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PUC DOCKET NO. 52322

APPLICATION OF ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC. FOR A DEBT OBLIGATION ORDER PURSUANT TO CHAPTER 39, SUBCHAPTER N, OF THE PUBLIC UTILITY REGULATORY ACT	§ § § § § §	PUBLIC UTILITY COMMISSION OF TEXAS

REBUTTAL TESTIMONY OF

OF

CHARLES N. ATKINS II

ON BEHALF OF

ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.

AUGUST 20, 2021

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GLOSSARY OF ACRONYMS AND DEFINED TERMS

Defined Term	Meaning
$/MWh	Dollar-per-megawatt-hour
Commission	Public Utility Commission of Texas
ERCOT	Electric Reliability Council of Texas, Inc.
GEMS	Green Energy Market Securitization
ISO	Independent System Operator
Just Energy	Just Energy Group, Inc.
NRG	NRG Energy, Inc.
PNM	Public Service Company of New Mexico
QSE	Qualified Scheduling Entity

REBUTTAL TESTIMONY OF CHARLES N. ATKINS II

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Charles N. Atkins II. My business address is Eleven Madison Avenue, New York, New York 10010.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am a Senior Advisor to Credit Suisse Securities (USA), LLC (including subsidiaries and affiliates), in connection with structured finance matters.

Q. ARE YOU THE SAME CHARLES N. ATKINS II THAT PROVIDED DIRECT TESTIMONY ON BEHALF OF ERCOT IN THIS DOCKET?

A. Yes.

II. PURPOSE OF REBUTTAL TESTIMONY AND RECOMMENDATIONS

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to respond to the Amended Direct Testimony of Bill Barnes, who testifies on behalf of NRG Energy, Inc. ("NRG") and the Direct Testimony of Michael Carter, who testifies on behalf of Just Energy Group, Inc. and its subsidiaries ("Just Energy").

Q. WHAT ARE YOUR RECOMMENDATIONS IN THIS CASE?

A. I recommend that the Public Utility Commission of Texas ("Commission") approve a Debt Obligation Order that authorizes Electric Reliability Council of Texas, Inc. ("ERCOT") to implement the fixed monthly Uplift Charge design, as proposed by ERCOT. I also recommend that the Commission require mandatory true-up adjustments on at least a semiannual basis, with the flexibility to implement adjustments on an optional basis at any time.

III. INTERVENORS' $/MWH CHARGE PROPOSAL

Q. DO SOME INTERVENORS PROPOSE A METHOD OF RECOVERING THE UPLIFT CHARGES THAT DIFFERS FROM ERCOT'S PROPOSED METHODOLOGY?

A. Yes. I understand that as an alternative to ERCOT's proposed fixed monthly Uplift Charge design, certain Intervenors propose that Uplift Charges be calculated on a dollar-per-megawatt-hour ("$/MWh") electricity usage basis that will remain fixed unless adjustments are made pursuant to the true-up process.

Q. DO YOU RECOMMEND THAT THE COMMISSION REQUIRE UPLIFT CHARGES BE ASSESSED ON A $/MWh BASIS?

A. No, I do not.

Q WHY NOT?

A While ERCOT's system administrative fee may be imposed on a $/kWh basis, the system administrative fee is not the revenue stream serving as the primary security for a long-term securitization financing. For electricity usage-based fee revenues to be relied upon for a AAA rated securitization transaction, extensive analysis of historical electricity consumption forecast accuracy would be required, as well as stress analyses of future forecasted consumption. As mentioned by Mr. Carter, prior Texas utility securitizations received AAA equivalent ratings. Each of those transactions utilized a per kWh usage based customer charge design, and each of those transactions involved utilities delivering electricity to end-use customers. But each of those utilities have a history of delivering power to end-use customers, so they likely have years of forecast variance data comparing forecasted versus actual consumption. Moreover, each of those utilities likely routinely estimate future customer consumption with long-term consumption forecasts on a monthly

basis, taking into account expected monthly fluctuations and seasonality of consumption by various customer classes.

I understand from ERCOT organizational descriptions that ERCOT, in its role as an electricity market independent system operator ("ISO"), does not deliver electricity to end-use customers. Moreover, I understand from the rebuttal testimony of ERCOT witness Sean Taylor that ERCOT does not have a history of forecasting MWh usage by the Qualifying Scheduling Entity ("QSE") obligors for this first securitization by an ISO, and that ERCOT does not forecast future MWh usage by this transaction's obligor QSEs. Mr. Taylor's rebuttal testimony explains ERCOT's lack of relevant historical forecast variance data, and the potential difficulty and time delay involved in attempting to develop a relevant MWh-based 30-year monthly consumption forecast for this transaction's QSE obligors. I discuss below in my rebuttal testimony the centrality of historical and ongoing future forecasts in the rating process for securitizations involving utilities delivering electricity to end-use customers. Based upon my experience and upon the testimony of Mr. Taylor, I recommend that the Commission approve the Uplift Charge design proposed by ERCOT, rather than a usage-based MWh basis.

Q WHAT DO YOU THINK RATING AGENCIES WOULD REQUIRE IF THE UPLIFT CHARGES WERE REQUIRED TO BE ASSESSED ON A $/MWH BASIS?

A Given the fact that long-term utility securitization bond transactions are secured principally by the intangible securitization property, including the securitization charges and the mandatory true-up adjustment of those charges, the rating agencies require analysis of long-term forecasts, as well as the analysis of the utility's historical forecast accuracy. For example, Fitch requires at least 5-10 years of historical consumption forecast variance data

for its rating analysis. Fitch then takes the worst forecast error occurring during those years, and requires the transaction cash flows to assume initially a forecast error of 5 times the worst experienced forecast error for the first year of the transaction. Then Fitch requires that forecast error or variance to be increased by 1% each year for the first 10 years of the transaction, 1.5% each year for the next 5 years, and then 2% each year thereafter resulting in more stress the longer the transaction's scheduled final maturity.

Fitch delivers a warning regarding the lack of historical forecast variance data in its ratings criteria for utility securitizations:

> Historical data analysis may be deemed inadequate by Fitch due to (but not limited to) factors such as limited data availability and a history of poor consumption forecasting. In circumstances where full data sets are not provided or where Fitch deems provided data inadequate, Fitch will adjust its cash flow model assumptions accordingly, likely using a worst case scenario approach. If data provided are inadequate or insufficient, Fitch may cap the ratings it assigns or elect to not rate the transaction outright.[1]

In my experience, even if ERCOT were to take the time to develop relevant forecasts going forward, the lack of relevant historical forecast data would very likely present an undue risk to the rating of the transaction, in the event a $/MWh Uplift Charge design was required by the Commission. In the event a rating agency would agree to rate the transaction without relevant historical forecast variance data, it is likely that significant debt service coverage would be required, with higher Uplift Charges compared to the charge design proposed by ERCOT. I recommend that the Uplift Charge design proposed by ERCOT be approved and incorporated in the Debt Obligation Order.

Q WOULD ADOPTION OF THE $/MWh APPROACH CAUSE DELAYS IN CLOSING AND DISTRIBUTING FUNDS TO MARKET PARTICIPANTS?

[1] Attachment CNA-R1.

A As I discuss above, the $/MWh charge design would require relevant historical forecast variance data that is simply not available. This lack of historical data would very likely present undue risk to the rating of the transaction, with inherent potential delays to revise the Uplift Charge design, perhaps amending the Debt Obligation Order.

Q. MR. CARTER TESTIFES THAT PRIOR SECURITIZATIONS THAT INCLUDED SECURITIZATION FEES CHARGED ON A $/kWh BASIS ALL RECEIVED AAA RATINGS.[2] HAVE NON-USAGE BASED SECURITIZATION CHARGES BEEN APPROVED BY UTILITY COMMISSIONS?

A. Yes. While most securitizations involving utilities delivering electricity to end-use customers have utilized usage-based securitization charge designs, that approach is not universal. The Hawaii Public Utilities Commission approved a non-usage based per customer charge in connection with the State of Hawaii Department of Business, Economic Development and Tourism Green Energy Market Securitization ("GEMS") Bonds 2014 Series A. This transaction achieved AAA equivalent ratings. In its presale report analysis of this transaction, Fitch Ratings noted:

> Unlike most utility tariff/stranded cost ABS transactions, the GEMS transaction incorporates a fixed, non-usage-based special tariff (GIF) allocated amongst customers of each electric utility. Furthermore, the GIF and true-up mechanism is sized off of forecast levels of customer counts versus forecast consumption levels. Utilizing this methodology results in more level debt service relative to consumption-based structures.[3]

Fitch also notes in an accompanying press release, that the transaction could survive a severe stress assuming a maximum 96% decline in customer count in year one of the transaction, avoiding a bond default and with the GIF remaining within the 20% of the

[2] Carter Direct at 11.

[3] Attachment CNA-R2.

average residential bill threshold, which Fitch considers consistent with a AAA equivalent rating.[4]

More recently, the New Mexico Public Regulation Commission approved on April 1 of last year, several non-usage based per customer charges, including for residential customers, in connection with a securitization financing order application by Public Service Company of New Mexico ("PNM"). That financing order application was in connection with recovery of certain costs arising from the planned abandonment of the San Juan coal-powered generation facility. PNM proposes a similar set of non-usage based, per customer charges, in its current application for a securitization financing order in connection with its planned abandonment of its investment in the Four Corners coal-powered generation facility. I served as a financial advisor to PNM in connection with the San Juan financing order application. I am currently serving as a co-financial advisor to PNM in connection with their current Four Corners financing order application.[5]

In the case of both the Hawaii and the PNM transactions, sufficient historical forecast variance data, on a consumption and customer count basis was available to present to the rating agencies.

Q WOULD THE UPLIFT CHARGES HAVE TO BE HIGHER IF THEY WERE CHARGED ON A $/MWh BASIS INSTEAD ON THE FIXED BASIS PROPOSED BY ERCOT?

A As I discuss above, based upon my experience, I believe yes.

[4] Attachment CNA-R3

[5] Attachment CNA-R4.

Q IS IT YOUR OPINION THAT IN ORDER TO ENSURE THE LOWEST UPLIFT CHARGES, THE COMMISSION SHOULD APPROVE ERCOT'S FIXED AMOUNT PROPOSAL?

A Based upon my experience, I believe yes.

Q IS IT YOUR OPINION THAT IN ORDER TO ENSURE THE TIMELY DISTRIBUTION OF PROCEEDS TO ALLEVIATE LIQUIDITY ISSUES, THE COMMISSION SHOULD APPROVE ERCOT'S FIXED AMOUNT PROPOSAL?

A Based upon my experience, I believe yes.

IV. SCHEDULED FINAL MATURITY

Q. SOME INTERVENORS ASK AN EXPLANATION FOR THE PROPOSED GAP BETWEEN THE SCHEDULED FINAL MATURITY AND THE LEGAL FINAL MATURITY.

A. As discussed in my direct testimony, securitizations generally incorporate a credit enhancing gap between the scheduled final maturity and the rated legal final maturity. This time gap, whether it is 1, 2, 3 or 10 or more years, provides additional time for the bonds to be paid prior to the rated legal final maturity, in scenarios of sharply reduced revenues. Rating stress assumptions typically haircut revenues sharply, and providing this "maturity cushion" is an important credit enhancement feature. The maturity cushion required for AAA equivalent ratings in utility securitizations is driven by rating agency stress cash flow scenarios, and sometimes has required a 2-year maturity cushion. However, it is important that the debt obligation orders provide ERCOT with the flexibility to establish the maturity cushion required to achieve the highest possible ratings. I presented a 2-year maturity cushion in various transaction structures merely for illustrative purposes.

V. FREQUENCY OF TRUE-UPS

Q. ON BEHALF OF NRG, MR. BARNES RECOMMENDS THAT THE COMMISSION LIMIT THE TRUE-UPS TO ANNUAL TRUE-UPS, RATHER THAN QUARTERLY OR SEMI-ANNUAL TRUE-UPS.[6] DO YOU AGREE THAT IT WOULD BE APPROPRIATE TO LIMIT ERCOT TO AN ANNUAL TRUE-UP OF THE UPLIFT CHARGES?

A. No. For electric utility securitizations I am involved in as an advisor, I generally recommend mandatory true-up adjustments on at least a semiannual basis, with the flexibility to implement adjustments on an optional basis at any time. However, the Subchapter N and M transactions represent the first securitizations by an Independent System Operator. I recommend that the debt obligation orders provide ERCOT with the flexibility to structure the true-up mechanism in a manner that can support the lowest Uplift and Default Charges, and to support the highest possible transaction ratings, including the potential implementation of true-ups on a quarterly basis if ERCOT officials deem necessary. I recommend that each true-up look backwards as well as forward 12 months, so that the Charges can be a smooth as possible. During the last year prior to the scheduled final maturity, I recommend that true-ups be implemented on a quarterly basis, to ensure that sufficient funds are available to retire the debt as scheduled. The true-up mechanism is the key credit enhancement feature that reduces the need for higher debt service coverage. With the full set of securitization features, including the mandatory true-up mechanism, the ongoing coverage of debt service and ongoing financing costs from Charges is designed to be near 1.0 times. By contrast, without the full set of securitization

[6] Barnes Amended Direct at 11.

features, a recent revenue bond transaction issued by the California ISO, required debt service coverage of 1.25 times, plus a funded reserve of 15% of annual budgeted CAISO operating expenses.[7] ERCOT's proposed debt financing order is consistent with achieving the statutory lowest cost objective, seeking to avoid higher debt service coverage and reserve requirements. More frequent true-up calculations and implementations if properly structured, can facilitate lower and more stable Uplift Charges.

Q. MR. BARNES ALSO TESTIFIES, "SO LONG AS THE UPLIFT CHARGE INCORPORATES A REASONABLE MARGIN TO PROTECT AGAINST UNEXPECTED DECREASES IN DEMAND, AN ANNUAL TRUE-UP PROCESS SHOULD PROVIDE SUFFICIENT COVERAGE FOR BOND HOLDERS."[8] DO YOU HAVE ANY OPINION REGARDING WHAT THE "REASONABLE MARGIN" WOULD NEED TO BE TO PROTECT AGAINST UNEXPECTED DECREASES IN DEMAND?

A. Any "reasonable margin" would potentially result in higher Uplift Charges than needed. I recommend that the true-up structure be designed to avoid extra "margins."

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

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[7] Attachment CNA-5.

[8] Barnes Amended Direct at 11.

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AFFIDAVIT

STATE OF NEW YORK)
)
COUNTY OF _____)

CHARLES N. ATKINS II, first being sworn on his oath, states:

I am the witness identified in the preceding testimony. I have read the testimony and the accompanying attachments, and I am familiar with the contents. Based on my personal knowledge, the facts stated in the testimony are true. In addition, in my judgment and based on my professional experience, the opinions and conclusions stated in the testimony are true, valid, and accurate.

CHARLES N. ATKINS II

Subscribed and sworn to before me this _____ day of August 2021 by Charles N. Atkins II.

see attached document

Notary Public, State of New York

My Commission Expires: _____

JURAT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of Los Angeles

Subscribed and sworn to (or affirmed) before me on this 19TH day of August, 2021, by Charles N. Atkins II,

proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

Signature _____

MARIA V. TRANGELO-MOLINA
COMM. # 2301885
NOTARY PUBLIC - CALIFORNIA
LOS ANGELES COUNTY
COMM. EXPIRES SEPT. 14, 2023

(Seal)

FitchRatings

U.S. Utility Tariff/Stranded Cost Bonds Rating Criteria

Sector-Specific Criteria

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This report updates and replaces "U.S Utility Tariff/Stranded Cost Rating Criteria," dated Dec. 7, 2018.

Applicable Criteria

Global Structured Finance Rating Criteria (May 2019)

Structured Finance and Covered Bonds Counterparty Rating Criteria (April 2019)

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Scope

This report presents Fitch Ratings' analytical approach to rating U.S. utility tariff/stranded cost bonds. The criteria are relevant for new ratings and surveillance, with differences detailed herein.

Fitch has only assigned 'AAAsf' ratings in this sector, and Fitch's new issue methodology only addresses 'AAAsf' rating outcomes. To date, Fitch has only rated transactions issued by electric utilities, and the analyses have been focused on electric consumption by customers within the utilities' service territory. However, Fitch believes the analysis and stress assumptions detailed in the criteria can be applied to other utility sectors, such as water and gas. In these unique circumstances, Fitch expects the legal and regulatory framework to be consistent with typical electric utility-issued transactions.

Key Rating Drivers

Each of the following key rating drivers is listed in order of importance for the analysis.

Legal Risks and Regulatory Framework: Unlike other ABS transactions, the cash flow stream supporting tariff bonds is a special tariff established under legislative or regulatory authority. Thus, the first and most significant component in Fitch's rating analysis is a thorough understanding of the statute and order. Fitch's analysis of tariff transactions includes a review of the legal structure to confirm that the cash flow derived from the special tariff will not be impaired or diminished.

Credit Analysis (Revenue Stability): The cash flow supporting tariff bonds is generated by payments from all or designated categories of customers in the utility's service territory. As such, Fitch reviews the composition of the service territory. Fitch also reviews the size of the tariff relative to the total customer bill to determine its viability, as excessive charges may present additional risk of political or regulatory challenge, in Fitch's view.

Structural and Cash Flow Analysis: Fitch uses a Utility Tariff Model, which is customized to reflect the payment structure of the transaction, and tests the impact of stressing various assumptions, including historical chargeoff and variance patterns. The output of the cash flow model is reviewed to determine whether the rated bonds are fully paid in accordance with the transaction documents in each stress scenario associated with a particular bond's rating.

