of the Act at this time.

The Company's grid performance is also subject to evaluation to determine whether the Company has met the performance metrics addressed in Section V.D.

4. Cost-effectiveness of Utility Expenditure and Proposed System Investments, including Environmental Costs and Benefits / Benefit-cost Analysis; Optimization of Grid Assets and Resources to Minimize Total System Costs (Sections 16-105.17(d)(1), (2), (7))

a. ComEd's Position

ComEd contends that the investments identified in ComEd's Grid Plan will cost-effectively meet the evolving needs of customers and the State's renewable energy, climate, and environmental goals while minimizing total system costs, in accordance with Section 16-105.17(d)(1), (d)(2), and (d)(7). 220 ILCS 5/16-105.17(d)(1), (d)(2), (d)(7); ComEd Ex. 5.01 2nd Corr. at 15-16, 19-20. ComEd states that its planned investments must be analyzed in the context of meeting P.A. 102-0662 objectives at the lowest cost to customers over the long term, avoiding investment plans that spend less in the short term but incur substantially greater costs on customers when the investments must inevitably be made. ComEd Ex. 26.0 at 9-10. ComEd further contends that, because its Grid Plan is cost-effective, proposals to delay or defer ComEd's planned investments will not only delay and defer the benefits of those investments for customers but also increase overall costs. *Id.*

ComEd points out that, though deferral may result in the initial cost of investments being lower, the rate of spending increases over time because of escalations in material and labor costs that occur when investments are delayed and must be completed in compressed periods of time. ComEd Ex. 26.0 at 9. ComEd notes there are additional costs to customers from the unmanaged decarbonization risk that results from system degradation, as the environmental and social benefits of meeting P.A. 102-0662's goals are delayed and unrealized. *Id.* at 9–10. ComEd argues that, together, the increased costs of delayed investments along with the lost benefits of decarbonization combine to raise deferred costs to customers significantly above the cost of the proposed Grid Plan investments. *Id.*

As described by ComEd, ComEd's Grid Plan meets the statutory objective of Section 16-105.17(d)(1) by ensuring coordination of the State's renewable energy, climate, and environmental goals while ensuring that expenditures are cost effective. ComEd maintains that the Grid Plan's steady investments over time allow ComEd to utilize grid assets and resources while minimizing total system costs in line with the objective of Section 16-105.17(d)(2). ComEd states that it has analyzed the cost-effectiveness of its proposed investments while accounting for environmental costs and benefits in furtherance of the objective of Section 16-105.17(d)(7).

ComEd states that, while several parties including Staff, AG, ICCP, and Metra submitted commentary regarding Section 16-105.17(d)(1), (2), and (7), none of them demonstrate that ComEd failed to meet the requirements of the Act. In addition, ComEd explains that the AG continues to incorrectly assert that these sections require ComEd to perform a strict benefit-cost analysis. ComEd's position is that these sections do not require such an analysis.

ComEd notes that there are areas of agreement on this topic. First, ComEd agrees with JNGO that clarity on exactly what "cost effectiveness" means in the context of the Grid Plan would be helpful. *See* JNGO IB at 20-22. ComEd also agrees with JNGO and Staff that there should be a venue to discuss cost effectiveness and related topics. ComEd IB at 211-212. While ComEd agrees with Staff that some collaboration with Ameren to establish state-wide analysis for grid investment benefits is likely beneficial, ComEd cautions that a "one size fits all" benefit analysis is unlikely to be successful because of the significant differences in the service territories and operating characteristics of ComEd and Ameren. Thus, while ComEd does not oppose working collaboratively with Staff, stakeholders, and Ameren on this topic, it expects that ComEd and Ameren will present their own methodologies of benefit analysis, with input from Staff and stakeholders, and ultimately adopt different benefits, methodologies, and analyses that are specifically tailored to each utility.

b. Staff's Position

Staff recommends the Commission order ComEd to collaborate with Ameren to develop a manual for how benefit-cost analysis, inclusive of environmental considerations, should be conducted, for both the performance metrics and the MYIGP, in compliance with Sections 16-105.17(d)(7) and 16-108.18(f)(1), and solicit stakeholder and Staff feedback through utility-run stakeholder meetings. Staff Ex. 26.0 at 2; Staff Ex. 16.0 at 3-4. To ensure clarity on how companies should perform benefit-cost analyses including environmental considerations, Staff believes that it would be beneficial for the utilities to join efforts to create an approach that can be applicable to both Companies. ComEd agrees with this recommendation generally, stating that the Company does not object to consulting with Ameren, but Ameren's service territory is very different from ComEd's and it is likely that a workable benefit-cost analysis framework should and will be somewhat different for each utility. ComEd Ex. 47.0 at 5. Staff believes this concern may be addressed by allowing the Company approaches to deviate where appropriate. ComEd also agrees to consult with Staff and stakeholders before a filing of their draft protocol or manual for a benefit-cost analysis. ComEd Ex. 47.0 at 5. Therefore, the Commission should accept Staff's recommendation to direct the ComEd to work with Ameren, allowing the utilities to identify areas of deviation from a shared approach where appropriate.

c. AG's Position

The AG argues that the need to balance necessary investments and changes to utility planning with rigorous capital spending discipline is a pervasive focus of P.A. 102-0662, as a review of the MYIGP and MYRP sections makes clear. *See* 220 ILCS 5/16-105.17(d)(1), (2). Additionally, the Grid Plan must "provide for the analysis of the cost-effectiveness of proposed system investments, which takes into account environmental costs and benefits." 220 ILCS 5/16-105.17(d)(7).