Data Sources and Adequacy

Fitch utilizes historical data provided by the utility as inputs in its cash flow model, as well as for performance-based qualitative measures. Specifically, the stresses derived for the purposes of this methodology were developed based on a combination of historical data specific to each utility issuing the bonds and Fitch's analytical expertise. Therefore, Fitch reviews a minimum of five to 10 years of historical data demonstrating forecast consumption variance, delinquency rates and chargeoffs for each customer class. Fitch also expects to see data supporting the calculation and allocation of the tariff charge for each customer class, including the average customer bill for each class.

Historical data analysis may be deemed inadequate by Fitch due to (but not limited to) factors such as limited data availability and a history of poor consumption forecasting. In circumstances where full data sets are not provided or where Fitch deems provided data inadequate, Fitch will adjust its cash flow model assumptions accordingly, likely using a worst case scenario approach. If data provided are inadequate or insufficient, Fitch may cap the ratings it assigns or elect to not rate the transaction outright.

Legal and Regulatory Framework

Utility tariff/stranded cost bonds are secured by collateral in the form of a dedicated special tariff. This special tariff is unique relative to traditional asset-backed security (ABS), notably, the property securing these bonds is an intangible, future-flow regulatory asset, with special protections available to holders of tariff bonds that qualify achievement of 'AAAsf' ratings.

The revenue streams provided by the dedicated tariff are used for utilities to recoup cost associated with lost revenue or cost associated with repairing utilities' transmission and distribution system following a natural disaster (utility tariff bonds). Additionally, the dedicated tariff can be used to recoup unrecoverable contractual and sunk cost (stranded cost) due to deregulation within the utility sector.

The special tariff is a regulatory asset established pursuant to an enabling act (the statute) passed by a state legislature to serve a public interest need for this type of financing. The statute is followed by a regulatory approval referred to as a financing order (the order) issued by that state's utility commission or the equivalent agency of the state authorizing the issuance of bonds backed by the special tariff.

The statute uses the authority of the state contemplating securitization to establish obligations, such as the state pledge, and to grant the commission or the equivalent agency of the state any rights that it would otherwise lack under existing state law. The statute serves to order and implement the state's policy objectives with regard to the tariff monetization, whereas the order is analogous to a comprehensive procedures manual that sets forth specific transaction terms and related provisions.

Fitch begins its analysis of utility tariff/stranded cost securitizations by closely analyzing the legal framework in place, specifically, the statute and order. In states considering securitization, a special tariff component will be established as an irrevocable charge through the statute approved by the state legislature and by the order approved by the commission or the equivalent agency of the state. While reviewing the provisions of the statute and order, Fitch focuses primarily on the following seven legal and/or regulatory features of the transaction:

- property right;
- irrevocability and state support;
- bankruptcy remoteness/true sale;
- utility successor requirements;
- third-party energy providers;
- true-up mechanism; and
- nonbypassability.

Legal and Regulatory Considerations

- Special tariff established as a property right.
- Irrevocable by subsequent legislatures or commissions or the equivalent agency of the state.
- Statute, if applicable, includes the state non-impairment pledge.
- Supported by federal and state constitutional protections.
- Implication of the state referendum or ballot initiative process.
- Bankruptcy-remote issuer, nonconsolidation of trust assets with the utility and a true sale of property rights.
- First-perfected security interest in the property rights granted to the indenture trustee.
- Tariff true-up mechanism.
- Nonbypassable charges for customers connected to the distribution network.
- Guidelines for consolidated billing by third-party energy providers, if applicable.

Of importance, Fitch views the absence of enabling provisions (in the statute and/or order) that address any of the elements listed above as generally inconsistent with 'AAAsf' ratings. However, in instances where a true-up mechanism is not structured into a transaction, other forms of credit enhancement (CE) may be incorporated to offset the absence of the true-up mechanism (as described on page 4 in the True-up Mechanism section). The agency will take into consideration these other forms of CE in its analysis.

Property Right

Since the asset securing the tariff bonds is a right to a future cash flow stream, Fitch expects the statute or order to establish future special tariff collections as a property right that can be transferred and pledged as a security interest. Since the property right may not be governed by the Uniform Commercial Code, procedures for establishing a first-perfected security interest should also be outlined in the statute or order, as applicable. The amount of the special tariff, as well as the rules for its collection, should be defined in the order approved by the commission or the equivalent agency of the state in the relevant state.

Irrevocability and State Support

Irrevocability of the special tariff prohibits the legislature, the commission or any other agency or governmental entity from rescinding, altering or amending the special tariffs or property rights in any way that would reduce or impair their value. Fitch considers the irrevocability language an important protection against changing political agendas in the legislative or executive branches of government. It represents a high level of assurance of state regulatory action in support of the revenue requirements of tariff bonds.

Fitch expects this high level of assurance of state regulatory action to be further supported by the contracts and takings clauses of the U.S. Constitution and most state constitutions, which protect against contract impairment and property seizures without just compensation.

Tariff bonds are not direct obligations of the state or guaranteed by the state's full faith and credit. However, if the tariff bonds are issued pursuant to specific legislation, the statute typically includes a state non-impairment pledge wherein the state agrees that it will not limit or alter the special tariffs (the property right), the order or any other right under the bonds until the principal and interest on the bonds are fully paid or unless adequate compensation has been made to safeguard bondholder rights.

Because the assets securing these bonds are created through the political and regulatory processes, the statute and order may initially be subject to challenge from opposing parties. While the political process differs from state to state, the enactment of legislation or issuance of the order involves a process in which interested parties have the opportunity to challenge or submit amendments to the proposed language.

Generally, after the statute is approved by the legislature and/or the order is issued by the commission or the equivalent agency of the state, there is an additional defined period when outside parties can challenge the statute or order through litigation. When this period expires, the potential for further political and regulatory attack is substantially diminished. Therefore, transaction closings are expected to occur only after the statute and order become non-appealable.

Fitch recognizes that many states have a ballot initiative and/or referendum process that allows opposition groups to place a petition on the election ballot upon receipt of a given number of voter signatures. When analyzing tariff bonds issued under the relevant statute in these states, it is important to understand how ballot initiatives or referenda affect the federal and state constitutional protections, the irrevocability language and the state non-impairment pledge. Fitch expects transaction counsel to provide an analysis of the constitutional protections and issues in the relevant state.

Bankruptcy Remote/True Sale

The statute or order is expected to protect bondholders from the interruption or impairment of cash flows in the event of a utility bankruptcy, as explained in the Utility Successor Requirements section below. It is also expected to provide that the transfer of property rights to the trust will be treated as an absolute transfer, not as a pledge, of the seller's right to, title to and interest in the property. The statute or order should also define conditions for a valid,

enforceable and perfected security interest for the indenture trustee. Some unique aspects to the analysis of utility tariff/stranded cost transactions are detailed in the Appendix.

To date, there have only been a limited number of utility bankruptcies associated with securitizations. Within this small subset, the securitizations continued to perform within expectations with no interference from any legislative or government entity.

Utility Successor Requirements

As with any future-flow securitization, asset-generation risk or the risk that the assets (special tariffs) may not be generated as expected in the future due to the utility's inability to continue operating, is a key consideration. Fitch believes this risk is largely mitigated by successor requirements imposed by the statute/order and the essential nature of utility services.

Therefore, to effectively de-link the rating of tariff bonds from that of the utility, Fitch considers it essential that the statute or order create an obligation on the commission or the equivalent agency of the state to ensure that, in the event of the incumbent utility's sale or bankruptcy, any successor to the utility (including, but not limited to, the utility as debtor-in-possession and the reorganized utility after bankruptcy) be treated as a successor (for purposes of imposition of special tariffs on the successor's customers) and be ordered to continue servicing the tariff bonds to avoid disruption in billing and collecting.

Third-Party Energy Providers

In some states, third-party energy providers (e.g. non-utility power generators, energy marketers and independent brokers) are granted the right to bill customers directly, not only for the energy commodity, but also for network distribution services performed by the utility (consolidated billing). In this case, the third-party provider collects and remits back to the utility the distribution fees and special tariff to service the tariff bonds.

If the statute or order allows for third-party consolidated billing, a typical result is the imposition by the state, authority or equivalent agency of the state of minimum credit quality or collateral requirements on parties wishing to assume this service. Generally, such guidelines include setting minimum credit standards for such providers, posting cash collateral to cover a period for which revenues are at risk and/or assumption of personal liability by the third party for billed amounts, regardless of collections. Fitch expects these guidelines to define the circumstances in which a third-party provider would be replaced either by the incumbent utility or an alternate servicer. This is important as the approval of the commission or the equivalent agency of the state is often a prerequisite for the transfer of billing and servicing responsibilities away from designated third-party energy providers under such jurisdictions.

True-Up Mechanism

The statute or order requires that the special tariff be reset periodically at least annually or semiannually. The reset, referred to as the true-up mechanism, adjusts the special tariff to a level sufficient to ensure that the periodic bond payment requirements (PBPRs) (interest payments, scheduled principal amortization, related fees and any replenishment of any CE balances) are met. The statute or order may provide for more frequent resets, either discretionary or mandatory, based on the occurrence of certain events, such as a minimum percentage variance between projected and actual principal amortization. Several states have also provided for more frequent true-ups in the final years of the transaction's life.

The true-up can increase or decrease the special tariff, depending on the positive or negative variance of actual tariff payments and/or energy consumption from the utility's projections. Applications for special tariff true-ups are generally filed with the commission or the equivalent agency of the state based on updated sales forecasts for the forthcoming years. Under the statute or order, the commission or the equivalent agency of the state does not have the discretion to disapprove or alter the true-up calculation, except to correct computational or other manifest errors. Also, the commission or the equivalent agency of the state is usually obliged by the statute or order to establish special tariffs at a level sufficient to repay the debt over the scheduled term.

Under the financing order, the tariff is deemed irrevocable and prohibits any legislature, agency or governmental authority from rescinding, amending or altering the tariff in any way that would impair or reduce the tariff value. The passed legislation includes a state impairment

clause that ensures the value of the tariff cannot be altered in a negative manner until the issued bonds are paid in full.

The absence of a true-up mechanism could limit the ability to assign a 'AAAsf' rating. However, to date, Fitch has not rated a utility tariff/stranded cost transaction that was structured without a true-up mechanism. When it exists, adjustment of the special tariffs through this mechanism is the most significant credit component for these transactions. However, if the regulatory framework does not provide for any adjustment or if the true-up mechanism is inadequate, additional CE, such as reserve accounts or subordinated tranches, may offset the absence of the true-up mechanism. In such instances, Fitch will place greater reliance on the outcome of its cash flow stress scenarios to demonstrate adequacy of alternate forms of CE.

Nonbypassability

The special tariff is usually assessed as a charge on electric, water or gas delivery, applicable

to the monopoly retail utility service. Therefore, regardless of which gas, water or electricity provider supplies the commodity delivered to the customer, the special tariff will be collected based on delivery service. This type of special tariff is frequently referred to as a network charge, since it applies to service over the utility's wire or pipeline system.

When customers are able to choose an alternative gas, water or power providers, they need to be connected to the distribution system, whether for primary or backup service, tends to limit their ability to bypass the special tariff. Customers can avoid the special tariff by changing their consumption of energy so that they are not using the distribution system or by moving out of the service area.

The statute generally provides that the special tariffs are nonbypassable, implying that a utility can collect these charges from all existing retail customers and all future retail customers within the service territory without any (or with a few) exceptions. Instances where covenants related to nonbypassability that allow for weaker provisions (that allow for significant exceptions) would not be consistent with a 'AAAsf' rating.

If the statute contains provisions that allow for significant exceptions, Fitch will apply more severe variance stresses to the related customer classes in its cash flow scenarios. However, the complete exclusion of nonbypassability provisions will likely preclude a transaction from receiving a 'AAAsf' rating, since it would introduce significant uncertainty in future cash flows, which would be difficult to quantify in cash flow stresses.

Credit Analysis (Revenue Stability)

Since the cash flow supporting the tariff bonds is generated by payments from all or designated categories of customers in the utility's service territory, it is important to analyze the composition of the service territory to determine the size and usage level of the customer base, customer delinquencies, regional economic sensitivities and weather-related seasonality.

Customer Base

The size and variability of the customer base have a significant potential effect on cash flows to the bonds. Fitch reviews a number of economic factors in its analysis of the customer base, including the size and shape of the service territory (the geographic footprint), diversity of the customer pool, change in housing starts during recessionary periods, exposure to key industries, cyclicality of key industries, historical recessionary bankruptcy data and existence of any major military bases in the territory. These qualitative factors help Fitch develop an understanding of the utilities' customer base, which, ultimately, provides the cash flows to pay the liabilities of the trust. In general, a utility's customer base is segmented into four primary segments: residential, commercial, industrial and government.

The residential segment will provide a high level of customer diversification, similar to that found in credit card receivables ABS transactions. Since the special tariff is assessed against a household rather than an individual, it is assumed that the majority of residents moving away from a service territory will be replaced with new residents. Thus, the residential segment tends to be a large, diversified and relatively stable source of cash flow.

Credit Analysis Checklist

- Composition of the customer base.
- Customer concentrations in commercial and industrial segments and customer class cross-collateralization.
- Regional industrial concentrations.
- Strength of the regional economy.
- Geographic footprint.
- Seasonality and cyclicality.
- Size of the dedicated special tariff and effect on the all-in cost to consumers.
- Development of alternative energy-generation technologies.
- Opportunities for self-generators to disconnect from the power grid while maintaining exemption to special tariffs.

Industry and individual commercial concentrations are also assessed, as the utility's commercial and industrial customers may represent significant concentration in the customer base. These customers tend to be fewer in number and contribute higher tariff revenues per account than residential customers. The government segment has historically represented a lower percentage of usage but can be exposed to government appropriation risk. Fitch incorporates the risks associated with customer concentrations by stressing billing risk and no industrial/commercial consumption in its cash flow stress tests.

Risk is greater if responsibility for specified portions of the securitized special tariffs is assigned to particular customer classes, including one or more classes with relatively few customers. Risk is mitigated if all customer classes bear responsibility through the true-up mechanism to pay in full the securitized special tariffs. In this case, the customer classes are said to be cross-collateralized.

An example of customer class concentrations is depicted in the table below. Of note, residential customers represent 50.0% of consumption and 43.3% of billed revenue. The industrial class represents 30.0% of consumption and 26.7% of billed revenue. The remaining customer concentration resides in the commercial customer class, which represents 20.0% and 30.0% of total consumption and billed revenue, respectively.

Due to the concentration diversity, the cross-collateralization softens the impact of reduced consumption in the event usage within a specific customer class declines. While utility service areas are typically diversified in regards to customer classes, Fitch may incorporate additional stresses on a nondiversified pool. In particular, if the customer base concentrations are outside historical levels for the utility, a higher stress would be considered to account for the change in concentrations. For example, in a pool with a high concentration of commercial customers and no industrial customers, Fitch may apply a similar stress on the commercial customers as described in the No-Industrials Stress section detailed on page 12 of this report.

Customer Service Territory: XYZ Utility Co.

Customer Class	Consumption (kWh)	% of Total	Retail Billed Revenues ($000)	% of Total
Residential	500	50	650,000	43.3
Commercial	200	20	450,000	30.0
Industrial	300	30	400,000	26.7
Total	**1,000**	**100**	**1,500,000**	**100.0**

kWh – Kilowatt hours. Note: Numbers may not add due to rounding.
Source: Fitch Ratings.

Size of Dedicated Tariff Component

Fitch believes that when the special tariff dedicated to servicing the bonds is a relatively small portion of customers' all-in cost of utility service, increases in the special tariff under the true-up mechanism are less likely to reduce consumers' demand for utility services or to stimulate consumers to adopt alternative, off-the-grid energy services (see the *Self-Generation and Alternate Technologies* section, starting on page 18). If the special tariff is large or total rates are high, customers may have a greater economic incentive to invest in alternative energy technologies, reduce their consumption, become self-generators or seek political or legal overturn. It is unfavorable from a credit viewpoint if the special tariff represents a significant portion of the total delivered cost of utility services, especially if it may affect the economic competitiveness of major industrial customers in the utility's service area.

Fitch incorporates an analysis that attempts to stress pools with high industrial customer class concentration. The analysis tests the ability of the transaction to withstand the complete loss of consumption from the industrial class, assuming base case conditions hold. Where special tariffs are cross-collateralized within the utility's service territory, consumption shortfalls for a customer class (such as industrial) can be corrected with a true-up across customer classes.

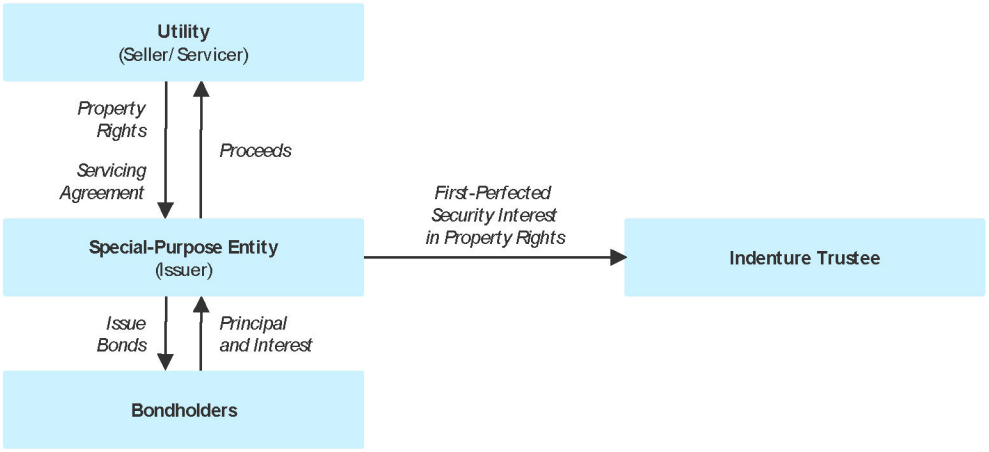
Fitch believes that special tariffs (under all scenarios) in excess of 20% of the customer bill over a long financing term would generally be inconsistent with a 'AAAsf' rating. In circumstances where the special tariff exceeds the 20% threshold, the likelihood of full

principal payment by the legal final maturity would not be consistent with a 'AAAsf' rating. In circumstances where multiple tariffs are charged to one specific service area, Fitch will take into consideration the aggregate amount of tariffs.