In mandating integrated grid planning, the General Assembly stated that it is "the policy of the State to promote inclusive, comprehensive, transparent, cost-effective distribution system planning and disclosure processes that minimize long-term costs for Illinois customers and support the achievement of State renewable energy development and other clean energy, public health, and environmental policy goals." 220 ILCS 5/16-105.17(a). In furtherance of this policy, the General Assembly included eight specific findings, more than half of which explicitly refer to the need for expenditures to be cost effective, that investments be in customers' best interests, and that costs be fair and reasonable. *Id.* In short, the AG asserts, cost-effectiveness is more than just one issue among many; it is a dominant theme of P.A. 102-0662 and the threshold requirement for all Grid Plan investments.

The proposed investments in the Grid Plan are effectively co-extensive with the system investments that the Company will recover in the Rate Plan for this consolidated docket. And the MYRP section of the Act makes clear that "the burden of proof shall be on the electric utility to establish the prudence of investments and expenditures and to establish that such investments are consistent with and reasonably necessary to meet the requirements of the" Grid Plan. 220 ILCS 5/16-108.18(d)(4).

Synthesizing these various provisions, the AG emphasizes that the Commission may only approve the Grid Plan if ComEd's expenditures are cost-effective, meaning proposed investments are prudent and reasonable and provide net benefits to customers. The plain language of "net benefits" means that the benefits outweigh the costs. To evaluate whether an investment provides net benefits, then, both costs and benefits must be quantified to the greatest extent possible and then weighed against one another. The AG explains a RIDS approach, using a risk-informed benefit-cost analysis, is necessary to ensure that the Grid Plan and Rate Plan are designed to meet P.A. 102-0662's goals in a cost-effective, accountable, and affordable manner.

Under this approach, the first step is to identify which investments are discretionary and which investments are necessary. A benefit-cost analysis should not be required for expenditures that are strictly necessary for safe and reliable service delivery within the upcoming Rate Plan period. AG Ex. 1.0 at 9. The AG maintains that investments that are discretionary with regard to extent or timing should be subject to additional steps. Specifically, the Company should be required to apply the RIDS technique to quantify risks and determine cost-effectiveness, meaning they must identify a portfolio of potential discretionary investments, conduct a risk-informed benefit-cost analysis of the projects or programs, and prioritize the most cost-effective investments in the portfolio over others to create a Grid Plan. *Id.* at 53.

To actually conduct the risk-informed benefit-cost analysis, the AG explains the Company would calculate the "cost" side of the ledger as the cost to customers, meaning capital expenditures would be measured in terms of the revenue requirement necessary for such investment, inclusive of utility profits, interest expenses, and taxes, rather than the cost to the utility. The "benefit" side of the analysis would be determined by the risks avoided. This approach is similar to the total resource cost test that is used to evaluate EE programs, but it would be applied to all discretionary investments.

What ComEd proposes in place of a rigorous benefit-cost analysis is a subjective approach to selecting potential investments based on asset health indexing and risk scoring. ComEd Ex. 26.0 at 44. The AG explains, however, a risk-informed benefit-cost analysis is superior to the Company's asset health indexing and risk-scoring approach to evaluating plant investments and is necessary to meet the requirements for cost-effective and cost-minimizing investments set forth in Section 16-105.17(d). AG Ex. 5.0 at 38. In order to "maximize the benefits" of system investments as required in subsection (d)(1) and "minimize total system costs" as required in subsection (d)(2), one must necessarily understand what the benefits and costs of a proposed investment are. That means they must be defined and, the AG submits, quantified to the maximum extent possible to allow for comparison against other alternatives. Then, in order to "ensur[e] that utility expenditures are cost-effective" by maximizing benefits and minimizing costs, as required in subsections (d)(1) and (d)(2), subsection (d)(7) requires that the utility develop a benefit-cost analysis.

The AG asserts that ComEd has failed to satisfy this statutory requirement. The AG repeatedly asked for ComEd's benefit-cost analyses in connection with its proposed investments. For example, the AG requested a benefit-cost analysis of the Company's Distribution Automation ("DA") Laterals program (discussed in Section V.C.6.i.vii. below), and ComEd objected on the grounds that a request for a benefit-cost analysis "is vague and ambiguous" and that "the phrase 'benefit-cost analysis' is undefined, is not used in this context in the Grid Plan or its supporting testimony, and could be subject to multiple interpretations depending on the context." AG Ex. 5.1 at 17. ComEd goes on to list various qualitative benefits that it expects from its DA Laterals program generally, but there is no assessment of the specific projects proposed as part of the Grid Plan or an attempt to weigh their costs. *Id.* The AG notes that it also requested a benefit-cost analysis for projects in the Capacity Expansion context, which ComEd has failed to provide. AG Ex. 1.0 at 85.

In each case, ComEd stated that it assesses the costs and projected impacts and benefits of various activities in various contexts, whether or not such assessments would be considered a benefit-cost analysis. The AG states that if in fact ComEd does constantly assess costs and benefits of its proposed investments, then the statute requires that it provide such assessments to stakeholders for review. *See* 220 ILCS 5/16-105.17(d)(7).

The AG asserts that ComEd must provide "a clear, comprehensive, and measurable response before stakeholders can properly assess, and the Commission can meaningfully decide, whether the incremental costs above" what is needed to maintain reliability are justified. Staff Ex. 29.0 at 7. That is, ComEd must demonstrate that the amounts invested "in excess of those required for reliability as traditionally defined" translate to "tangible, measurable levels of benefits associated with those other objectives." AG Ex. 1.0. at 8.