For example, if a utility issues multiple securitizations, the 20% threshold would apply to the aggregate tariffs from all the securitizations. This is a guideline utilized by Fitch based on the premise that, as long as special tariffs continue to represent a small percentage of an average customer bill, the potential for political or regulatory challenge is substantially diminished, and the reliability of the true-up mechanism as the primary source of CE is preserved.

Structural and Cash Flow Analysis

Transaction Structure



Source: Fitch Ratings.

Transaction Structure

At closing, the seller, which is typically the utility, transfers its ownership interest in the property rights to a bankruptcy-remote SPV (usually a limited liability company) that serves as the issuer of the securities.

The SPV, pursuant to its statutory or regulatory authorization, will grant a first-perfected security interest in the tariff property to a trustee on behalf of bondholders. The flow chart at right summarizes the basic structure for these transactions.

Tariff bonds issued by the SPV may be tranched into multiple classes of self-amortizing bonds with serial maturities. The principal amortization schedule may be structured as level, mortgage style or variable payments. The key to assessing the appropriate amortization schedule is to determine that proposed payments are consistent with forecast seasonal fluctuations in collections.

While the projected principal amortization schedule is established at closing, principal shortfalls generally do not trigger an immediate default under the transaction documents. If there is a periodic reset, the true-up mechanism is used to make up for any prior shortfalls in interest, principal, fees or any CE balances so that principal shortfalls are compensated by tariff adjustments on the true-up filing anniversary immediately succeeding such shortfall (or sooner if permitted by the order).

Fitch evaluates the relationships of all aspects of the structure in assigning rating to tariff bonds. However, certain structural factors are given greater weight. For example, if the authority to impose the special tariff expires after a specified date, the final maturity date for the bonds is expected to fall within the maximum term of the tariff, as defined by the statute or order. Back-ended principal payments (e.g. mortgage-style amortization) may increase risk toward the end of the term. Also, given the technology risks associated with tariff bond transactions, Fitch applies more challenging cash flow stress scenarios for longer-term bonds

(see the *Self-Generation and Alternate Technologies* section, starting on page 17, and the *Cash Flow Modeling* section on page 9).

Credit Enhancement

The primary form of CE for tariff bonds is the true-up mechanism, which requires that the commission or the equivalent agency of the state review and adjust the special tariff periodically to correct any undercollections or overcollections. The true-up mechanism, along with the essential nature of utility services, help mitigate the cash flow variability that may be present in a utility tariff/stranded cost transaction. Traditional CE, such as cash reserves or overcollateralization, tends to be relatively small (historically 0.5%–1.5% of the initial principal amount).

Fitch considers this minimum amount of enhancement as sufficient to achieve 'AAAsf' ratings for bonds structured with an adequate true-up mechanism, since cash flow variability is mitigated by the periodic true-ups and the essential nature of utility services. Traditional CE would be necessary to cover any timing gaps between when the bond payment is due and when the tariff true-up occurs. These traditional forms of CE are detailed in Fitch's "Global Structured Finance Rating Criteria," which discusses the various forms of CE and risks inherent in each. Therefore, it is important to understand the terms of the true-up mechanism and the overall bond structure. Fitch will review the relevant CE structure, including the true-up mechanism in each transaction and replicate it within the agency's cash flow model.

In addition to the true-up mechanism, other forms of CE typically included in the structure of tariff bonds are reserve, or excess funds, subaccounts and capital subaccounts. Reserve subaccounts are funded with excess spread, to the extent available, in each reporting period, which may have required levels based on the outstanding debt level. Alternatively, capital subaccounts are funded at transaction closing. Subaccounts are established to cover timing mismatches of collections and required payments. Withdrawals from subaccounts may occur to cover payment shortfalls. Following withdrawals, the capital and overcollateralization subaccounts are replenished in subsequent periods to the extent excess funds are available.

However, for reserve subaccounts, the true-ups are either calculated to utilize and eliminate all remaining amounts reduced by the tariff over-collections from customers or, in some cases, to replenish the reserve subaccounts to a required level. While the true-up mechanism adjusts the special tariffs at least annually, ideally, any cash flow shortfalls are expected to be recovered by the end of the following year.

Historically, volatility in tariff charges for Fitch-rated transactions has been limited. In cases where there is a large move in the tariff because of a true-up (accounting for large over/under-collections), this scenario has been short lived, as the tariff was adjusted at the next true-up date. Furthermore, the majority of Fitch-rated transactions are allowed to true-up more frequently if performance was significantly outside of expectations. The capital subaccount typically represents a small percentage of the initial principal balance, providing some liquidity in the early stages of the deal, in addition to support toward the end of the transaction. Although back-end credit support is generally provided by available subaccounts, ultimately, the true-up mechanism is the primary credit support for most utility tariff/stranded cost transactions.

Sizing of the CE depends on the terms of the true-up mechanism, bond structure and strength of cash flows. For example, bonds structured with back-ended principal amortization may need higher CE in the early years to compensate for lower interest coverage. If bonds were structured without a true-up mechanism, substantially higher CE levels would be expected.

Collection Accounts

An indenture trustee establishes collection accounts into which all special tariff collections will be deposited. The frequency of the utility's deposits to the collection accounts will depend on commingling provisions, as described in the Counterparty Risk section on page 13. Funds held in these accounts will pay transaction fees and expenses, principal and interest and any overcollateralization requirements on a monthly, quarterly or semiannual basis. Any excess cash collected is normally held in a reserve account and, if applicable, incorporated in the calculation of the next true-up.

Cash Flow Modeling

Fitch integrates the primary asset- and liability-side data presented in each structure into its internal Utility Tariff Model. The assumptions embedded in the model are based on the proposed structure and terms outlined in the order. Such an approach provides Fitch with a consistent basis for comparison across different transactions. However, while the Utility Tariff Model is an important consideration in determining the final rating, ratings are ultimately assigned by a Fitch rating committee, which takes into consideration both quantitative and qualitative factors.

While the Utility Tariff Model is updated based on the structure of the bond, as well as the statutory and regulatory framework, it addresses fundamental credit issues common to all securities in this asset class. Cash flow models incorporate: the forecast energy consumption (by customer class); assumptions on collections and chargeoffs; the true-up mechanism, including the mandated frequency of true-ups and any allocation factors specified by the order; billing and servicing risks posed by third-party energy providers, if applicable; special tariffs by customer class; CE; and PBPRs.

Modeling Methodology

When analyzing tariff bond transactions, Fitch assumes a permanent and appreciable decline in consumption attributable to various factors, including economic recessions, demographic shifts, co-generation, energy conservation and forecasting errors. Fitch's cash flow stress methodology aggregates these multiple contributory factors and applies a single variance percentage to cash collections to determine if revenue declines from adverse consumption variances are offset in subsequent periods by the application of the true-up mechanism.

'AAAsf' Stress

Fitch has only assigned 'AAAsf' ratings in this sector; therefore, Fitch's new issue methodology only addresses 'AAAsf' rating outcomes. Fitch's new issue methodology includes two stresses, the 'AAAsf' stress and no-industrials stress, as described below. To assign 'AAAsf' ratings, the special tariff cannot be in excess of 20% of the customer bill under both stress scenarios. Fitch's 'AAAsf' stress case stresses the following key model variables, each of which is meant to incorporate multiple risk factors previously described and results in a reduction in cash flows below projections.

Stress Forecast Variance

The first stress variable is applied as a stressed forecast variance to projected consumption. Fitch reviews the consumption forecast provided by the utility (issuer). The stressed variance is intended to incorporate the effect of an economic recession, extreme weather changes, changing usage patterns or general demographic shifts. The 'AAAsf' stressed forecast variance is set at 5.0x the historical five- to 10-year peak absolute forecast variance (i.e. the largest variance, whether the forecast was too high or too low). As a further stress, these stressed variances are applied to the first year and increased 1% annually thereafter for the first 10 years, then by 1.5% for the next five years and 2% thereafter.

Fitch believes the 'AAAsf' stresses appropriately account for potential asset deterioration from future weakness in the U.S. economy. If five to 10 years of historical forecast data are not available, Fitch will review the available history but may apply higher multiples to adjust for limited data.

Reforecasting Stress

Fitch assumes that, even as actual consumption declines below original forecasts (by the stressed forecast variance above), the utility does not promptly rectify its original forecasts to reflect this adverse variance. Specifically, this stress assumes that a revision of original forecasts (or a reforecasting process) will only commence two years after the stressed forecast variances take effect. Thereafter, forecasts will be aligned with actual experience. However, in the interim two-year period, an inadequate true-up adjustment will occur, resulting in additional cash flow stresses.

Self-Generation/Technology Risk

Fitch assumes that technological uncertainty increases over time, especially for commercial and industrial customers. This would subsequently increase the risk of self-generation or adoption of alternate energy sources as greater technological options become available. To incorporate this risk, Fitch assumes that the stressed variance increases exponentially over the term of the bonds, based on the perceived risk of self-generation or alternate energy sources for the utility's customer base. In some states, the special tariff is imposed even if a consumer switches to self-generation. However, Fitch does not incorporate forecast consumption from this source in its cash flow analysis. In circumstances where consumption has increased or expected to increase, Fitch will consider incorporating additional stresses in the agency's stressed cash flow scenarios, such as the application of a higher multiple to the 10-year peak consumption variance in the 'AAAsf' stress scenario.

Delinquency Rates

To incorporate the effects of delinquency rates on forecast collections, Fitch reviews the utility's historical delinquency experience and applies a 5.0x multiple to the highest delinquency period. If the transaction uses a collections curve, Fitch assumes delays in actual collections beyond the collections curve.

Chargeoffs

Despite utilities' historically low chargeoff ratios, Fitch applies chargeoff ratios at 5.0x the five- to 10-year historical peak chargeoff. The historical data to be analyzed may vary based on the credit quality and term of the deal.

Successor Servicer Fee

The 'AAAsf' stress case assumes that a successor servicer is appointed at closing. Accordingly, a higher successor servicer fee (provided for in transaction documents or as specified in the order) is utilized for purposes of cash flow modeling.

To date, only a limited number of servicers have experienced significant credit-related distress. Fitch believes there is a market for backup servicing within this sector. However, there have been limited servicer transfers in prior bankruptcy cases. Due to the essential-use nature of a utility, the servicer was mandated to continue to service their portfolios, having no impact on securitization performance. Fitch has not been aware of any utility bankruptcies that have had a material impact on Fitch-rated ABS transactions.

Billing Risk

Fitch assumes that, each year, cash flows relating to the month with the largest billed amount are fully written off due to a servicing disruption event.

Additional 'AAAsf' Stresses (If Applicable)

Third-Party Billing Agent Default

In jurisdictions where third-party energy providers are allowed to perform consolidated billing, the 'AAAsf' stress model incorporates a test of the transaction's maximum exposure to third-party collections. To test the effect of a potential third-party default, the stress case assumes third parties take over billing for a large percentage of the customer base and default each year for the entire term of the bonds. The length of the assumed default and percentage of the customer base affected vary based on the third party's commingling restrictions contained in the statute or order.

Franchise Fee Stress

In certain jurisdictions, franchise agreements between a utility and municipality are required for the utility to use the municipality's right of way (public property) and establish a transmission and distribution system within that particular service area. In circumstances where the utility has entered into franchise agreements permitting it to provide service to municipalities (or parishes) in exchange for a franchise fee, an implied loss is added to base case chargeoff rates, as described below.

Franchise fees payable to a municipality by a utility are typically recoverable from customers. The franchise fee stress assumes that the portion of franchise fees recoverable from

customers in applicable municipalities (as a percentage of the total base revenue of the utility) is not recovered. For example, if $5.00 is recoverable from customers as a franchise fee and the total base case revenue of the utility is $1,000.00, 0.5% is modeled as an implied loss. The implied loss (0.5%) is added to the base case chargeoff level (say, 2.0%) to arrive at 2.5% and a 5.0x multiple is applied to it, resulting in a 'AAAsf' modeled chargeoff rate of 12.5%, instead of 10.0%.

Interest Rate Risks

Fitch will identify any underlying interest rate mismatches in a proposed transaction and analyze the extent to which these positions are mitigated through the transaction's hedging structure, if any. Any relevant hedge counterparties must be consistent with Fitch's "Structured Finance and Covered Bonds Counterparty Rating Criteria," "Structured Finance and Covered Bonds Counterparty Rating Criteria: Derivative Addendum," and "Structured Finance Transactions and Covered Bonds Interest Rate Stresses Rating Criteria," reports, available on Fitch's website at www.fitchratings.com.

Illustrative Example

Example: XYZ Trust Series A

	Period	Residential	Commercial	Industrial	Total
Forecast Growth Rate of Electric Consumption by Customer Class (P.A.) (%)	All Years	1	1	1	—
Forecast Consumption over Time in Kilowatt Hours (kWh)	Year 0	500	200	300	1,000
	Year 1	505	202	303	1,010
	Year 2	510	204	306	1,020
	Year 3	515	206	309	1,030
Distribution of Consumption Across Customer Classes (%)[a]	Initial	50	20	30	100
Allocation Factors (%)	Initial	30	30	40	100
Base Case Special Tariff ($/kWh)	Initial	0.006	0.015	0.013	—
Periodic Bond Payment Requirement (PBPR) (P.A.) ($)	Initial	—	—	—	10
Allocation of PBPR Burden Across Customer Classes ($)[b]	Initial	3	3	4	10

[a]Equals forecast consumption for a given customer class divided by the sum of the forecast consumption across all customer classes (for the initial year) in kWh. [b]Equals forecast consumption for a given customer class (in kWh) times the base case special tariff (for the initial year). P.A. – Per annum.
Source: Fitch Ratings.

To illustrate the application of the 'AAAsf' stress case, a hypothetical tariff bond transaction has been created — XYZ Trust Series A, with XYZ Utility Co. as the sponsoring utility. As shown in the table above, XYZ Co. provides electric service to three customer classes (residential, commercial and industrial), which accounted for 50%, 20% and 30% of total consumption in that service territory, respectively, as of the closing date.

Calculation of the Special Tariff at Each True-Up Period

The special tariff is assessed against each customer bill based on consumption (energy usage in kilowatt hour [kWh]) and is required to be adjusted via the true-up mechanism once every year. The order establishing the special tariff also stipulates that the revenue burden each period, or the PBPR, of $10 be allocated among the three customer classes in a specific proportion. These relative revenue proportions are referred to as allocation factors and are stipulated in the order.

The initial allocation factors require that the PBPR be allocated 30%, 30% and 40% among the residential, commercial and industrial customer classes, respectively. The order allows for allocation factors to be updated periodically to reflect changes in average demand across customer classes over time and to facilitate cross-collateralization across customer classes.

However, for purposes of cash flow modeling, the cash flow model may assume that allocation factors remain fixed, which creates higher volatility in the special tariffs than would actually occur.

As the expected distribution of consumption by customer class need not match the prescribed distribution of revenue burden by customer class, a uniform special tariff cannot be levied across all customer classes. Therefore, on each true-up date, the model solves for a special tariff applicable to each of the three customer classes, which would not only be sufficient to meet the PBPR but also maintain the integrity of the two relative distributions described above. Based on this methodology, the initial special tariffs are 0.6, 1.5 and 1.3 cents/kWh for the residential, commercial and industrial classes, respectively.

'AAAsf' Stress Variables

Fitch first applies a multiple of 5.0x to XYZ Co.'s historical 10-year peak consumption variance of 5%, 2% and 10% experienced in the residential, commercial and industrial classes, respectively. For the residential class, this translates into a stress forecast variance of 25% in year 0, which means that only 75% (i.e. 375 kWh) of the original forecast consumption of 500 kWh is realized. This stressed variance is then increased 1% annually until it reaches 28% on the legal final maturity date (year 3).

A special tariff of 0.6 cents/kWh is levied on the stressed consumption levels (for the residential class), resulting in lower billed revenues relative to the base case. To address billing risk, Fitch assumes that 100% of the billed revenue for the peak billing month (say, September) in each year is written off with no recovery. Next, to model delays in the collection of billed revenues, the collection curve is lengthened such that 50% of the amounts billed for the first two months are subject to a 30-day delay. Fitch also applies a 5.0x multiple to peak chargeoffs of 2%, resulting in stressed chargeoffs of 10%. Additionally, the increased successor servicer fee of 1% (the maximum fee permitted by the order) is utilized for purposes of cash flow modeling.

No-Industrials Stress

This case is designed to test the risk from self-generation and new technologies, which is more inherent in this asset class. In service territories deemed to have industrial concentrations, Fitch tests the ability of the transaction to withstand the complete loss of consumption from the industrial class, assuming base case conditions hold. Stress tests may be further customized for specific industry concentrations that pose higher than normal credit and/or cogeneration risk.

The goal of this scenario is to analyze the impact on peak special tariffs for residential, commercial and other customer classes if all the industrial customers were to leave the service territory upon a transaction's closing.