The AG asserts that the Commission must not wait for future workshops and proceedings to remedy ComEd's failure to provide for the analysis of the cost-effectiveness of its investments in this Grid Plan. The record shows that ComEd has failed to develop a coherent cost-effectiveness framework and to provide the information to stakeholders that would be necessary to analyze the cost-effectiveness of the Grid Plan's escalating investments. This creates information asymmetry that ComEd has sought to exploit, demanding that the other parties simply take ComEd at its word that its Grid Plan is cost-effective. The AG emphasizes that this is contrary to the Act's mandate for transparency, accountability, and inclusivity. Accordingly, the AG requests that the Commission find the following:

- The cost-effectiveness requirement under the Act means that the utility must conduct a risk-informed benefit-cost analysis on all discretionary investments.
- A discretionary investment includes any investment that is not strictly necessary for provision of safe and reliable service during the Grid Plan period.
- To minimize total system costs, the utility must choose the least-cost alternative to achieve a given outcome.
- ComEd has not satisfied these standards and, therefore, has not achieved the objectives set forth in Sections 16-105.17(d)(1), (2), and (7).

Rather than put the risk of ComEd's deficient cost-effectiveness framework on ratepayers, the AG further requests that the Commission limit ComEd's capital spending in the Capacity Expansion, IT Projects, and System Performance categories to 2019-2022 average levels, adjusted for inflation, as further discussed in Section V.C.6. below.

d. City's Position

The City argues that the record is clear that ComEd's Grid Plan "did not provide any analyses that were used to assess the cost effectiveness of its proposed system investments." Staff IB at 22; *see also* AG IB at 37; JNGO IB at 22. The City maintains that this fails to meet P.A. 102-0662's requirement to "provide for the analysis of the cost-effectiveness of proposed system investments, which takes into account environmental costs and benefits...." 220 ILCS 5/16-105.17(d)(7). To give meaning to the cost-effectiveness provisions, and to protect ratepayers against unjustified costs, the City explains that more time and attention need to be devoted to a collective understanding of cost-effectiveness assessments. For these reasons, the City supports Staff and JNGO's recommendation that the Commission open a new proceeding to formalize an approach for benefit-cost analyses, inclusive of environmental considerations, to be conducted for both the performance metrics and the MYIGP.

e. CTA/Metra's Position

Many parties in this proceeding criticize ComEd's Grid Plan based upon ComEd's failure to perform a meaningful benefit-cost analysis, and failure to exercise financial constraint. The size and scope of ComEd's proposed Grid Plan improvements is massive given the comparatively strong reliability of ComEd's existing systems, rated in the top 10% of all investor-owned utilities in the United States. AG Ex. 1.0 at 61. CTA/Metra state that Commission should find that these increases are not supported by a careful or meaningful benefit-cost analysis, and therefore are not designed to be cost effective as required by Section 16-105.17(d)(1) and (d)(7).

Further, while ComEd places great emphasis on its own environmental initiatives, CTA/Metra assert that the Company placed no weight or value on the uncontroverted contributions of the RR Class members to meeting the State's climate and environmental goals, nor did it consider the costs and benefits of raising the RR Class members' rates by 48.7% over the next four years. Accordingly, the Commission should find that ComEd's Grid Plan is not designed to: (1) ensure coordination of the State's climate and environmental goals with the utility's distribution system investments, as required by Section 16-105.17(d)(1); and (2) take into account environmental costs and benefits, as required by Section 16-105(d)(7).

f. ICCP's Position

ICCP contend ComEd's customers were subject to significant and largely unchecked rate impacts under Energy Infrastructure and Modernization Act ("EIMA") formula rate mechanism. Recognizing this, in its enactment of P.A. 102-0662, the General Assembly wrote the following concern into the law:

> While the General Assembly has not made a finding that the spending related to the Energy Infrastructure and Modernization Act and its performance metrics was not reasonable, it is important to address concerns that these measures may have resulted in excess utility spending and guaranteed profits without meaningful improvements in customer experience, rate affordability, or equity.

220 ILCS 5/16-108.18(a)(6). ICCP believe this legislative finding has particular relevance in this proceeding.

ICCP note that in response to EIMA, ComEd began significantly investing in its incremental infrastructure investment plan of approximately $2.6 billion over a ten-year period, consisting of $1.3 billion in infrastructure work and $1.3 billion in smart grid technology, to strengthen and modernize the electric grid. ICCP Ex. 3.0 at 3-4.

ICCP state that EIMA resulted in an increase to ComEd's rate base of approximately $7.7 billion from May 2012 to November 2022, an increase in rate base of 124% during this period of time. *Id.* at 4. That being said, ICCP explain ComEd customers over the last ten years have already paid for system reliability improvements to a level where only incremental progress is needed to achieve Commission-approved annual performance metrics and therefore only incremental annual spending increases are necessary to maintain excellent service reliability for customers. ICCP believe the Company has failed to demonstrate with record evidence that its proposed level of reliability-related capital expenditures would yield additional customer benefits sufficient to justify the huge additional cost to ComEd's ratepayers.

ICCP argue ComEd can meet the service quality and reliability metrics established by the Commission in ComEd's performance metrics docket, by making small, marginal improvements to its reliability performance, with spending growth that does not exceed inflation. ICCP suggest the record demonstrates that the significant increase in reliability-related delivery system investments contemplated by the Grid Plan is not necessary to achieve ComEd's Commission-approved reliability performance metrics over the term of the Grid Plan. ICCP Ex. 2.0 at 13.