Fitch 'AAAsf' Stress Scenario

Stress Variable: Variance and Consumption Stress (%)	Residential	Commercial	Industrial (%)
Highest Absolute Total Variance (10-Year Historical)	5	2	10
AAAsf Stress (5.0x Highest Absolute Variance)	25	10	50
% Increase in Variance Stress Each Year	1	1	1

	AAAsf Variance (%)	AAAsf Consumption[a]	AAAsf Variance (%)	AAAsf Consumption[a]	AAAsf Variance (%)	AAAsf Consumption[a]
Year 0	25	375.0	10	180.0	50	150.0
Year 1	26	373.7	11	179.8	51	148.5
Year 2	27	372.3	12	179.5	52	146.9
Year 3	28	370.9	13	179.3	53	145.3

Stress Variable: Delinquency Stress	Base Case (%)	AAAsf (%)
Paid on Due Date	40	20
One Month Overdue	44	42
Two Months Overdue	8	20
Three Months Overdue	4	2
Four Months Overdue	1	2
Five Months Overdue	1	2
Six Months Overdue	0	2
Never Collected	2	10
Chargeoff Stress (5.0x Historical 10-Year Peak Chargeoffs)	2	10
Servicer Fee: Successor Servicer Fee	0.25	1.00
Billing Risk	N.A.	One-Mo. Writeoff

[a]AAAsf consumption equals base case consumption times one minus variance. N.A – Not available.
Source: Fitch Ratings.

Rating Assumption Sensitivity

Fitch's rating assumption sensitivity analysis seeks to determine the break-even rate of consumption decline a transaction could withstand before leading to a default in the payment terms of the transaction. In its analysis, Fitch utilizes its cash flow model to decrease the rate of consumption in 1% increments until the amounts collected are no longer enough to meet the minimum interest required each period or fully repay principal by the legal final maturity date (provided that nonpayment of principal according to the amortization schedule does not constitute an event of default under the bonds).

Fitch's sensitivity analysis is reviewed to understand the amount of adverse consumption variance that the transaction could withstand in a situation of a material decline in electricity demand. The goal of this scenario is to stress only one variable, the variance in consumption; therefore, all other assumptions should be consistent with the base case.

Generally, the period between the transaction closing date and first payment date is the most sensitive to consumption declines. This is because reduced tariff collections resulting from significant declines in consumption early in a transaction's life cannot be corrected until the first true-up date. Also, first payment dates often tend to follow more than six months after the transaction's close, as opposed to normal semiannual payments, allowing for greater declines in consumption than would typically be expected from a six-month payment interval. The exact cases developed to achieve this goal will vary by transaction.

Counterparty Risk

The following section highlights some counterparty risks to utility tariff ABS transactions. However, Fitch's counterparty analysis should be considered in conjunction with the relevant

counterparty risk criteria. For more information on counterparty risk, refer to Fitch's "Structured Finance Transactions and Covered Bonds Counterparty Rating Criteria," which includes Fitch's rating criteria for assessing the operational risk of servicers of structured finance products, including ABS.

Commingling

As tariff charge remittances are received by the utility (as servicer), transaction documents may allow for commingling of such remittances with the utility's funds for a short period. This presents the risk that, in the event of servicer bankruptcy, such remittances could be deemed to be part of the utility's bankruptcy estate. However, in accordance with Fitch's counterparty criteria, the agency views this risk as being largely mitigated because as remittances are received on a daily basis, they are transferred from the utility to the transaction-specific lock box within a short period (in most cases, within two business days). This limits the likelihood of a substantial amount of trust cash flows being commingled with the utility's other collection accounts.

Furthermore, utility tariff/stranded cost ABS' waterfall structures generally allow principal payments to be used to pay interest, while subsequent scheduled principal amortization shortfalls are covered via the true-up mechanism. (Fitch's counterparty criteria stipulate that supplementary CE, in this case, the true-up mechanism, can be sufficient to address short-term commingling risk.)

Transactions that do not allow for principal to pay interest or contain other structural features that negate this mitigant are expected to follow the requirements governed in Fitch's counterparty criteria. To date, Fitch has not rated a utility tariff/stranded cost transaction that did not allow for principal to pay for interest. Moreover, as described in Fitch's Cash Flow Modeling section on page 9, its 'AAAsf' stress scenario includes stresses that are intended to address each transaction's ability to withstand servicing disruptions.

Seller/Servicer (Utility Provider) Operational Analysis

Fitch recognizes that the quality, stability and financial condition of the seller/servicer's operations have a meaningful impact on the performance of utility tariff/stranded cost ABS transactions. Fitch's utility tariff/stranded cost/stranded cost ABS ratings include an evaluation of the seller/servicer. Historically, these transactions are serviced by the originator (the utility) of the assets. Fitch considers the servicing disruption risk low for the sector given the relative ease of servicing these type portfolios, established servicing standards, essential use nature of utilities and limited instances of bankruptcies. In the two instances where the utility filed for bankruptcy, the court affirmed the bankruptcy due to the essential use nature of electricity and allowed the utility to continue to charge and service the special tariff.

For these reasons, Fitch does not usually look for backup servicing arrangements or similar risk mitigants in its analysis. However, if servicing continuity risk is present (e.g. weak servicer credit quality and limited servicing experience), Fitch will analyze the servicing disruption risk in line with criteria outlined in its "Structured Finance and Covered Bonds Counterparty Rating Criteria" report, which typically calls for other mitigating factors, such as backup servicing arrangements, to maintain high investment-grade transaction ratings.

The utility is normally designated to act as servicer for the bonds, performing activities such as billing, calculating and collecting the tariff; calculating and filing for true-up adjustments; and forecasting sales and usage. In circumstances where a third-party energy service company performs consolidated billing, the utility functions as master servicer to consolidate and supervise collections from third parties. Utilities normally have extensive experience in the functions necessary to act as servicer. Also, a utility's ability to terminate utility services to nonpaying consumers is a strong incentive for bill payment. Additionally, the utility has an ongoing interest in continuing to perform billing and collection services, since it retains the majority of the total tariff. As such, Fitch's review of the seller/servicer focuses primarily on the utility provider.

Fitch expects to conduct a review of the utility's operations, including its credit evaluation processes, usage forecasting and servicing divisions, combined with a corporate review, prior to assigning ratings for new issuers. These reviews are often completed in conjunction with

Fitch's Corporate Global Power and ABS groups. Fitch's operational analysis focuses on three main factors:

- corporate performance, including operational and financial stability;
- the capabilities and quality of credit evaluation processes and usage forecasting; and
- the capabilities and quality of servicing operations.

Given the essential use nature of utilities, there have been limited instances of bankruptcies that have led to servicer transfers. Furthermore, the servicing is generally uniform across utilities allowing for relative ease of servicing transition, if required. As such, Fitch typically does not complete post-close operational reviews. However, if unique circumstances arise such as significant changes in utilities' staff or operational changes that could have a negative impact of the transactions performance, Fitch would speak with senior management to gain an understanding of the changes and assess the impact on servicing.

Corporate Overview

An understanding of the company's history, structure, strategic objectives, management experience and funding capabilities is key to the operational review undertaken by Fitch. Ultimately, the servicer's strength affects Fitch's performance expectations, as well as its counterparty risk analysis.

Fitch believes that the financial condition of a company/servicer has a direct impact on the stability of its operational platform and, ultimately, on the performance of utility tariff/stranded cost ABS transactions. Fitch considers several factors and quantitative metrics in reviewing a company's financial condition to assess a seller/servicer's business viability, operations and financial health. These include available public credit ratings and, if not available, internal credit opinion will be conducted by Fitch. For companies not rated by Fitch, the agency expects to receive at least three years of audited financial statements, history of profitability and sources and levels of capital and liquidity.

As part of the evaluation, Fitch reviews merger/acquisition activity, expansion plans or intentions to exit or scale back specific businesses that could influence operating performance. Aggressive growth objectives involving acquisitions require greater scrutiny of the utility's volume capacity and resources, as well as integration planning and execution.

While a sub-investment-grade utility may be an acceptable servicer based on its operational qualifications, Fitch expects the transaction to provide for the right to replace the utility with an alternate servicer in the event of a decline in credit rating, insolvency or failure to perform any of the duties of servicer. The order and/or transaction documents typically incorporate a successor servicer fee sufficient to adequately compensate a backup servicer that takes on this role.

Although Fitch views positively such backup servicer provisions in transaction documents, the lack of such provisions per se is not likely to limit a potential 'AAAsf' rating. However, as explained in the Utility Successor Requirements section on page 4, Fitch views it as imperative that the statute or order create an obligation on the commission or the equivalent agency of the state to ensure that, in the event of the incumbent utility's sale or bankruptcy, the successor to the utility (at the very least) be ordered to continue servicing the tariff bonds.

Fitch looks at the experience and tenure of the underwriting and servicing employees on three levels: senior management, middle management and staff. Employee hiring, turnover and retention are important issues reviewed, as are the stability and depth of the management team. Training programs are included in the evaluation of a seller/servicer.

Fitch may adjust or cap the ABS ratings issued on a securitization, adjust base case assumptions or decline to rate a transaction in cases where the agency believes it is merited based on its review of the utility. Reasons for doing so could include poor financial or operational strength and/or low corporate rating/credit assessment of an issuer/servicer/parent; inadequate ability or lack of experience in servicing or operational ability; and inadequate financial, operational or performance data/information provided by the applicable party.

Credit Evaluation

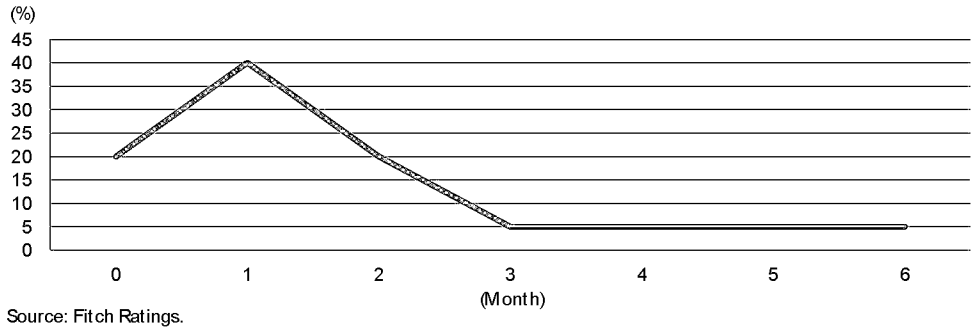
Under state law or regulations, a utility is typically required to provide service to all customers, regardless of the customers' creditworthiness. In some states with dramatic swings in temperature, utilities may be prohibited from disconnecting service during extremely hot or cold seasons. For these reasons, an important factor in a utility's assessment of its customers is the utility's requirement of additional security from riskier customers. If service cannot be denied, most utilities require a security deposit for new customers or those who pose a greater credit risk.

Forecasting

Since scheduled principal amortization is based on the utility's sales forecasts, it is important to assess the utility's forecasting ability and accuracy. Utilities generally maintain econometric models that relate historical values of energy variables to measures of the weather, economy and number of customers. Fitch reviews the utility's actual sales for prior periods relative to historical sales forecasts to determine the peak unfavorable forecast variance and the reasons for such variance for each customer class included in the securitization. These results are used in the cash flow stress scenarios, as outlined in the Cash Flow Modeling section and stress cases, starting on page 9.

Collections, Delinquencies and Chargeoffs

Sample Collection Curve —% of Billed Revenues Collected



Source: Fitch Ratings.

The utility is expected to have a well-established process for pursuing and collecting delinquencies. However, since customers consider electricity or gas for heating an essential service, historical chargeoff and delinquency rates for utilities tend to be relatively low, compared with other consumer assets. It is not unusual for utilities to experience 0.50% average chargeoffs for a 20-year period. An important factor in the evaluation is whether the delivery utility is able to disconnect service for nonpayment, even if a third-party energy provider is supplying power. In some states, the ability to disconnect may be delayed or prohibited in the case of a third-party supplier, resulting in higher delinquencies and chargeoffs.

Billing and Remittances

Typically, the special tariff is billed by the utility as a separate line item on the customer's bill, but, in some cases, it is bundled into a single aggregate charge and not specifically identified on the bill. The utility's billing systems are expected to be able to incorporate multiple components of billing information. As part of the rating process, Fitch reviews the utility's billing systems to determine whether they are adequately prepared to identify the special tariffs and track collections.

When the special tariff is billed and collected by the utility as servicer, along with other charges that belong to the utility, it is the responsibility of the utility as servicer to calculate the proportion of collections that belong to the SPV. Absent billing and remittance processing systems that permit the utility as servicer to identify the proportion of the bill payment by each individual consumer corresponding to the special tariff and remit the actual collections, most transactions use an alternate approach to allocate collections to the SPV.

A common alternative is the use of a collections curve to approximate the actual collections. A collections curve specifies the required percentage of each bill that must be remitted to the

Servicer Checklist

- Forecasting methods and accuracy.
- Procedures for assessing customer credit.
- Collections process, notice and disconnection policy.
- Historical delinquency and chargeoff data.
- Billing systems.
- Procedures for coordinating with third-party energy providers (if applicable).
- Limitations on commingling of securitized tariffs.
- Requirements and fees for alternate servicers.

trust. The curve is calculated by the servicer based on an historical average percentage of bills collected by month, with percentages adjusted periodically based on updated collections experience.

Another method utilized to approximate actual collections is to remit estimated collections based on the utility's historical experience of the average number of days customers' bills remain outstanding. Similar to the collections curve method, the percentages of days outstanding are adjusted periodically to reflect more recent collections experience.

Self-Generation and Alternate Technologies

Because the special tariffs are assessed on energy delivery services, the market entrance of alternative energy providers is not expected to affect tariff receipts. However, in some jurisdictions, customers could potentially avoid payment of the special tariff by performing energy generation on site and disconnecting completely from the distribution grid in the case of electricity or switching to an alternate fuel in the case of natural gas.

Tariff bonds are subject to a potential risk if a substantial number of electric power consumers switch to existing or new technologies to generate power for their own use (called self-generation or autoproduction) or purchase power from a local source delivered without the use of the utility network. In aggregate, these decentralized sources are known as distributed generation. Based on data provided by utilities within the utility tariff/stranded cost ABS sector, Fitch considers it unlikely that a significant portion of the customers will implement self-generation or distributed generation immediately or that alternative technologies will develop sufficiently within the next five to 10 years to allow for widespread disconnection from the utilities' grid.

Performance Analytics

After a rating has been assigned by Fitch, the ongoing monitoring of such rating is transitioned to a primary analyst. The analyst is responsible for collecting and analyzing relevant transaction data and presenting collected information to a rating committee, as described below. Although monitored upon receipt of a servicer certificate, each transaction is reviewed at least once annually. Fitch will review and resolve any identified potential data issues prior to proceeding with the analysis of that transaction. If data critical to the analysis are unavailable or determined to be insufficient, Fitch may consequently withdraw the related ratings.

Fitch expects to receive periodic servicer certificates, received at least annually, to be utilized in its review process. Servicer certificates and performance for every transaction are tracked on a quarterly or semiannual basis, depending on bond payment frequencies. Based on performance data, if bonds are not amortizing as expected or if capital or overcollateralization subaccounts are not at levels required by the transaction's documentation, an analyst will make inquiries with the issuer, possibly triggering an in-depth review. Transaction-specific performance is published on Fitch's surveillance website. Metrics such as bond amortization, collections and CE levels are tracked and available to investors.

Utilizing the data gathered from the servicer certificates and aggregated on Fitch's internal database, the analyst evaluates the various performance metrics listed above. These metrics are compared with initial expectations and industry/sector trends. Fitch will contact the servicer/issuer if additional detail is needed regarding performance changes within the transaction. Additional information requests may include further tariff detail, billing collections and color on consumption variance.

Furthermore, Fitch expects to receive data demonstrating the size of the tariff charge relative to the total customer bill to verify that the charge is not approaching threshold levels. To date, Fitch has not employed the use of its cash flow model as part of the review process, as other performance measures as described above are sufficient for Fitch's analysis. Given the effectiveness of the true-up mechanism in all Fitch-rated transactions, there have not been any negative rating actions taken in this sector. However, in a circumstance where the true-up does not provide adequate credit support, resulting in shortfalls in the subaccounts, significant changes in amortization and an increase in the tariff beyond the 20% threshold, a more in-depth review of the transaction would be completed.

The more in-depth review would include updated stress cash flow modeling scenarios. Updated consumption forecast are not included in the aforementioned servicer certificates. However, as part of the in-depth review, Fitch would expect to receive an updated consumption forecast from the utility. Consistent with the rating methodology for new transactions, Fitch would apply a 5.0x multiple to the absolute peak variance for each customer class and the peak net loss/chargeoffs in its cash flow model. Additionally, the incorporation of all the 'AAAsf' stresses detailed on pages 9-13 would also be included. The goal of this analysis is to evaluate the impact on the peak special tariff as a percentage of the residential customer bill.

A tariff in excess of 20% would not be consistent with a 'AAAsf' rating. In circumstances where the tariff is in excess of 20%, utilizing the 5.0x multiple on the variance and net loss/chargeoff assumptions would suggest a potential for negative rating action. As such, Fitch would incorporate lower multiples for lower rating categories in its cash flow modeling scenarios. The rating multiples applied would be 4.0x, 3.0x and 2.0x for 'AAsf', 'Asf' and 'BBBsf', respectively. For example, if under a 4.0x multiple on the variance and net loss/chargeoff assumptions resulted in the peak tariff falling below the 20% threshold, the transaction would be considered for a downgrade to 'AAsf' from 'AAAsf'. Of note, the above referenced multiples only apply to the review of existing transactions that are performing materially outside of expectations. Fitch has only assigned 'AAAsf' ratings within the sector for new issuances and the assumptions detailed herein are considered 'AAAsf' only assumptions. Counterparties to an outstanding transaction, such as servicers, trustees and derivative providers, can affect the cash flow, liquidity and performance of the transaction. Consistent with the initial review, Fitch reviews all transaction counterparties during a subsequent review to determine whether they continue to meet Fitch's criteria. Furthermore, analysts receive notice of all rating actions taken on counterparty ratings on a daily basis, as the downgrade of a transaction counterparty below a certain threshold will trigger a subsequent review, regardless of the performance of the transaction to date. Details of Fitch's counterparty criteria can be found in "Structured Finance and Covered Bonds Counterparty Rating Criteria."