ICCP assert when evaluating ComEd's proposed Grid Plan expenditures, the Commission must determine whether the Grid Plan meets the statutory requirements through programs and grid investments that are least cost, cost-effective, and minimize total system costs, while maintaining affordable rates for all ComEd's customers. ICCP contend meeting these objectives ensures that the Grid Plan investments provide benefits to customers that outweigh the associated costs, without unduly burdening customers with large rate increases to achieve the objectives of the Grid Plan. ICCP Ex. 2.0 at 6-7.

ICCP report that, importantly, in outlining the objectives of a MYRP, the General Assembly stated the "performance-based ratemaking framework" requires the utility to "choose cost-effective assets and services, whether utility-supplied or through third-party contracting, considering both economic and environmental costs and the effects on utility rates, to deliver high-quality service to customers at least cost." 220 ILCS 5/16-108.18(c)(4). ICCP state ComEd's burden of proof to recover its "forecasted rate base, based on the 4-year investment plan and the utility's Integrated Grid Plan," requires ComEd to show "that the investments are projected to be used and useful during the annual investment period and least cost." 220 ILCS 5/16-108.18(d)(A).

ICCP note looking to the performance metrics docket, the Commission acknowledged in determining the appropriate level of a performance incentive, the Commission is to consider, among other things a calculation of net benefits that includes customer and societal costs and benefits and quantifies the effect on delivery rates, citing Section 16-108(e)(2)(F). Docket No. 22-0067, Order at 69. ICCP note that clearly, the statutory framework for determining whether ComEd's proposed investments can be recovered in rates requires the application of a least-cost standard to those investments, a showing of net benefits to ComEd's customers and a determination that the proposed level of investments maintains affordable delivery service rates.

According to ICCP, what is abundantly clear from the statutory mandates is that ComEd must meet the Grid Plan's clean energy goals through programs and investments that are least-cost, and which also provide demonstrable benefits (net benefits) that exceed the Grid Plan costs. ICCP do not believe applying a least-cost standard to the reliability-related investments proposed by ComEd is enough to establish their reasonableness, as P.A. 102-0662 also requires ComEd to demonstrate that those reliability investments are cost-effective. *Id.* at 8-9; 220 ILCS 5/16-117(d)(7). ICCP believe the Company must meet statutory clean energy goals in a manner which minimizes both total system costs and adverse rate impacts to customers. Thus, ICCP assert that ComEd must quantify the cost of proposed investments and of alternatives to the proposed investment, and to demonstrate sufficient benefits of the least-cost investment option to offset the costs of the proposed investment. ICCP argue the Commission should not approve recovery of the costs of the proposed investments from ratepayers unless ComEd meets the above statutory criteria.

ICCP state the cost-effectiveness of the proposed reliability-related investments should be measured objectively against the benefits they provide, and this can be done by measuring reliability improvements as defined according to the reliability metrics approved by the Commission. ICCP assert ComEd must demonstrate that the large amount of additional reliability-related system performance investments that it proposed in its Grid Plan are justified by the reliability benefits that this aggressive level of investment provides to customers. However, ICCP witness Fitzhenry's analysis shows ComEd can meet the reliability metric targets established for the Company in Docket No. 22-0067 by maintaining a similar level of reliability performance relative to what it achieved over the last several years. ICCP Ex. 2.0 at 9.

ICCP believe the Commission can moderate ComEd's proposed large delivery service cost increases by adjusting the growth rate of the Company's System Performance investments related to meeting Commission-approved reliability metrics to a level that corresponds to expected growth in inflation. ICCP say this allows ComEd to make needed investments in reliability and quality of service, but to do so in manner that better manages its capital investment program to limit the amount of rate increases to customer. *Id.* at 14.

ICCP state, ultimately, ComEd has the burden of proof in this proceeding to demonstrate that its proposed Grid Plan investments and expenses are providing benefits to customers that exceed the associated cost. In addition, ICCP also state ComEd has the burden of proof to demonstrate that it can undertake the investments contemplated in the Grid Plan while ensuring that the delivery of electricity remains affordable for its customers. ICCP argue ComEd has failed to meet its burden of proof on all of these issues.

g. JNGO's Position

JNGO note that P.A. 102-0662 requires grid investments to be cost-effective. The statute repeatedly emphasizes the importance of cost-effectiveness in its discussion of grid investments and affordable rates. Despite the statute's repeated emphasis of cost-effectiveness, ComEd's Grid Plan fails to articulate a clear definition of the cost-effectiveness standard. In response to multiple data requests, ComEd advanced legal objections rather than substantive responses. In summary, ComEd's Grid Plan fails to define and demonstrate cost-effectiveness in a satisfactory way. JNGO assert that the Commission should therefore: (1) direct ComEd to collaborate with Staff and stakeholders to develop an agreed-upon benefit-cost methodology in advance of ComEd's next Grid Plan filing; (2) clarify that this methodology should disclose the full customer costs of major capital expenditures, expressed as revenue requirements; and (3) require ComEd to file a progress report within one year of the final Order in this docket.

h. Commission Analysis and Conclusion

Under the Act, the Company must "maximize the benefits [of the State's renewable energy goals, climate and environmental goals] . . . while ensuring utility expenditures are cost-effective." 220 ILC 5/16-105.17(d)(1). The Grid Plan must be designed to "optimize utilization of electricity grid assets and resources to minimize total system costs." 220 ILCS 5/16-105.17(d)(2). The Grid Plan must also be designed to "provide for the analysis of the cost-effectiveness of proposed system investments, which takes into account environmental costs and benefits." 220 ILCS 5/16-105.17(d)(7). Together, these provisions require ComEd's Grid Plan to contain a cost-effectiveness analysis of proposed system investments, ensure utility expenditures are cost-effective, and demonstrate how their plan will minimize total system costs while maximizing benefits. The Commission recognizes the challenge faced by the Company complying with these provisions in its first Grid Plan. Nevertheless, the Commission must ensure the proposed spending plan provides a method of determining whether the Company has included only those investments designed to achieve the quantitative and qualitative benefits defined by the Grid Plan statutory framework.

At a minimum, the investments should be tied to the benefits outlined in 220 ILCS 5/16-105.17(d)(3)-(11). ComEd's Grid Plan contains general descriptions of anticipated benefits associated with plan priorities and several tools ComEd will consider in quantifying value. The Company focuses on general value resulting from the Grid Plan and concludes that deferred investment may cost customers more over time. ComEd Ex. 26 at 7-11. Absent from ComEd's explanation of benefit analysis tools is any demonstration that ComEd utilized these tools in developing its current Grid Plan proposal. *Id.* at 57-58. Moreover, the connection between Grid Plan programming and benefits is too general and does not provide insight into the intentionality of planning choices and specific investment levels over the four years of this Grid Plan. *See e.g.*, ComEd Grid Plan, Ex. 5.01, at 155, 240-41, Table 6.1-2.

The Commission agrees with the concerns of various parties that ComEd has not examined the cost-effectiveness of its proposed expenditures as required by the Act. As evidenced in the discussion of the Company's numerous planned projects, the Commission has closely examined the record evidence to determine whether the Company has met its burden. The Commission agrees with Staff and other parties that a methodology must be implemented to ensure that the Grid Plan more clearly meets this requirement. The Company must develop an analytical approach that sets values for contributions toward the statutory goals (at a minimum Section 16-105.17(d)(3)-(11)), both quantitative and qualitative, and identify types of investments where benefit-cost analysis ('BCA') frameworks (like those traditionally used in EE) will be appropriate. All Grid Plan investments should be evaluated in terms of their contribution toward achieving these goals and others consistent with the objectives and requirements of the Grid Plan statute. Until such an analysis is conducted, the Commission cannot determine whether or to what extent the Company's investments will be prudent and contribute to meeting the statutory goals. While the Commission recognizes initial cost-effectiveness analysis will improve over time, ComEd's current framework is not sufficiently developed to demonstrate compliance. Accordingly, the Commission is unable to reasonably assess the investments in terms of cost-effectiveness in furtherance of ComEd's statutory goals.

The Commission finds that the Company's Grid Plan does not comply with Sections 16-105.17(d)(1), (2) and (7).

ComEd is directed to refile a Grid Plan that analyzes the proposed investments according to a cost-effective analysis consistent with statutory provisions and goals. Using the updated analysis, ComEd is directed to develop a revised investment plan that demonstrates connection and progress toward these goals. The Commission directs the Company to share any methodologies being used to assess the statutorily-defined benefits in an analysis of the proposed system investments with Staff and parties to provide ample opportunity for intervening experts to evaluate, provide feedback and suggest changes to ComEd's analysis. The Commission agrees with JNGO's proposal to require the Company to disclose the full customer costs of major capital expenditures, expressed as revenue requirements, and expects this information in ComEd's refiled Grid Plan. The Commission agrees with parties that, once the first Grid Plan is approved, the Company should work transparently and collaboratively with stakeholders to refine analysis methodologies, including to strengthen quantitative and qualitative benefits assessments.

The Commission agrees with Staff that it would be beneficial for the utilities to join efforts to create an approach that can be applicable to both Ameren and ComEd. ComEd agrees with this recommendation generally, stating that the Company "does not object to consulting with Ameren, but Ameren's service territory is very different from ComEd's and it is likely that a workable benefit-cost analysis framework should and will be somewhat different for each utility." ComEd Ex. 47.0 at 5. ComEd also agrees to consult with Staff and stakeholders before a filing of their draft protocol or manual for benefit-cost analysis. The Commission notes the value of statewide consistency in determining methods to address cost-effectiveness in meeting the Grid Plan statutory goals. After the first Grid Plan is approved, ComEd should join Ameren in workshops to increase efficiency and avoid redundancy for stakeholders on common issues, allowing the Companies to identify areas of deviation from a shared approach where appropriate. The Commission recognizes differences in service territory, customers, and operations compared to Ameren and understands that each utility will initially have its own cost-effectiveness methodologies.

5. Environmental Goals (Section 16-105.17(d)(8))

a. Investments, including Environmental Costs and Benefits / Benefit-cost Analysis; Optimization of Grid Assets and Resources to Minimize Total System Costs (Sections 16-105.17(d)(1), (2), (7))

(i) ComEd's Position

ComEd states that its Grid Plan meets the statutory requirements to support a broad set of environmental policy goals. See 220 ILCS 5/16-105.17(d)(8). ComEd maintains it is clear that policymakers expect utility Grid Plans to not only result in reliable, safe, and affordable service but also to advance environmental goals established by P.A. 102-0662 and other Illinois laws. ComEd points out that Section 16-105.17(d)(8) of the Act provides that Grid Plans must be "designed to ... to the maximum extent practicable, achieve or support the achievement of Illinois environmental goals," including in particular those related to renewable and zero-carbon energy, "and emissions reductions required to improve the health, safety, and prosperity of all Illinois residents." 220 ILCS 5/16-105.17(d)(8). More specifically, ComEd notes that P.A. 102-0662 sets forth ambitious goals to transition to 100% renewable energy sources for the electricity used in Illinois by 2050, and to achieve one million EVs on the road in Illinois by 2030. *See* 415 ILCS 5/9.15; see also 20 ILCS 627/45.