Variations from Criteria

Fitch's criteria are designed to be used in conjunction with experienced analytical judgment exercised through a committee process. The combination of transparent criteria, analytical judgment applied on a transaction-by-transaction or issuer-by-issuer basis and full disclosure via rating commentary strengthens Fitch's rating process while assisting market participants in understanding the analysis behind our ratings.

A rating committee may adjust the application of these criteria to reflect the risks of a specific transaction or entity. Such adjustments are called variations. All variations will be disclosed in the respective rating action commentaries, including their impact on the rating where appropriate.

A variation can be approved by a ratings committee where the risk, feature or other factor relevant to the assignment of a rating and the methodology applied to it are both included within the scope of the criteria, but where the analysis described in the criteria requires modification to address factors specific to the particular transaction or entity.

Criteria Limitations

Ratings, including Rating Watches and Outlooks assigned by Fitch, are subject to the limitations specified in Fitch's Ratings Definitions page at www.fitchratings.com.

Appendix: Additional Legal Considerations

Fitch's analysis of the legal risks in tariff bond transactions is comparable to its analysis of other structured finance transactions. For more detail on considerations related to the analysis of structured finance transactions, see Fitch Research on "Global Structured Finance Rating Criteria." There are also some unique aspects to the analysis of utility tariff/stranded cost/stranded cost transactions and, therefore, Fitch also considers:

- enforceability and constitutionality of the statute/order/pledge;
- the rights of and effect on bondholders upon an action seeking to impair the rights established pursuant to the statute/order and transaction documents under the U.S. Constitution and the relevant state constitution;
- the severability of the provisions of the statute/order; and
- the ability of citizens of the relevant state to seek to amend or repeal the statute/order and the likelihood of success.

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State of Hawaii Department of Business, Economic Development and Tourism Green Energy Market Securitization Bonds 2014 Series A

Utility Tariff/Stranded Cost Bonds Asset-Backed Securities

Presale Report

Inside This Report

Related Presale Appendix

State of Hawaii Department of Business, Economic Development and Tourism Green Energy Market Securitization Bonds 2014 Series A (October 2014)

Related Criteria

Rating Criteria for U.S. Utility Tariff Bonds (December 2013)

Global Structured Finance Rating Criteria (August 2014)

Counterparty Criteria for Structured Finance and Covered Bonds (May 2014)

Criteria for Servicing Continuity Risk in Structured Finance (July 2014)

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Capital Structure

Tranche	Expected Rating	Expected Outlook	Size (%)	Amount ($Mil.)	Expected Interest Rate (%)	Legal Final Maturity
A-1	AAAsf	Stable	33.33	50.00	TBD	7/1/22
A-2	AAAsf	Stable	66.67	100.00	TBD	1/1/31
Total			**100.00**	**150.00**		

Expected ratings do not reflect final ratings and are based on information provided by the issuer as of Oct. 28, 2014. These expected ratings are contingent on final documents conforming to information already received. Ratings are not a recommendation to buy, sell or hold any security. The prospectus, prospectus supplement and other material should be reviewed prior to any purchase. Note: Tranche thickness metrics do not apply to utility tariff transactions. TBD – To be determined.

Transaction Summary

Fitch Ratings expects to rate the State of Hawaii Department of Business, Economic Development and Tourism Green Energy Market Securitization Bonds 2014 Series A (GEMS) as listed above. The bonds are being issued by the state of Hawaii (the issuer), acting through the Department of Business, Economic Development and Tourism (DBEDT, or the department). The property consists of the right to bill, collect and adjust a nonbypassable fee (green infrastructure fee [GIF]) on all existing and future electric utility customers of Hawaiian Electric Company, Inc. (HECO).

Key Rating Drivers

Statutory and Regulatory Framework: The strength and stability of the underlying GIFs are established by the financing order issued by the state as part of Act 211. The financing order establishes the irrevocable and nonbypassable GIFs and defines bondholders' property rights in the green infrastructure property. The financing order contains the key elements important in a utility tariff/stranded cost securitization.

Adequate Credit Enhancement via True-Ups: Mandatory, semiannual true-up filing to adjust the GIFs to ensure collections is sufficient to provide all scheduled payments of principal and interest, pay fees and expenses and replenish the debt service reserve account (0.50%). Furthermore, optional interim true-ups and quarterly true-ups may occur, if necessary, to make all timely payments.

Supports 'AAAsf' Stresses: Customer count changes can be impacted by various factors, such as demographic shifts in total population, income, unemployment rates, mortality rates, fertility rates and net migration. These factors present greater risk in this transaction relative to others in this asset class, given the longer tenor of the GEMS bonds. Fitch's 'AAAsf' scenario analysis stresses key model variables, such as customer count variance, chargeoff rates and delinquencies, to address this risk.

Sound Legal Structure: Fitch reviews all associated legal opinions furnished to analyze the integrity of the legal structure *(refer to the Legal Structure and Analysis section on page 8 for further detail related to the legislation).*

This presale report reflects information at the time that Fitch's Expected Ratings are issued and as of the date of this report. Investors should be aware that the transaction has yet to be finalized and changes could occur. Investors should refer to Fitch's related Rating Action Commentary issued at transaction closing for final ratings. Final ratings include an assessment of any material information that may have changed subsequent to the publication of the presale.

Transaction Comparison

	State of Hawaii Department of Business, Economic Development and Tourism Green Energy Market Securitization Bonds 2014 Series A	Utility Debt Securitization Authority Restructuring Bonds Series 2013T and Series 2013TE	FirstEnergy Ohio PIRB Special Purpose Trust 2013
Closing Date	11/13/14[a]	12/18/13	6/20/13
Note Balances ($ Mil.)			
Class A-1	50.00	Class T-1 to T-4 (482.93)	111.97
Class A-2	100.00	Class TE-1 to TE-17 (1,539.42)	70.47
Class A-3	N.A.	N.A.	262.48
Aggregate Balance	150.00	2,022.35	444.92
Interest Rate (%)[b]			
Class A-1	1.50	Class T-1 to T-4 (2.86)	0.68
Class A-2	3.77	Class TE-1 to TE-17 (5.00%)	1.73
Class A-3	N.A.	N.A.	3.45
Expected Maturity (Years)	6	26	21
Legal Final Maturity(Years)	15	28	23
Initial Tariff Charge (Cents/kWh)	1.41[d]	1.26	— The Cleveland Illuminating Company (0.3920) Ohio Edison Company (0.3308) The Toledo Edison Company (0.0253)
Initial Tariff Charge (% of Residential Bill)	0.86[e]	6.75	— The Cleveland Illuminating Company (3.07) Ohio Edison Company (2.54) The Toledo Edison Company (0.19)
Initial Customer Class Allocation Factors (%)			
Residential	45	—	Residential (63.61)
Commercial	55% on Pro-Rata Basis between Small, Medium and Large Commercial and Street Lighting	—	Commercial and Small Industrial (18.29)
Street Lighting		—	Large Industrial (17.73)
Other		—	Other (0.38)
Capital Subaccount (%)	0.50	0.50	0.50/1.75
Fitch Ratings			
Class A-1	AAAsf (Rating Outlook Stable)[c]	AAAsf (Rating Outlook Stable)	AAAsf (Rating Outlook Stable)
Class A-2	AAAsf (Rating Outlook Stable)[c]	AAAsf (Rating Outlook Stable)	AAAsf (Rating Outlook Stable)
Class A-3	N.A.	AAAsf (Rating Outlook Stable)	AAAsf (Rating Outlook Stable)

[a]Subject to change. [b]Per annum. [c]Expected. [d]Estimated charge provided by HECO. [e]Based on estimated annual average residential bills provided by HECO. N.A. – Not applicable.

Transaction Parties

Role	Name	Fitch Rating
Issuing Entity	State of Hawaii Department of Business, Economic Development and Tourism (DBEDT)	NR
Issuer	DBEDT	NR
Master Servicer/Seller/Parent Company	Hawaiian Electric Company, Inc. (HECO)	BBB+/Stable
Seller/Subsidiary	Hawaii Electric Light Company, Inc. (HELCO)	BBB+/Stable
Seller/Subsidiary	Maui Electric Company, Limited (MECO)	BBB+/Stable
Indenture Trustee	U.S. Bank, National Association	F1+/AA–/Stable
Lead Underwriter	Goldman Sachs, & Co.	F1/A/Stable

NR – Not rated.

Credit Analysis

The cash flow supporting the GEMS bonds is generated by payments from all electric customers in HEI's service area. Fitch reviewed the customer composition of HEI's service area to determine the size of the customer base (customer counts), chargeoffs, regional economic sensitivities and weather-related seasonality. Base case assumptions are derived based on this review. Unlike most utility tariff/stranded cost ABS transactions, the GEMS transaction incorporates a fixed, non-usage-based special tariff (GIF) allocated amongst customers of each electric utility. Furthermore, the GIF and true-up mechanism is sized off of forecast levels of customer counts versus forecast consumption levels.

Utilizing this methodology results in more level debt service relative to consumption-based structures. While this methodology may differ, Fitch's analysis and 'AAAsf' stress assumptions applied to the base case assumptions were consistent with its rating criteria. These stressed scenarios are incorporated in cash flow modeling scenarios described in the Cash Flow Analysis section on page 5.

As the U.S. economy continues to experience a slow recovery, any material negative shifts in this process could reverse historical performance trends; the highest absolute customer count variance and chargeoffs were utilized as base assumptions. Consistent with Fitch's 'AAAsf' stress scenario, the base case assumptions were stressed by a 5.0x multiple. Fitch believes the 'AAAsf' stresses account for potential asset deterioration from future weakness in the U.S. economy. See Fitch Research on "United States of America," dated September 2014, available on Fitch's website at www.fitchratings.com, which was used to evaluate the implications of current economic conditions.

Criteria Application

Fitch's credit and legal analysis, modeling assumptions and cash flow results for the transaction's expected ratings are consistent with its existing utility tariff criteria (*for more information, see Fitch Research on "Rating Criteria for U.S. Utility Tariff Bonds," dated December 2013*).

Data Adequacy

Customer count forecast data provided by HECO were used in Fitch's analysis. Forecasts are prepared using data based on income, unemployment rates, income levels, mortality rates, fertility rates, net migration and tourism levels. HECO provided Fitch with 10 years of forecast customer count data from 2004–2013 for residential, small commercial, medium commercial,

large commercial and street lighting customers. These data were provided by each of the three service providers. In addition, HECO provided annual writeoff, delinquency and days outstanding (DSO) data for each utility dating back to 2004.

The data Fitch received from HECO were deemed adequate, and, thus, no adjustments were applied to Fitch's analysis. A portion of the data provided by the issuer and transaction sponsor was audited by an internationally recognized accounting firm. The audited data will be included in the offering memorandum. Fitch compared customer count forecast and gross and net chargeoff data provided in the offering memorandum. Fitch believes the base case variance forecast and chargeoffs derived utilizing this customer count and chargeoff data are reasonable, compared with the data provided in the offering memorandum, and, as such, no adjustments were made to Fitch's analysis.

Additionally, Fitch relied on detailed stratifications of the collateral pool to ascertain the characteristics of the pool that could impact transaction performance. The stratifications provided by the issuer and transaction sponsor that are also in the prospectus supplement will be audited by an internationally recognized accounting firm. Fitch compared the two sets of data and found the stratifications provided in the offering memorandum to be substantively the same as those provided to Fitch. As such, no adjustments were made to Fitch's analysis.

Model

Fitch utilized a proprietary internal cash flow model, which is customized to reflect the payment structure of the transaction and tests the impact of stressing various assumptions, including historical writeoff and customer count variance patterns. The output of the cash flow model is reviewed to verify that the rated bonds are fully paid under each stress scenario.

Cash Flow Analysis

Fitch integrates the primary asset- and liability-side data presented in the underwriter model into its own, internal, utility tariff bond cash flow model. The assumptions embedded in the Fitch cash flow model are customized to reflect the terms outlined in the financing order and other transaction documents. Such an approach provides Fitch with a consistent basis for comparison across different utility tariff transactions and the flexibility to layer on additional stress parameters, if any, not already factored in underwriter models. While the cash flow model is taken into consideration in determining the final rating, ratings are ultimately assigned by a Fitch credit committee, which takes into consideration both quantitative and qualitative factors.

Fitch's methodology focuses on applying an absolute variance percentage to collections of the GIF cash flows. For the purposes of this transaction, Fitch has applied variance percentages separately to forecast customer counts of each customer class. As detailed in the financing order, the GEMS transaction incorporates a fixed non-usage-based special tariff allocated amongst customers of each electric utility. The financing cost will be allocated 45% to residential customers and the remaining 55% to the nonresidential class. The nonresidential class is further segmented into subclasses defined as small commercial, medium commercial, large commercial and street lighting. The nonresidential allocation factor will remain fixed at 55%, unless any of the subclasses of customer counts declines by more than 50%. In such an event, the loss of each incremental customer of each subclass will result in the reallocation of costs, pro rata, to the remaining subclasses. Effectively, material declines in customer count within the nonresidential customer base will not impact the GIF on the residential customer class.

Additionally, the true-up mechanism is sized off of the forecast level of customer counts versus forecast consumption levels. Utilizing this methodology results in more stable debt service relative to consumption-based structures. While this methodology may differ from that of typical utility tariff/stranded cost ABS transactions, Fitch's analysis and 'AAAsf' stress assumptions applied to the base case assumptions were consistent with its rating criteria. Risk factors include economic recession, demographic shifts (including population, income, unemployment rates and net migration) and errors in forecasting customer counts.

The ability of the transaction to withstand significant stresses demonstrates the effectiveness of the true-up mechanism. However, another key consideration is an evaluation of the resulting GIF in relation to the total customer bill. Fitch believes that if the GIF becomes a significant portion of the total bill, the incentive to find ways to bypass the system and avoid the charge increases. For this transaction, GIFs charged to residential customers should remain stable over the life of the transaction.

Base Case

Fitch's criteria assume that special tariffs (under all scenarios) in excess of 20% of the residential customer's bill over a long financing term would be inconsistent with a 'AAAsf' rating. The initial charge would represent approximately 0.86% of the total residential bills. The historical customer count variance has been relatively stable; therefore, the GIF as a percentage of a residential customer's bill is generally stable.

The base case cash flow projection utilizes the forecast of customer counts from the service providers and assumes that collections and losses are consistent with historical experience. Over the term of the bonds, the GIF charged to customers is expected to remain mostly stable for customers across the three service providers.

'AAAsf' Stress Case

Fitch's 'AAAsf' stress case stresses several model variables, each of which is meant to incorporate multiple risk factors resulting in a reduction in cash flow below projections. The base customer count forecast errors for residential, small commercial, medium commercial, large commercial and street lighting customers are 8.77%, 11.47%, 17.90%, 18.20% and 62.40%, respectively. The forecast errors represent 5.0x the historical, 10-year-peak, absolute-value forecast customer count variance for each customer class between 2004 and 2013.

For the residential, small commercial, medium commercial, large commercial and street lighting customers, these base errors were applied to the first year and increased 1% annually thereafter for the first 10 years, then by 1.5% for the next five years and 2% thereafter. This resulted in forecast errors in year 16 of 27.27%, 29.97%, 36.40%, 36.70 and 80.90%, respectively. The stress levels are a proxy for uncertainty associated with event risks. In applying these variances, Fitch also assumes HECO's forecast customer count is at base case levels for each customer class for two years before correctly reforecasting for the stressed customer count levels.

To address collection risk and the possible risk of default by the utilities, Fitch also assumed that 100% of billings in the peak one month of revenue (August) in each year are charged off, with no recovery. In addition, the successor servicing fee was modeled at the maximum 0.75% of the initial principal amount of the bonds.

Fitch also applied a multiple of 5.0x to the historical 10-year-peak chargeoffs. HECO was unable to provide chargeoff data segmented by the five customer classes for each of the utilities. Therefore,

Fitch's 'AAAsf' net chargeoff assumption was based on the weighted average peak chargeoff on the utilities' aggregate portfolios. This resulted in net chargeoffs of 1.20% (0.24% times 5.0) for each customer class. To model delinquencies, the collection curve is lengthened such that 50% of collections for billed amounts are subject to a 30-day delay for two months, with receipt of remaining collections occurring in month four after the billing date. True-ups were assumed to occur on a semiannual basis.

While the application of 'AAAsf' stress assumptions resulted in slight fluctuation of GIFs through the life of the transaction, the overall collections were sufficient to repay the bonds in full prior to the legal final maturity date. This slight fluctuation in GIFs was the result of the implementation of the true-up mechanism to make up collection shortfalls to ensure required payments were met at the next payment date. Notably, the fluctuations in the tariff for the GEMS transaction are significantly less than those of other utility tariff/stranded cost transactions. The key driver for the relatively stable tariff is due to the fixed allocation factors and use of customer counts versus consumption in determining the tariff amount.

In Fitch's analysis, due to the aforementioned methodology and assumptions, the highest GIF amount represented approximately 1.56% of the total rate charged to residential customers, which occurs in the second to last year of the transaction's life. Furthermore, consistent with the state goals in the legislation, Fitch's analysis herein assumes the 30% decline in electric energy consumption is achieved and applied to the average customer bill. This resulted in a lower average bill size for the residential customer and a more conservative GIF as a percentage of the average residential customer bill.

Commercial Stress Case

HEI does not have any industrial customers within its service area. In aggregate, the residential class represents approximately 87% of total customer counts. The remaining 13% are nonresidential customers, with the small commercial class totaling approximately 10%. Typically, Fitch would apply a "no industrial" stress to address concentration risk and risk related to co-generation from large industrial customers. However, due to the fixed allocation factors, any material declines in customer counts for the nonresidential class would not impact the GIF amount on the residential customer class. During a true-up period, the GIF on the nonresidential class would be adjusted on a pro-rata basis to account for any material declines in customer counts. For all scenarios described above, the GIF as a percentage of the total rate charged to residential customers was calculated using the estimated annual average residential bills provided by HECO.