As an electric delivery utility, ComEd states that its role in the transition to a decarbonized economy is primarily one of support. ComEd notes that the electric grid must be capable of accommodating high levels of load associated with decarbonization and electrification as Illinois moves towards an increased reliance on renewable energy sources and the transportation sector transitions to EVs.

ComEd states that in preparing its Grid Plan it worked to better understand the pace of such change, so as to better prepare the grid to withstand it. ComEd commissioned Energy and Environmental Economics ("E3") to identify and analyze potential pathways for Illinois economy-wide decarbonization, using the goals set forth in P.A. 102-0662 as a baseline. *See* ComEd Ex. 50.06. ComEd points out that a separate Illinois Decarbonization Study demonstrated that electrification could more than double annual and peak demands on ComEd's system by 2050, with the highest rate of growth in the transportation sector. ComEd Ex. 5.01 2nd Corr. at 79. In addition, ComEd states that it further analyzed the potential changes in load patterns that may emerge as customers adopt EVs and other BE technologies. *Id.* at 87-89.

ComEd explains that its Grid Plan reflects this focus on decarbonized energy and improved environmental performance. ComEd's risk assessment methodology – which is used to identify and prioritize projects for inclusion in the Grid Plan – explicitly accounts for the estimated decarbonization impact of potential investments, as well as other direct and indirect environmental impacts. *Id.* at 54. As a result, ComEd states that it prioritizes investments that achieve a greater scope of decarbonization benefits and/or investments that result in more limited direct and indirect environmental impacts.

ComEd states that it has placed an intentional focus on finding solutions that meet system needs while advancing the State's environmental goals. ComEd notes that its Grid Plan includes new substations to accommodate increased loads resulting from winter peak demands (driven by anticipated switching from natural gas to electric heat) and higher summer peak demands (driven by EV adoption and other electrified end-uses). *Id.* at 89. It also includes investments that ComEd asserts will bolster the grid's capability to manage two-way power flows so that customers can both produce and consume energy generated by renewable sources and DER. *Id.* at 18.

ComEd notes that Staff supports both ComEd's commitment to executive level awareness and leadership regarding climate change and the use of climate models in grid planning. Staff IB at 23. Similarly, ComEd notes that EDF requests the Commission endorse ComEd's ongoing partnerships with Argonne National Laboratory and the Electric Power Research Institute. *See* EDF IB at 48-50.

ComEd notes that the City challenges whether the Grid Plan goes far enough in support of environmental goals. ComEd explains that the City asserts ComEd's "Climate Action Plan" is an "Illinois environmental goal" on par with those individually identified in

Section 16-105.17(d)(8) and suggests four outcomes that would further achievement of the City's Climate Action Plan. City IB at 13. ComEd responds individually to those proposals, as summarized in Sections V.C.7.c., VII.B.3.a., VII.B.8., and VIII.I. ComEd agrees that it is important that municipal goals like those of the City are recognized. However, ComEd argues that the City's assertion that its 2022 Climate Action Plan should be provided the same weight State goals specifically listed in Section 16-105.17(d)(8) and the State laws referenced therein lacks support and must be rejected.

(ii) Staff's Position

Staff asserts that the Commission should approve ComEd's inclusion of climate model projections in its planning processes. Staff Ex. 35.0 at 3-4.

Staff and EDF agree that the Company should incorporate insights from climate studies and/or analyses as appropriate, to inform its planning process. Staff also agrees with EDF's requests that the Commission: (1) fully endorse ComEd's use of the Climate Resilience Maturity Model ("CRMM") as well as ComEd's partnership with the Argonne National Laboratory and Electric Power Research Institute ("EPRI"); and (2) require ComEd to include the data and analyses resulting from those partnerships in its next Grid Plan. Staff states ComEd's involvement in the CRMM as well as its partnerships with Argonne National Laboratory and EPRI are expected to significantly enhance its understanding of how to effectively incorporate climate data projections into updated planning processes. Staff notes that ComEd expresses an interest in using the CRMM and ensuring climate risks get addressed at the highest corporate level. ComEd Ex. 21.0 at 8-9.

In addition, Staff recommends that the Commission should direct ComEd to incorporate executive-level awareness and leadership in addressing climate risks within its corporate governance model to set the cultural tone for the Company. Staff asserts that executive-level awareness and leadership in addressing climate risks should be included in ComEd's corporate governance model because climate risks are strategically important and require dedicated attention by executives who have the authority to drive organizational change and set the cultural tone for a Company.

(iii) AG's Position

The AG agrees that ComEd has sought to support the achievement of the State's environmental goals with its Grid Plan. The AG notes that Section 9.10 of the Illinois Environmental Protection Act addresses regulation of fossil fuel electric generating plants. 415 ILCS 5/9.10. The AG asserts that as a distribution utility, ComEd does not own or control any fossil fuel electric generation and that its Grid Plan is limited to assuring that it can accommodate DER and other energy transition demand and needs.

(iv) City's Position

The City asks the Commission to find that P.A. 102-0662's directive that the Grid Plan "achieve or support the achievement" of "emissions reductions required to improve the health, safety, and prosperity of all Illinois residents" includes the City's Climate Action Plan, which the City states aims to equitably reduce emissions 62% by 2040. The City notes that its residents comprise nearly 1/3 of ComEd's customers, and that those residents have repeatedly called for a just and equitable transition to a decarbonized future.

The City asserts that this finding is important to address the disproportionate impact of pollution burden on the City's residents. The City explains that its expert presented analysis detailing community level data on air quality, health, and social factors to identify which neighborhoods must be prioritized for efforts to mitigate air pollution. City Ex. 1.0 at 11. The City states that it works with community leaders to co-design and implement strategies that address the needs of EIECs and shared vision for the future. The City states that its Climate Action Plan lists these strategies in further detail and emphasizes economic inclusion and savings and reduced pollution burden. *Id.* at 13.

The City notes that CTA states that one of the most cost-effective, proven ways to maximize the achievement of Illinois environmental goals and emissions reductions is to facilitate public mass transit that provides service to customers in shared vehicles powered by electricity. *Id.* at 9. The City notes that this key decarbonization strategy is incorporated into its Climate Action Plan, which cites CTA's Charging Forward strategic plan. City Ex. 1.02 at 87. The City asserts that more needs to be done to ensure that ComEd's plan fully supports environmental goals.

The City states that to begin to address these defects, the Commission should grant the requests set forth by City witness Woods, including: additional ComEd staff capacity specifically dedicated to coordinating the Climate Action Plan's objectives with the Grid Plan (*see* Section VII.B.8); a Multi-family Community Solar Parity Initiative (see Section VII.B.3.a); a commitment to evolve ComEd's mapping and planning capabilities over time to facilitate achievement of the Climate Action Plan's electrification targets (see Section V.C.7.c); and a Commission-directed process to inform the future gas transition analysis identified in the Illinois Decarbonization Study (*see* Section VIII.I). City Ex. 1.0 at 3. The City argues that these modifications are needed to ensure ComEd's Grid Plan meets the requirements of Section 16-105.17(d)(8) and that they are reasonable recommendations that should be incorporated under P.A. 102-0662, which specifies that the Grid Plan should reasonably incorporate input from parties. 220 ILCS 5/16-105.17(f)(5)(B).

(v) CTA/Metra's Position

CTA/Metra assert that raising the RR Class rates by 48.7% over the next four years is antithetical to meeting the State's goals and the emissions reductions required to improve the health, safety, and prosperity of all Illinois citizens. CTA/Metra assert that as reflected in the uncontroverted direct testimony of both Metra witness Ciavarella and the CTA witness Tomford, the RR Class members play a critical role in reducing air pollution and greenhouse gas emissions in the Chicago metropolitan region. Metra Ex. 1.0 at 3-6; CTA Ex. 1.0 at 3-5.

CTA/Metra note that Ms. Ciavarella testified concerning part of the environmental benefits contributed by Metra as a whole:

> Even though a diesel-run Metra train emits between 18 and 31 times more carbon dioxide per mile than a single automobile, Metra emits less global warming pollution per

> passenger because hundreds of people ride a train at once, while only one or two people ride in a car. Per passenger, Metra emits 7.3 times less global warming pollution than sedans, 8.6 times less than [sport utility vehicles], and 13.2 times less than pickup trucks. The MED [Metra Electric District] has the extra benefit of running on electricity from the grid, further reducing dependence on oil.

Metra Ex. 1.0 at 3. CTA/Metra note that both Ms. Ciavarella and Ms. Tomford testified concerning the Regional Transportation Authority's ("RTA") 2012 Chicago Regional Green Transit Plan. Ms. Tomford reported that the 2012 Plan concluded that: "Throughout the Chicago region, public transit saves more than 750 million gallons of gasoline each year, keeping more than 6.7 million metric tons of greenhouse gases from being released into the atmosphere." CTA Ex. 1.0 at 4. CTA/Metra assert that while that analysis was of the environmental benefit of the entire RTA's greenhouse gas reduction benefits and not just the contribution of the Chicago "L" system and the Metra Electric District, and was completed 11 years ago, these two systems account for a substantial amount of the greenhouse gas reductions attributed to the entire RTA system. CTA asserts that the Commission should find that CTA's conversion of its 1,800 diesel buses will further reduce pollution and provide environmental benefits to all of Chicago, especially in the EJ and R3 communities. CTA notes that ComEd's Grid Plan identifies no specific project to assist in CTA's transition to electric-powered buses. CTA/Metra assert that the Commission should conclude that ComEd's Grid Plan fails to meet the requirements of Section 16-105(d)(8).

(vi) EDF's Position

EDF asserts that grid plans designed to meet Illinois' environmental goals will also tend to meet Illinois' goals relating to affordability and equity.

EDF notes that among the goals in Section 9.10 of the Environmental Protection Act are reducing emissions from fossil fuel-fired electric generating plants (415 ILCS 5/9.10(b)) and developing safe, sufficient, reliable, and affordable energy supplies (415 ILCS 5/9.10(a)(5)). EDF also notes that among the goals of Section 1-75 of the Illinois Power Agency Act are significant renewable energy portfolio goals, with a long-term renewable energy procurement plan designed to maximize the State's interest in the health, safety, and welfare of its residents, particularly with regard to harmful emissions from fossil fuel-fired electric generation plants. 20 ILCS 3855/11-75(c)(1)(I).

EDF maintains that the Commission cannot reach its equity and affordability goals without also reaching its environmental goals. EDF asserts that its witnesses describe past environmental harms resulting from racist policies and emphasize the importance of clean air, healthy environments, and equal access to the benefits of solar and other technology and innovation. *See* EDF Exs. 2.0 and 3.0. EDF asks the Commission to prioritize the proposals in this docket that will deliver cleaner air and healthier environments, especially those programs and projects that will deliver environmental justice.