Credit Enhancement

The primary form of CE is the true-up mechanism.

As established in the financing order, the primary source of credit enhancement (CE) is the true-up mechanism. The true-up mechanism requires that the charges are to be reviewed and adjusted semiannually (semiannual true-up) to correct for any overcollections or undercollections of charges during the preceding six months and to provide for the expected recovery of GIFs sufficient to provide all payments of principal and interest and all ongoing financing costs, as well as to replenish the debt service reserve subaccount in connection with the bonds.

In addition to the semiannual true-ups, the financing order allows for true-ups on an interim basis (optional true-up) at any time without limit if the master service provider determines that forecasts of GIF collections will be insufficient to make all payments of principal and interest and ongoing financing costs during the current or next succeeding payment period. Furthermore, if any bonds are

outstanding following the last scheduled maturity date of the bonds or any series, the master service provider is also required to make true-up adjustments quarterly to ensure timely payments.

The master service provider (HECO) is responsible for calculating and making the necessary true-up adjustments in accordance with terms of the servicing agreement. For each adjustment, DBEBT and HECO will file a notice of adjustment with the commission (PUC). This notice will include a description of the adjustment calculation, the mathematical formulas used for such calculations and the amounts of each variable used in the formulas. Pursuant to the financing order, PUC will review and confirm the accuracy of the true-up calculations.

A debt service reserve subaccount equal to 0.50% of the original principal amount of the bonds will be established at closing. A surplus revenue subaccount for the issuer will also be established, which will be funded with excess funds, to the extent available, through the term of the transaction. True-ups will be calculated to utilize and eliminate any deposits in the surplus revenue subaccount.

Both the debt service reserve and surplus revenue subaccounts will be available to fund payment shortfalls. On any payment date, if funds in the general subaccount are insufficient to meet payments of fees, expenses, interest or principal, the trustee will draw first from the excess funds subaccount and then from the reserve subaccount.

Transaction and Legal Structure

Interest Allocation

Interest is payable on a semiannual basis on each payment date. Interest will be calculated on a 30/360 day basis.

Principal Allocation

Principal payments on each class of bonds will be made in accordance with an expected amortization schedule to reduce the principal balance to the amount specified in the amortization schedule for that payment date, but not below that amount. The bonds will pay principal according to the amortization level. Rather, receipts of any excess of the amounts necessary to amortize the bonds according to the amortization schedule will be used to fund deficiencies in the debt service reserve subaccount and will be allocated to the surplus revenue subaccount. Amounts in the surplus revenue subaccount will be taken into consideration in calculating the next true-up adjustment.

Priority of Payments

GIFs are applied semiannually, in the following order of priority:

1) To the trustee for fees, expenses and indemnity amount not in excess of $50,000 in each calendar year.
2) To the servicer providers of the servicing fee (each $2,729/year) or 0.75% for the successor service provider not affliated with HECO.
3) Payment of all other ongoing operating and financing costs.
4) Interest on the bonds and any past due interest.
5) Any principal then required to be paid on the bonds as a result of acceleration upon an event of default or at final maturity.
6) Any principal then scheduled to be paid on the bonds in accordance with the expected amortization schedule.

7) All outstanding operating costs paid pro rata.
8) To replenish any amount drawn from the debt service revenue subaccount.
9) Any remittance excess, to the service providers, paid pro rata.
10) Allocation of the remainder, if any, to the surplus revenue subaccount.
11) Upon full payment of principal and interest on the bonds and all operating costs, any excess balance to be paid to DBEDT for disbursement to PUC.

Events of Default

To protect bondholders from issuer insolvency or deterioration in receivables quality, the trust includes several events of default. The events of default under the Indenture are:

- Failure to pay interest when due, which continues for five business days.
- Failure to pay principal of any tranche of a bond on the final maturity date of such tranche.
- Any act for failure by the state or any of its agencies (including DBEDT and PUC), officers or employees that violates the financing order or the state pledge.
- A breach by the state of representations or covenants that has not been cured within 90 days.
- Failure of the state to file a true-up.
- Failure by the state to fulfill any obligations under the indenture.

If a bond event of default should occur and is continuing, the trustee or holders may declare all the bonds to be immediately due and payable. All the principal payments on the bonds, together with accrued and unpaid interest thereon, shall become immediately due and payable.

Legal Structure and Analysis

The issuer is the State of Hawaii Department of Business, Economic Development and Tourism (DBEDT). DBEDT is a division of the state of Hawaii, which is legally considered a bankruptcy-remote entity. As such, the proposed transaction structure will not include an SPV. The issuer is not permitted to be a debtor under Chapter 9 or any other provision of the bankruptcy code. The issuer will purchase and own the green infrastructure property (the property) to issue the bonds, which are to be secured by the property, and perform any activity incidental thereto. The bonds are special and limited obligations of the state payable from the green infrastructure property (the property).

The property consists of the right to bill, collect and adjust a nonbypassable fee (GIF) on all existing and future electric utility customers of Hawaiian Electric Company, Inc. (HECO), Hawaii Electric Light Company, Inc. (HELCO) and Maui Electric Company, Limited (MECO; collectively, the service providers [utilities]). HECO, a subsidiary of Hawaiian Electric Industries, Inc. (HEI), is the master service provider (servicer) for the transaction. HELCO and MECO are subsidiaries of HECO. The bonds do not constitute a general or moral obligation of the state of Hawaii, and the full faith and credit of the state is not pledged to the payment of principal or interest on the bonds.

DBEDT serves as an advocate for clean energy development, a resource for analytical data and a facilitator for business development for Hawaii. By statute, the director of DBEDT is the state energy resource coordinator who oversees the State Energy Office, a division of DBEDT. The office is charged with planning and coordinating the state's energy policy in cooperation with PUC, local energy companies and other stakeholders.

The state has been pursuing a wide range of initiatives designed to reduce energy costs, price volatility and reliance on fossil fuels for electricity generation. In 2008, the state enacted Act 155, Session Laws of Hawaii 2009 (the State Renewable Portfolio Standards codified as HRS § 269-92 and EEPS codified as HRS § 269-96), which set forth a 70% clean energy goal to be achieved by 2030, requiring the reduction of electrical energy consumption by 30% under EEPS and the

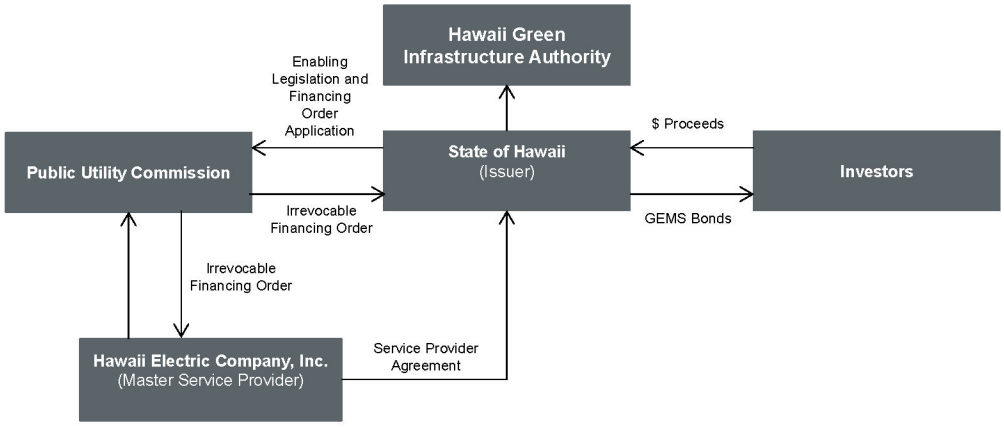
increase in electrical generation from renewable resources to 40% under the Renewable Portfolio Standards. An energy agreement was signed between the Hawaiian Electric Companies and the state to accelerate meeting these objectives.

On April 30, 2013, the Hawaii Legislature enacted, and, on June 27, 2013, the governor signed into law, Act 211, Session Laws of Hawaii 2013 (the act). The act authorized the establishment of a green infrastructure financing program (the Hawaii Green Infrastructure Loan Program, or the loan program) administered by the state to make renewable energy improvements more accessible and affordable to Hawaii ratepayers. The initial deployment of the program is expected to target underserved homeowners, renters and nonprofits. Ultimately, GEMS has the potential to finance a wider set of clean energy infrastructure projects, such as grid modernization, renewable energy generation and energy-efficiency projects. The bonds will be issued pursuant to Article VII, Section 12 of the Constitution of the State of Hawaii and Part III, Chapter 39 of the Hawaii Revised Statutes (HRS), as amended (collectively, the Revenue Bond Law). The financing order issued by the commission on Sept. 4, 2014 will become irrevocable on Nov. 3, 2014. Proceeds from the issuance of GEMS will be used to finance the loan program. The act authorizes the commission to adopt a financing order approving the issuance of the GEMS bonds.

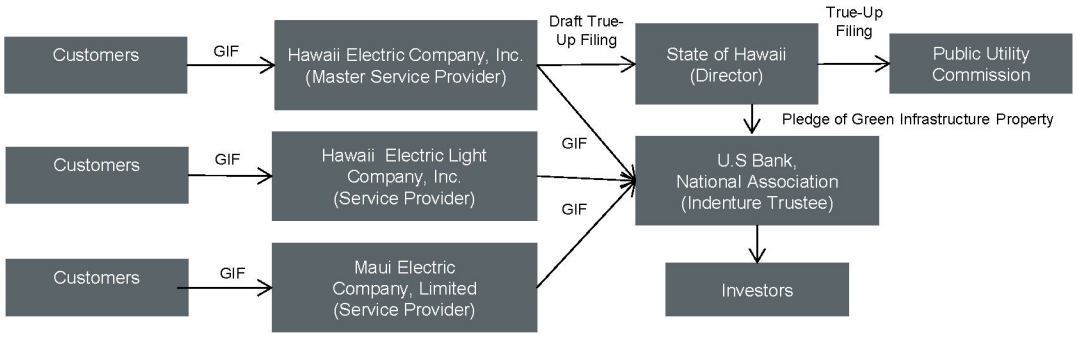
The financing order was approved and adopted on Sept. 4, 2014 and is expected to become irrevocable, final and non-appealable on Nov. 3, 2014. The financing order allows for the:

- The creation of the property.
- The sale of the green infrastructure property to the issuer.
- The imposition, billing and collection of the GIFs.
- The issuance and sale of up to $150 million in bonds.
- The use of proceeds from the issuance to pay upfront financing costs and the purchase price of the property.
- Approval of the true-up adjustment calculation.
- Approval of the provisions for the nonbypassability of the GIF.
- The order and the execution of the service provider agreement between DBEDT and the service providers.
- Use of proceeds to fund the loan program.

Initial Transaction Structure



Ongoing Securitization Cash Flows



Disclaimer

For the avoidance of doubt, Fitch relies, in its credit analysis, on legal and/or tax opinions provided by transaction counsel. As Fitch has always made clear, Fitch does not provide legal and/or tax advice or confirm that the legal and/or tax opinions or any other transaction documents or any transaction structures are sufficient for any purpose. The disclaimer at the foot of this report makes it clear that this report does not constitute legal, tax, and/or structuring advice from Fitch and should not be used or interpreted as legal, tax, and/or structuring advice from Fitch. Should readers of this report need legal, tax, and/or structuring advice, they are urged to contact relevant advisers in the relevant jurisdictions.

Asset Analysis

Customer Service Territory

HECO is an integrated, investor-owned electric utility providing electricity to approximately 450,000 retail customers in Hawaii. Approximately two-thirds of its customers are based in Oahu. Through subsidiaries (MECO) with operations in Maui, Molokai and Lanai, and HELCO serving the island of Hawaii, HECO provides electricity to more than 95% of Hawaii.

HECO's customer base consists of five customer classes — residential, small commercial, medium commercial, large commercial and street lighting. Collectively, the largest customer class by customer count is the residential class, which accounted

HECO Customer Service Territory (Aggregate)

(Dec. 31, 2013)

Customer Breakdown	Customer Count	% of Total Customer Count
Residential	394,910	87.42
Small Commercial	44,850	9.93
Medium Commercial	10,537	2.33
Large Commercial	556	0.12
Street Lighting	889	0.20
Total	**451,742**	**100.00**

HECO Customer Service Territory

(Dec. 31, 2013)

Customer Breakdown	Customer Count	% of Total Customer Count
Residential	265,772	88.73
Small Commercial	25,653	8.56
Medium Commercial	7,334	2.45
Large Commercial	344	0.11
Street Lighting	425	0.14
Total	**299,528**	**100.00**

for approximately 87%, 89% and 85% of total customer count for HECO, HELCO and MECO, respectively, in 2013. Small commercial represents the second largest customer class, ranging from 8.5%–13.0% across the three service providers. Dating back to 2003, the customer class concentrations have remained relatively stable. Consistent with the methodology detailed in the financing order, the same RC will be charged to all customer classes.

HELCO Customer Service Territory

(Dec. 31, 2013)

Customer Breakdown	Customer Count	% of Total Customer Count
Residential	69,719	84.37
Small Commercial	10,884	13.17
Medium Commercial	1,699	2.06
Large Commercial	79	0.10
Street Lighting	256	0.31
Total	**82,637**	**100.00**

MECO Customer Service Territory

(Dec. 31, 2013)

Customer Breakdown	Customer Count	% of Total Customer Count
Residential	59,419	85.40
Small Commercial	8,313	11.95
Medium Commercial	1,504	2.16
Large Commercial	133	0.19
Street Lighting	208	0.30
Total	**69,577**	**100.00**

Collections Experience

Due to the essential nature of electric service, historical writeoff and delinquency rates are generally low. Dating back to 2006, the number of days on average that customers took to pay invoices as calculated by the average days sales outstanding (DSO) was 21.17, 23.93, and 20.19 days for HECO, HELCO and MECO, respectively. For each, the peak DSO experienced was 23.24 (in 2013), 28.71 (in 2013) and 21.45 days (in 2012). Similarly, historical net chargeoffs have also been low dating back to 2004, with historical highs of 0.18%, 0.39% and 0.23% reached in 2009 for HECO, HELCO and MECO, respectively.

Historical Days Sales Outstanding

(Average Days Sales Outstanding)

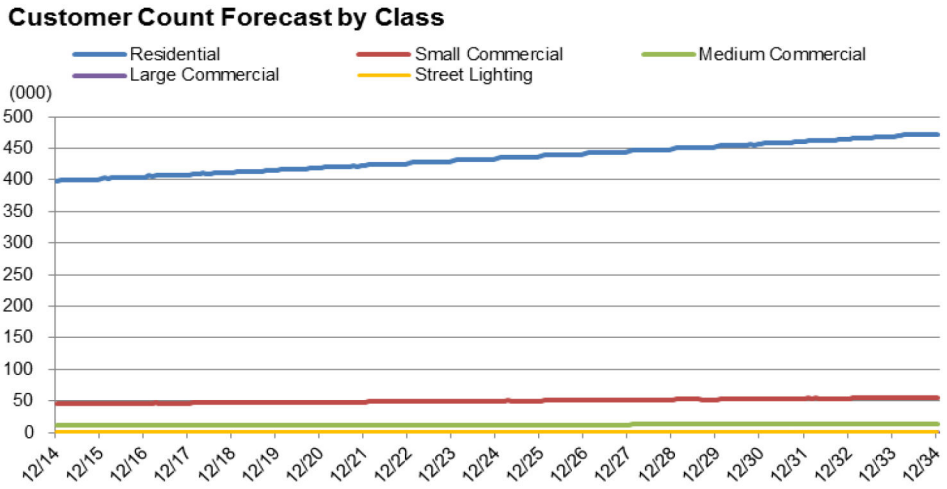
	12/31/13	12/31/12	12/31/11	12/31/10	12/31/09	12/31/08	12/31/07	12/31/06
HECO	23.17	22.65	19.82	19.67	19.81	20.75	21.99	21.50
HELCO	28.71	26.40	21.43	21.47	24.09	23.69	23.13	22.55
MECO	21.10	21.45	20.03	19.72	20.05	19.98	19.61	19.94

Net Chargeoff Experience (Annual Average)

	For the Year Ended Dec. 31,									
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Hawaiian Electric										
Gross Chargeoffs ($)	88,847	75,353	122,926	131,099	313,205	180,165	135,911	249,780	202,451	287,555
Net Chargeoffs ($)	44,505	30,320	83,282	88,984	263,650	122,487	34,012	154,473	131,646	224,594
Net Chargeoffs as % of Revenue	0.07	0.04	0.06	0.09	0.08	0.18	0.06	0.03	0.11	0.08
Hawaii Electric Light										
Gross Chargeoffs ($)	48,933	50,436	64,959	74,340	143,863	146,488	66,636	71,573	93,308	110,525
Net Chargeoffs ($)	28,929	27,023	36,080	45,395	95,932	113,384	34,938	35,772	74,977	80,360
Net Chargeoffs as % of Revenue	0.15	0.11	0.13	0.15	0.26	0.39	0.11	0.10	0.21	0.23
Maui Electric										
Gross Chargeoffs ($)	17,984	20,942	27,618	31,791	44,629	72,634	36,193	84,930	31,949	59,108
Net Chargeoffs ($)	7,408	12,736	16,740	18,183	30,689	57,494	22,204	77,640	28,379	(5,520)
Net Chargeoffs as % of Revenue	0.04	0.05	0.06	0.06	0.08	0.23	0.08	0.22	0.08	(0.02)

Customer Count Forecasting

For the next 20 years (tenure of the bonds), DBEDT and HECO expect total customer accounts across their service territories to increase by approximately 20%. By customer class, total growth is forecast to be approximately 19%, 22%, 26% and 19% for residential, small commercial, medium commercial and large commercial. Street lighting is expected to double in customer count by 2034. The forecasts were derived using various methods, including time series models, historical average rate of growth, historical number of customers, residential population projections and judgmental analysis. Additionally, a review of economic conditions is considered and may be incorporated into the forecasting methodology. DBEDT and HECO will apply similar methodology when calculating the true-ups for the GEMS transaction.