EDF notes that climate change is bringing new stresses to the electric grid. EDF Ex. 8.0 at 4. EDF states that climate change-related stressors include high heat events that reduce efficiency of distribution lines and related equipment, threatening the health of linemen, increasing peak demand loads from air conditioning, major precipitation events that can flood substations and short out important grid management equipment, and freeze events that can reveal vulnerabilities in grid operations, such as Winter Storm Uri. *Id.* at 4-5.

To respond to these increasing climate change threats, EDF maintains that utilities must adopt resiliency planning measures. *Id.* at 4. EDF asserts that planning for resiliency is part of every engineer's professional responsibility and is an integral piece of every investor-owned utility's obligation to manage risk for its investors. *Id.* at 4-5, 10. EDF asserts that planning for resiliency is also increasingly important to protect ratepayers and communities from the worst effects of climate change. EDF notes that the world's largest reinsurance companies vary in their estimates, but those estimates suggest that for every $1 spent proactively on resilient measures, a city (and therefore its utilities and their ratepayers) save between $6 and $11 in business interruptions and recovery costs. *Id.* at 5-6.

EDF states that as with cybersecurity strength, a maturity model is a useful tool to walk an organization (or a third party working with the organization, such as a Commission) through a number of relevant categories of best practices that have proven effective and ranks them from just beginning to high performing or "mature." *Id.* at 17. EDF witness Bochman has developed a CRMM for this very purpose. *Id.* at 18; EDF Ex. 13.1. EDF asserts that the CRMM can be used to identify decisions and actions a utility could undertake to move to a more advanced stage of awareness and action, presenting examples of behaviors that have proven helpful in similar organizations. EDF Ex. 8.0 at 18.

EDF explains that the CRMM proposes to measure essential service providers, including electric utilities, on six categories: (1) Governance; (2) Climate Aware Planning; (3) Active Stakeholder and Community Collaboration; (4) Resilience and Adaptation Actions; (5) Customer Engagement and Coordination; and 6) Attention to Equity. EDF Ex. 13.1. EDF states that the CRMM explains the importance of each category in resilience planning and provides examples of behavior that indicate certain maturity levels. *Id.*

EDF notes that Mr. Bochman provides myriad examples of climate change resilience measures, including strengthening berms, levees, and floodwalls for flood protection, expanding low water-use generation for drought protection, and conducting extreme weather risk assessment planning, preparedness, and training. EDF Ex. 8.0 at 7. EDF states that ideally, resilience measures will prioritize by consequence. Utilities should identify their infrastructure assets that are so important that they must be protected first and best. Then, the utility should proceed to layer on climate projections that show what (types of physical forces) are likely to land where and by approximately when. After creating options, benefit-cost analyses are performed that consider multiple inputs, including confidence levels that the measure will provide the required level of protection, duration that the measure will perform as required, how long the project will take to complete, and initial and full lifecycle costs. *Id.* at 8.

EDF asserts that as filed, ComEd's Grid Plan did not reflect that climate risk and resilience were top-of-mind for ComEd. EDF notes that in rebuttal testimony, ComEd provided additional detail on is approach to climate risk and resilience, explaining that Gil Quiniones, Chief Executive Officer of ComEd, has participated in discussions with Exelon Corporation ("Exelon") management on the Key Risk Indicators ("KRIs") that apply to ComEd and the rest of the Exelon enterprise. One of those KRIs applicable to ComEd is climate change. That risk, along with the others on the Risk Register, is reviewed with the Exelon Risk Committee at least annually, ensuring that there is visibility at the corporate governance level to the risks associated with climate change. ComEd Ex. 21.0 at 6. EDF states that it appears that ComEd is in the process of using climate model projections in their Grid Plans, as referenced by ComEd's collaboration with the Argonne National Laboratory, as well as its participation with EPRI. EDF Ex. 8.0 at 14.

EDF supports ComEd's partnerships with the Argonne National Laboratory and EPRI and would encourage ComEd to go further to make climate model projection sense-making a core competency. In addition, EDF encourages ComEd to move beyond the planning phase to begin acting, hardening its most important, most vulnerable assets and/or adapting their processes to accommodate the demands or constraints of a more challenging operating environment. *Id.* at 15.

EDF notes that ComEd has expressed interest in using the CRMM. ComEd Ex. 21.0 at 8-9. EDF appreciates that ComEd has also stated that it will work to ensure that climate risks get addressed at the highest corporate level. *Id.* EDF also appreciates that ComEd has provided useful information and feedback on the CRMM, in particular with the application of the CRMM to different corporate structures. EDF Ex. 3.0 at 2.

EDF hopes that the CRMM is a useful tool to assist ComEd and the Commission for ComEd's next Grid Plan filing, and that ComEd is able to include in its next grid filing a description of its asset prioritization scheme at whatever level of detail requested by the Commission, as well as the actions it has taken to make its most important, most vulnerable assets more resilient. EDF asserts that ComEd should also include in its filing how it has updated its governance model to align leadership or management for climate resilience challenges. *Id.* at 16.

EDF recommends that the Commission fully endorse ComEd's use of the CRMM, as well as ComEd's partnerships with the Argonne National Laboratory and EPRI and encourage ComEd to include the data and analyses resulting from those partnerships in its next Grid Plan.

(vii) Commission Analysis and Conclusion

The Commission finds that ComEd's Grid Plan is compliant with Section 16-105.17(d)(8) on the issue of environmental goals. The Commission encourages both the Company's continued partnership with the Argonne National Laboratory and EPRI and its participation in the CRMM. The Commission directs ComEd to include the data and analyses resulting from those partnerships in its refiled Grid Plan. The Commission also directs ComEd to incorporate executive-level awareness and leadership in addressing climate risks within its corporate governance model to set the cultural tone for the Company, as proposed by Staff.