Securitization History

This issuance of bonds by DBEDT represents the first issuance of a utility tariff/stranded cost securitization by Hawaii and HECO.

Counterparty Risk

Commingling

From the closing date, each of the service providers (utilities) will be responsible for billing and collecting GIFs on their customers and transferring the funds to the collection account held by the trustee. As of October 2014, HECO and its subsidiary were rated 'BBB+/F2/Stable. The transaction documents require that the service providers (utilities), as a collection agent for the state, remit daily the expected GIFs into the collection account, which is consistent with Fitch's commingling criteria, given its ratings on the service providers.

The transaction also includes liquidity in the form of a 0.50% debt service reserve subaccount established by DBEDT that provides short-term liquidity. Furthermore, receipts of GIFs are required to be processed and remitted electronically to the collection account daily, mitigating concerns related to commingling of trust cash flow with other DBEDT cash flows. Additionally, the transaction's waterfall structure provides for interest to be paid, while principal amortization

shortfalls are covered via the true-up mechanism. The true-up mechanism provides adequate supplementary CE, consistent with Fitch's counterparty criteria.

Performance Analytics

After a rating is assigned by Fitch, the ongoing monitoring of such rating is transitioned to Fitch's performance analytics (PA) team. Fitch's PA team is responsible for collecting and analyzing relevant transaction data and presenting collected information to a rating committee, as described below. Although monitored at each distribution period, each transaction is thoroughly reviewed at least once annually.

Fitch expects to receive periodic servicer reports for its review process. Servicer reports and the performance of the transaction are generally tracked on a semiannual basis but can vary, depending on bond payment frequency. Based on performance data, if bonds are not amortizing as expected or if capital or overcollateralization subaccounts are not at levels required by the transaction's documentation, an analyst from Fitch's PA team will make inquiries with the issuer, possibly triggering an in-depth review. Transaction-specific performance is published on Fitch's surveillance website. Metrics such as bond amortization, true-up amounts, collections and CE levels are tracked and made available to investors.

Utilizing the data gathered from the servicer reports and aggregated on Fitch's internal database, the PA analyst evaluates the various performance metrics listed above, as well as microeconomic and macroeconomic issues affecting the issuer. These metrics are compared with initial expectations and industry/sector trends. Fitch will contact the servicer/issuer if additional detail is needed regarding performance changes within the transaction. Additional information requests may include further tariff detail, billing collections and color on consumption variance. Furthermore, Fitch expects to receive data demonstrating the size of the GIF relative to the total customer bill to verify that the charge is not approaching threshold levels. In general, Fitch does not employ the use of its cash flow model as part of the review process, as other performance measures (as described above) are sufficient for Fitch's analysis.

The analysis and recommendations are then presented to a rating committee. A rating committee review will result in a rating action — upgrade, downgrade or affirmation — and a Rating Outlook or Rating Watch being assigned/reviewed. Fitch keeps investors informed about reviews and rating actions through its website at www.fitchratings.com. More information on Fitch's surveillance products is available on Fitch's website.

Rating Actions

All rating actions are determined by committee consensus. The committees are chaired by a Fitch managing director or senior director. Current performance data and Fitch criteria are used to evaluate the transactions and ratings.

Fitch expects its ratings to withstand some level of fluctuation in collateral performance without creating additional rating volatility. If Fitch's review shows that the transaction is not performing as expected, ratings will be placed on Rating Watch to notify investors that there is a reasonable probability of a rating change and to indicate the likely direction of such change. Under Rating Watch, ratings are designated as Positive, indicating a potential upgrade; Negative, for a potential downgrade; or Evolving, if ratings may be raised, lowered or maintained. Rating Watch is typically resolved over a relatively short period.

Rating Outlooks

As part of assigning ratings to a tariff bond transaction, Fitch also assigns Rating Outlooks for each tranche of bonds in the transaction. Rating Outlooks are intended to be forward looking and indicate the likely direction of any rating change over a 12–18 month period. Rating Outlooks may be Positive, Negative, Stable or, occasionally, Evolving. Rating Outlooks will be reviewed concurrently with the rating review for the transaction and published in conjunction with the long-term rating (short-term ratings are excluded from Rating Outlooks). Notes rated 'AAAsf' are assigned either a Stable or Negative Rating Outlook, since they cannot be assigned a higher rating.

Rating Sensitivity

Break-the-Bond Case

While Fitch believes that bondholders are protected from the various aforementioned risks based on the 'AAAsf' cash flow stress case, the break-the-bond case provides an alternative means by which to measure the potential effects of rapid, significant declines in power consumption while capping the residential GIF at 20% of the total residential customers' bill.

In this scenario, the structure is able to withstand a maximum consumption decline of approximately 97% in year one. This is the level of forecast energy consumption decline that would cause a default in required payments on bonds or cause the GIF to exceed 20% of the total residential customers' bill. Despite this severe decline in consumption, due to the true-up mechanism, GIFs are able to pay all debt service by the legal final maturity date.

Origination and Servicing

As detailed in the financing order, the issuer and HECO have entered into a service provider agreement that requires the service providers to perform the billing and collections related to the GIFs. Each service provider will be paid a servicing fee of $2,729 per annum. This fee will be adjusted to account for inflation during the tenure of the bonds. The servicing fee will be increased to a maximum of 0.75% per year of the aggregate initial principal balance of the bonds if a third-party successor service provider that is not affiliated with HECO assumes servicing responsibilities.

As service provider, each will be responsible for the management, servicing and administration of the green infrastructure property, pursuant to the financing order. Each service provider is responsible for obtaining meter reads, billing, collection and posting of all payments in respect of the green infrastructure property. Additionally, each is responsible for responding to inquiries by customers, or, if appropriate, forwarding such inquiries to DBEDT, delivering bills to customers, investigating and handling delinquencies, processing and depositing collections and making periodic remittances, as well as furnishing periodic reports to DBEDT and the trustee. HECO, as master service provider, is responsible for assisting DBEDT with the periodic calculation of the GIF and preparing filings for true-up adjustments on behalf of DBEDT, who is responsible for the submission to the PUC.

The initial application for service is strictly regulated by rate setting policies. Tariff Rule No. 3 (Application for Service and Changes in Equipment or Operations) requires each applicant for electric service to establish credit, in accordance with tariff Rule No. 5 (Establishment and Re-establishment of Credit). The application is merely a request for service and neither binds the utilities to serve, except under conditions and provisions of these tariff rules and rate schedules, nor binds the customer to take service for a period longer than the minimum requirements of the applicable

rate schedule. A payment of a deposit shall be made if applicable and in accordance with tariff Rule No. 6 (Deposits). As a condition of service, each of the service providers reserves the right to request full payment at any location, within the service providers' service territory, to an applicant who is indebted to the utility for any service previously provided.

On application for service, the identification of all residential customers is verified through the use of a major credit-reporting bureau. The rating returned from the credit-reporting bureau includes a recommendation on requirement of security deposit, or if a waiver is acceptable. If the residential customer had a break in service, his/her past credit history with the service provider will take precedence over the credit-reporting bureau recommendation. In instances where nonresidential customers have not established satisfactory credit, a security deposit in the form of a cash deposit may be required. In lieu of the cash deposit, the nonresidential customer may have the option to provide a personal guaranty. The amount of security is normally the amount of a bill for two months.

All the service providers obtain actual readings of all their in-service customer meters. Each billing period, each service provider will make reasonable attempts to obtain accurate, actual readings of the energy and demand, if applicable, delivered for the billing period, except where the customer and the utility have agreed to other arrangements. Meter readings taken by electronic means shall be considered actual readings. The service providers maintain the accuracy of all installed metering equipment by regular testing and calibration, in accordance with recognized standards.

The service providers bill their customers monthly or at their option at other regular intervals. Bills rendered monthly typically cover a period of approximately 30 days. During 2013, each service provider distributed an average of approximately 22,600 bills per billing cycle (e.g. on each business day) to customers in each service provider's various customer categories. Unless otherwise specified, bills are payable upon receipt and may be paid by mail, automatic bill payment (ABP), in person at one of the utilities' bill payment offices or at other locations through an authorized collector or agent (e.g. Western Union, Speedpay, Checkfree or Walmart), or by electronic fund transfers (EFTs). The most common payment type is mail, which represents approximately 42% of total payments, followed by ABP at 29%. The remaining 29% is dispersed across the various other payment types.

A disconnection notice is sent if a past-due amount is not paid within the set period allotted based on the customer's risk class. The customer will face termination of service on or after the scheduled date of the termination if payment is not received. Once service is terminated, the customer may be required to pay the full outstanding balance, a re-connection fee and/or provide a security deposit.

In general, the service providers' collection processes begin when balances are unpaid for 10 days or more from the billing due date. At that time, the service providers engage in collection activities, including delinquency notice mailings, telephone calls and personal collection, ending with payment plans or electricity shutoff. They also use collection agencies and legal collection experts, as needed, to collect on balances owed by customers who no longer have active service. Collections of residential accounts are performed via system-generated notifications and phone files for outbound dialing. Termination notices are system-issued and if payment and/or satisfactory payment arrangements are not made, service to the customer may be terminated.

Unlike many other states, Hawaii does not have service termination moratoriums due to the generally consistent weather across the islands. Collections of nonresidential accounts are also pursued via system-issued notices and manual outbound calls. Accounts charged off are sent to a third-party collection agency, which then may list the chargeoff with the credit bureaus. The third-party collection agencies are under contract with the service providers. Approximately 90 days after

the final bill due date, accounts with balances greater than $10 are financially written off, and balances less than $10 are fully written off to show a zero balance. Unless a customer is on a payment plan, accounts greater than $10 are forwarded electronically to one of three third-party collection agencies, which pursues collection for six years, unless there is a judgment or dispute.

Appendix A: Other Aspects

Green Infrastructure Property

Green infrastructure property means all the property, rights and interests, including the irrevocable right to bill and collect GIFs, established pursuant to the financing order.

Nonbypassability

GIFs are nonbypassable, meaning that customers must pay them, regardless of their electric-generation supplier and whether or not the distribution system is being operated by HECO and its subsidiaries or a successor.

Utility Successor

Any successor to HECO and its subsidiaries, subject to the financing order, shall perform and satisfy all obligations of HECO under the financing order.

Irrevocability

The financing order will be irrevocable when final, and the authority may not reduce, impair, postpone or terminate the GIF or green infrastructure property.

State Pledge

The state of Hawaii pledges to, and agrees with, bondholders, any assignee and any financing parties under the financing order that the state will not take or permit any action that impairs the value of the green infrastructure property.

True-Up Adjustment

DBEDT with the assistance of HECO, subject to a final financing order, shall file with PUC, at least semiannually, or if determined necessary by the master service provider, more frequently, to ensure that expected collections of GIFs are adequate to pay all scheduled payments of principal and interest on the bonds and all ongoing financing costs when due. The GIF is based on estimates of customer counts for each customer class and other mathematical factors detailed in the financing order. DBEDT must file with PUC approximately 15 days prior to the effective date of the adjustment.

Security Interest

A valid and binding security interest in the green infrastructure property and other collateral will be created, perfected and enforced to secure the repayment of the principal and interest on the bonds.

Appendix B: Transaction Overview

State of Hawaii Department of Business, Economic Development, and Tourism Green Energy Market Securitization Bonds 2014 Series A

U.S./ABS

Capital Structure

Class	Expected Ratings	Expected Rating Outlook	Size (%)	Size ($ Mil.)	CE (%)[a]	Expected Interest Rate (%)	PMT Freq.	Legal Final Maturity	ISIN/CUSIP
A-1	AAAsf	Stable	33.33	50.00	0.50	TBD	Semiannually	7/1/22	TBD
A-2	AAAsf	Stable	66.67	100.00	0.50	TBD	Semiannually	1/1/31	TBD
Total			**100.00**	**150.00**					

[a]Also provided via true-up mechanism. CE – Credit enhancement. PMT – Payment. TBD – To be determined.

Credit Enhancement
Debt Service Reserve Subaccount: 0.50%
True-Up: Mandatory Semiannually, Unlimited or Quarterly
Surplus Subaccount: Not Funded at Close

Key Information

Details:

Closing Date Nov. 13, 2014 (Subject to Change)

Country of Assets and Type U.S./ABS

Country of SPV U.S.

Analyst Du Trieu
+1 312 368-2091
Melvin Zhou
+1 212 908-0403

Performance Analyst Eugene Kushnir
+1 212 908-1830

Parties:

Issuer State of Hawaii Department of Business, Economic Development and Tourism
Hawaiian Electric Company, Inc./Hawaii Electric Light Company, Inc./Maui Electric Light Company, Limited

Seller/Servicer

Master Service Provider Hawaiian Electric Company, Inc.

Indenture Trustee U.S. Bank, National Association

Underwriters Goldman Sachs & Co. and Citigroup

Key Rating Drivers

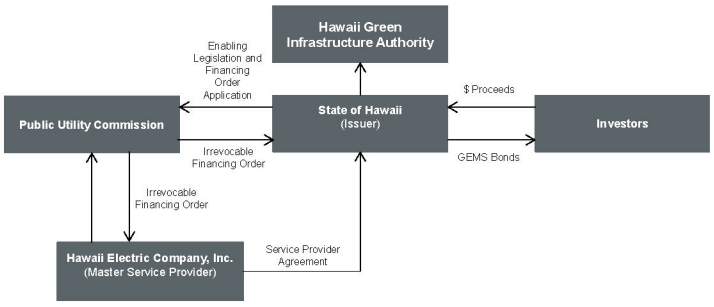
Statutory and Regulatory Framework: The strength and stability of the underlying GIFs are established by the financing order issued by the state as part of Act 211. The financing order establishes the irrevocable and nonbypassable GIFs and defines bondholders' property rights in the green infrastructure property. The financing order contains the key elements important in a utility tariff/stranded cost securitization.

Adequate Credit Enhancement via True-Ups: Mandatory, semiannual true-up filing to adjust the GIFs to ensure collections is sufficient to provide all scheduled payments of principal and interest, pay fees and expenses and replenish the debt service reserve account (0.50%). Furthermore, optional interim true-ups and quarterly true-ups may occur, if necessary, to make all timely payments.

Supports 'AAAsf' Stresses: Customer count changes can be impacted by various factors, such as demographic shifts in total population, income, unemployment rates, mortality rates, fertility rates and net migration. These factors present greater risk in this transaction relative to others in this asset class, given the longer tenor of the GEMS bonds. Fitch's 'AAAsf' scenario analysis stresses key model variables, such as customer count variance, chargeoff rates and delinquencies, to address this risk.

Sound Legal Structure: Fitch reviews all associated legal opinions furnished to analyze the integrity of the legal structure *(refer to the Legal Structure and Analysis section on page 8 for further detail related to the legislation).*

Initial Transaction Structure



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FitchRatings

RATING ACTION COMMENTARY

Fitch Rates State of Hawaii DBEDT GEMS Bonds 2014 Series A

Thu 13 Nov, 2014 - 3:08 PM ET

Fitch Ratings-Chicago-13 November 2014: Fitch Ratings assigns the following ratings to State of Hawaii Department of Business, Economic Development, and Tourism Green Energy Market Securitization Bonds 2014 series A bonds:

--$50,000,000 class A-1 'AAAsf'; Outlook Stable;
--$100,000,000 class A-2 'AAAsf'; Outlook Stable.

Fitch's stress and rating sensitivity analysis are discussed in the presale report titled 'State of Hawaii Department of Business, Economic Development, and Tourism Green Energy Market Securitization Bonds 2014 Series A', dated Oct. 29, 2014, which is available on Fitch's web site. The presale report details how Fitch addresses the key rating drivers summarized below.

KEY RATING DRIVERS

Statutory and Regulatory Framework: The strength and stability of the underlying GIFs are established by the financing order issued by the state as part of Act 211. The financing order establishes the irrevocable and nonbypassable GIFs and defines bondholders' property rights in the green infrastructure property. The financing order contains the key elements important in a utility tariff/stranded cost securitization.

Adequate Credit Enhancement via True-Ups: Mandatory, semiannual true-up filing to adjust the GIFs to ensure collections is sufficient to provide all scheduled payments of principal and interest, pay fees and expenses and replenish the debt service reserve account (0.50%). Furthermore, optional interim true-ups and quarterly true-ups may occur, if necessary, to make all timely payments.

Supports 'AAAsf' Stresses: Customer count changes can be impacted by various factors, such as demographic shifts in total population, income, unemployment rates, mortality rates, fertility rates and net migration. These factors present greater risk in this transaction relative to others in this asset class, given the longer tenor of the GEMS bonds. Fitch's 'AAAsf' scenario analysis stresses key model variables, such as customer count variance, chargeoff rates and delinquencies, to address this risk.

Sound Legal Structure: Fitch reviews all associated legal opinions furnished to analyze the integrity of the legal structure (refer to the Legal Structure and Analysis section on page 8 for further detail related to the legislation).

RATING SENSITIVITIES

While Fitch believes that bondholders are protected from the various aforementioned risks based on the 'AAAsf' cash flow stress case, the break-the-bond case provides an alternative means by which to measure the potential effects of rapid, significant declines in customer count while capping the residential GIF at 20% of the total residential customers' bill.

In this scenario, the structure is able to withstand a maximum customer count decline of approximately 96% in year one. This is the level of forecast customer count decline that would cause a default in required payments on bonds or cause the GIF to exceed 20% of the total residential customers' bill. Despite this severe decline in customer count, due to the true-up mechanism, GIFs are able to pay all debt service by the legal final maturity date.

Key Rating Drivers and Rating Sensitivities are further described in the presale report dated Oct. 29, 2014. Fitch's analysis of the Representations and Warranties (R&W) of this transaction can be found in ''State of Hawaii Department of Business, Economic Development, and Tourism Green Energy Market Securitization Bonds 2014 Series A- Appendix'. These R&Ws are compared to those of typical R&W for the asset class as detailed in the special report 'Representations, Warranties, and Enforcement Mechanisms in Global Structured Finance Transactions' dated Oct. 31, 2014.

Key Rating Drivers and Rating Sensitivities are further described in the accompanying presale report, available at 'www.fitchratings.com' or by clicking on the above link.

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Additional information is available at www.fitchratings.com.

Applicable Criteria and Related Research:
--'Global Structured Finance Rating Criteria' (Aug. 4, 2014);
--'Representations, Warranties, and Enforcement Mechanisms in Global Structured Finance Transactions' (Oct. 31, 2014);
--'Rating Criteria for U.S. Utility Tariff Bonds' (December 2013);
--'Counterparty Criteria for Structured Finance and Covered Bonds' (May 2014);
--'State of Hawaii Department of Business, Economic Development, and Tourism Green Energy Market Securitization Bonds 2014 Series A -- Appendix' (October 2014).

Applicable Criteria and Related Research:
Global Structured Finance Rating Criteria
Representations, Warranties and Enforcement Mechanisms in Global Structured Finance Transactions
Rating Criteria for U.S. Utility Tariff Bonds
Counterparty Criteria for Structured Finance and Covered Bonds
State of Hawaii Department of Business, Economic Development and Tourism Green Energy Market Securitization Bonds 2014 Series A (US ABS)

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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.

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Structured Finance: ABS Structured Finance North America United States

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF NEW MEXICO FOR APPROVAL OF THE ABANDONMENT OF THE FOUR CORNERS POWER PLANT AND ISSUANCE OF A SECURITIZED FINANCING ORDER	)	**Case No. 21-_____-UT**
PUBLIC SERVICE COMPANY OF NEW MEXICO,	)	
Applicant	)	

DIRECT TESTIMONY

OF

MICHAEL J. SETTLAGE

January 8, 2021

NMPRC CASE NO. 21-____-UT
INDEX TO THE DIRECT TESTIMONY OF
MICHAEL J. SETTLAGE

WITNESS FOR
PUBLIC SERVICE COMPANY OF NEW MEXICO

DIRECT TESTIMONY
OF MICHAEL J. SETTLAGE
NMPRC CASE NO. 21-_____-UT

I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND YOUR POSITION AT PNM.

A. My name is Michael J. Settlage. I am a Lead Pricing Analyst for Public Service Company of New Mexico ("PNM" or "Company"). For my contact information and more about my qualifications, including cases before the New Mexico Public Regulation Commission ("NMPRC" or "Commission") in which I have testified, please see PNM Exhibit MJS-1.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my testimony is to: 1) describe the Four Corners Power Plant ("FCPP") Securitization rider, FCPP Securitization Charge and FCPP Securitization Charge adjustment process; 2) describe the true-up mechanism to ensure that the FCPP Securitization charge is appropriately collected from customers; 3) describe the FCPP securitization rider adjustment schedule; and 4) provide examples of potential ranges of customer bill impacts from PNM's early exit from FCPP.

II. FOUR CORNERS SECURITIZATION RIDER

Q. WHAT IS THE PURPOSE OF THE FCPP SECURITIZATION RIDER?

A. The FCPP Securitization Rider is the proposed rate mechanism to recover the energy transition costs defined in Section 2(H) of the Energy Transition Act from

PNM customers for FCPP. The purpose of the Rider is to: 1) allocate recovery of ongoing FCPP energy transition costs to each customer class and rate schedule; and 2) recover these ongoing FCPP energy transition costs allocated to each rate schedule from PNM customers through a non-bypassable energy transition charge. As described in the testimony of PNM Witnesses Sanchez and Atkins, the special purpose entity (the "SPE") formed to issue the energy transition bonds will be obligated to make semiannual payments of principal and interest on these bonds and will incur other ongoing financing expenses that are energy transition costs under Section 2(H) of the Energy Transition Act. The FCPP Securitization Rider will collect the funds that will be paid to the SPE to pay the required semi-annual payments and other ongoing financing expenses associated with the bonds.

Q. PLEASE DESCRIBE THE FCPP SECURITIZATION RIDER.

A. The FCPP Securitization Rider is provided in PNM Exhibit MJS-2 and includes the formulas and methods to allocate energy transition costs to customers and recover those costs through a non-bypassable charge. The proposed forms that will be included in the true-up adjustment filings described below are attached as Appendices 1 through 4 to the FCPP Securitization Rider. The energy transition costs will be allocated to customer rate classes and recovered through an energy transition charge as required in the Energy Transition Act Section 5(F)(3). The energy transition charge will be calculated for customers receiving service under PNM rate schedules and shown as a separate line item on customer bills as required

by ETA Section 5(F)(3). A True-Up Adjustment Mechanism, as required by the ETA, Section 6(A), corrects for any over-or under-collection of the energy transition charge to provide for the timely payment of energy transition costs.

Q. IS THERE ANY DIFFERENCE BETWEEN THE FCPP SECURITIZATION RIDER AND THE SJGS SECURTIZATION RIDER APPROVED IN NMPRC CASE NO. 19-00018-UT?

A. No. Both the rider discussed in this case and the rider approved in NMPRC Case No. 19-00018-UT (the "SJGS Securitization Rider") are designed to comply with the Energy Transition Act. The only difference is that the SJGS Securitization Rider is designed to recover costs associated with the retirement of the San Juan Generation Station and the FCPP Securitization Rider is designed to recover costs associated with the retirement of FCPP. Besides the timing and amounts, the substance and mechanics of the two riders are identical.

Q. WHEN WILL THE FCPP SECURITIZATION RIDER BECOME EFFECTIVE?

A. Under Section 5(J) of the Energy Transition Act, the energy transition charge will become effective 15 days after the filing of an advice notice following the issuance of the energy transition bonds. PNM anticipates the energy transition charge will become effective 30 days after issuance of the energy transition bonds. For example, if the bonds were issued on January 15, 2025, PNM anticipates the energy

transition charge would become effective on February 14, 2025 and would be assessed for electric service provided thereafter.

Q. WILL THE FCPP SECURITIZATION RIDER EVER BE REDUCED TO ACCOUNT FOR COSTS THAT ARE ULTIMATELY INCLUDED IN RATES?

A. No. The energy transition charge, which will be recovered through the FCPP Securitization Rider, is defined as part of the energy transition property that is "owned" by the SPE which must fully recover all of the energy transition cost components. PNM witness Baker provides an explanation of PNM's proposed ratemaking treatment that will avoid any "double recovery", when the energy transition charge goes into effect, for the undepreciated investment costs that are in current rates and are also included in the energy transition property and recovered through the energy transition charge.

Q. WHEN WILL THIS ENERGY TRANSITION CHARGE STOP BEING RECOVERED?

A. Under Section 5(F)(3) of the Energy Transition Act, the energy transition charge will remain effective until the energy transition bonds, and the financing costs related to those bonds, are paid in full. As described in PNM Witness Atkins' testimony, the energy transition bonds have a twenty-five (25) year scheduled final maturity after the issuance of the bonds. The energy transition charge will cease

once the bonds and associated ongoing financing costs have been paid in full, which is expected to be at the scheduled maturity.

Q. PLEASE DESCRIBE THE COST RECOVERY PROCESS.

A. The energy transition cost recovery process provides for the assessment of a non-bypassable energy transition charge on customers' bills over the life of the energy transition bonds, with the energy transition charge subject to periodic adjustment to ensure proper recovery through the True-Up Adjustment Mechanism. The energy transition costs are calculated, allocated to customers, and recovered on a periodic basis, typically six months, referred to in this testimony as "Remittance Periods."

Q. WHAT IS MEANT BY THE TERM "REMITTANCE PERIOD"?

A. Except with respect to the initial Remittance Period, which is expected to be approximately nine months, a Remittance Period is a six-month period that begins when the adjusted energy transition charge goes into effect.

Q. HOW WILL THE TRUE-UP ADJUSTMENTS BE MADE?

A. In month three of the then current Remittance Period, a True-Up Adjustment filing will be made. The True-Up Adjustment Mechanism process will typically reference three Remittance Periods: (1) the most recently completed six-month Remittance Period, for which actual collections are known, and (2) the current six-month

Remittance Period, during which actual collections will be known for a portion of the period and revenues will be projected for the remainder of the period at current energy transition charge rates, and (3) the upcoming six month Remittance Period, for which all revenues will be projected revenues at current energy transition charge rates. The True-Up Adjustment will be made during the current Remittance Period to account for revenues needed for the current and upcoming Remittance Period. These calculations are reflected in PNM Exhibit MJS-2 Appendix 1, which is a form that will be filed with each True-Up Adjustment letter.

Q. PLEASE DISCUSS THE HOW THE ENERGY TRANSITION COSTS WILL BE DETERMINED FOR INITIAL REMITTANCE PERIOD AND THE TIMING OF THE ONGOING ADJUSTMENTS.

A. The initial Remittance Period will be the period from the issuance of the energy transition bonds until the first scheduled payment of principal and interest on the bonds. Based on the testimony of PNM Witness Atkins, PNM anticipates the first securitization bond payment will be due approximately nine months following the issuance of the bonds. The energy transition charge for the initial Remittance Period is designed to recover revenues sufficient to pay the first scheduled payment of principal and interest on the bonds at month nine, and to pay all other ongoing financing costs during the initial Remittance Period. The revenue requirement is adjusted for projected collection lag and estimated uncollectable amounts, as described in PNM Witness Baker's testimony. The adjusted revenue requirement

is the billing requirement. After determining the billing requirement for the initial Remittance Period, the Company will then allocate the billing requirement to customer classes and calculate the initial energy transition charge for each customer class.

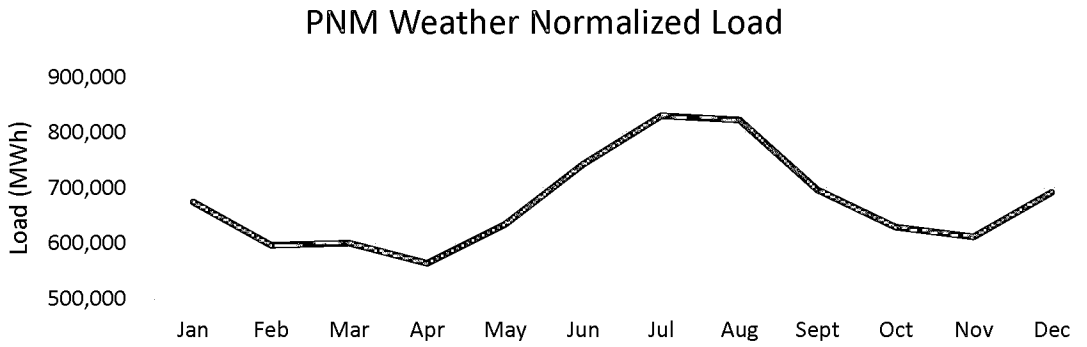
The Company will make filings to implement the True-Up Adjustment Mechanism every six months, with the first adjustment under the True-Up Adjustment Mechanism expected to occur approximately six months following the issuance of the energy transition bonds. As discussed further below, each True-Up Adjustment Mechanism filing will consider actual collections prior to the filing (including any over or under collection in the prior Remittance Period) and will look forward to projected collections over the remainder of the current Remittance Period and the next Remittance Period. The Company anticipates implementing the adjusted energy transition charge under the True-Up Adjustment Mechanism approximately three months prior to each semiannual bond payment, with bond payments made at the end of each six-month Remittance Period.

Q. WHY WILL PNM USE A TWELVE-MONTH FORECAST PERIOD FOR ONGOING RECOVERY WHEN TRUE-UPS OCCUR EVERY SIX MONTHS?

A. PNM's customer energy and demand follows an annual cycle. PNM Chart MJS-1 shows weather normalized load on an annual basis. The load shape is asymmetrical

and load in the two contiguous six-month periods does not follow the same pattern. In order to account for the annual cyclic nature of load, a twelve-month forecast period is used for evaluating projected collections over two six- month remittance periods. A twelve-month forecast is also used for customer energy and demand forecasts which will smooth the variability associated with six-month increments.

PNM Chart MJS-1-PNM Annual Weather Normalized Load (MWh)



Q. HOW WILL THE COMPANY CALCULATE THE FCPP ENERGY TRANSITION CHARGE?

A. The Company's proposed calculation of the energy transition charge involves a multi-step process that begins with an estimate of the energy transition charge collections that would be necessary to pay, on a timely basis, all scheduled payments of principal and interest (or deposits to sinking funds with respect to principal and interest) and all other ongoing financing costs over a Remittance Period (the estimated revenue required for such period, also known as the "Periodic Revenue Requirement"). Other than establishing the charge for the initial

Remittance Period, the Periodic Revenue Requirement will consider over- or under-collections of energy transition charges during the prior Remittance Period under the True-Up Adjustment Mechanism. The Periodic Revenue Requirement is adjusted, as described in PNM Witness Baker's testimony, to account for projected collection lag and estimated uncollectable amounts to arrive at the billing requirement (the "Periodic Billing Requirement").

After determining the Periodic Billing Requirement, the next step in the Company's proposed process for calculating the energy transition charge involves allocating the Periodic Billing Requirement to the Company's various customer classes. The final step in the Company's proposed process involves determining the energy transition charge for customers within each customer class based on the portion of the Periodic Billing Requirement allocated to each class. In accordance with the requirements of Sections 5(F)(3) and 6(A) of the Energy Transition Act, the Company's proposed process would assess the charge in a manner that is designed to be consistent with energy and demand cost allocations within each customer class.

Q. WHY ARE NON-PAYMENT WRITE OFFS AND DELINQUENCIES ACCOUNTED FOR IN THIS PROCESS?

A. In order to support the highest possible bond rating, the SPE must account for non-payment write-offs and delinquent payments in order to ensure that there are

sufficient collections through the FCPP Securitization Rider to make the semiannual debt service payments and to pay its other ongoing financing costs.

Q. PLEASE DESCRIBE THE METHOD USED TO ALLOCATE THE PERIODIC BILLING REQUIREMENT TO CUSTOMER CLASSES.

A. Sections 5(F)(3) and 6(A) of the Energy Transition Act authorizes PNM to charge customers an energy transition charge which shall be allocated to customer classes consistent with the production cost allocation methodology established by the Commission in PNM's most recent general rate case. At the time of this filing the current method was approved in Case No. 15-00261-UT and was also carried over in Case No. 16-00276-UT. This allocation method is based on the coincident peak during the four highest peak months of the year: 3 summer months (June, July, and August) and 1 winter month (December) ("3S1W"). These four coincident peaks are used to calculate the allocation factors for each customer class as described in the Case No. 15-00261-UT rate case. As the Commission establishes new production cost allocation methodologies for PNM, the then-current method will be adopted for energy transition charge allocation. A detailed description of the allocation methodology is provided as PNM Exhibit MJS-3.

Q. THE ENERGY TRANSITION ACT REFERENCES CUSTOMER CLASSES. WHY DOES PNM ALLOCATE ENERGY TRANSITION COSTS TO AND ASSESS THE CHARGE ON INDIVIDUAL RATE SCHEDULES?

A. The current production allocation method allocates costs to customer classes. Within some customer classes, the Commission has approved PNM rate schedules that further segregate customers based on their usage characteristics. Customers are served under PNM rate schedules based on the characteristics of the customers and their rate schedule. In order to recover the energy transition costs from all customers consistent with demand and energy, PNM proposes to utilize the unique characteristics of each rate schedule in calculating the energy transition charge. For customer classes with multiple rate schedules, the energy transition costs allocated to the customer class are further sub-allocated to the constituent rate schedules.

For example, the residential customer class has the Residential 1 A rate schedule and the Residential 1 B rate schedule. If the Residential 1 A rate schedule accounts for 99% of the energy of the residential customer class, then the Residential 1 A rate schedule will be allocated 99% of the customer class energy transition costs. PNM Exhibit MJS-4 describes the sub-allocation of customer class costs to rate schedule costs.

Q. PLEASE DESCRIBE HOW ALLOCATED ENERGY TRANSITION COSTS WILL BE RECOVERED THROUGH THE NON-BYPASSABLE ENERGY TRANSITION CHARGE ON CUSTOMER BILLS.

A. Energy Transition Act Section 5(F)(3) directs PNM to recover energy transition costs through a non-bypassable energy transition charge consistent with the energy and demand allocations within each customer class. PNM proposes an energy transition charge specific to each rate schedule that will appear as a new line item on customer bills. The specific energy transition charge type for each customer class is described later in my testimony.

Q. ONCE PNM HAS ALLOCATED THE ENERGY TRANSITION COSTS TO EACH RATE SCHEDULE, HOW DOES PNM PROPOSE TO CALCULATE THE SPECIFIC ENERGY TRANSITION CHARGE NECESSARY FOR RECOVERY FROM EACH RATE SCHEDULE?

A. PNM rate schedules have varying metering requirements and numbers of customers. PNM considered many potential methods to calculate the energy transition charge to recover energy transition costs from specific rate schedules. These methods have various advantages and disadvantages and may not be applicable based on the metering requirements and customer counts of each individual rate schedule. The impacts of weather are more pronounced with some methods and less with others. The availability of granular forecasts of customer

counts, energy, and demand also impacts the feasibility of application of the methods to the PNM rate schedules.

Q. PLEASE DESCRIBE THE GENERAL OPTIONS PNM CONSIDERED FOR THE TYPE OF CHARGE.

A. Because of the diversity of rate schedules and customers, PNM examined a variety of energy transition charge types including customer charge, energy charge, demand charge, unit charge, block charge, and hybrids of these methods. These are the same charge types that PNM considered in NMPRC Case No. 19-00018-UT.

Q. WHAT SPECIFIC CHARGE TYPES DO YOU PROPOSE FOR EACH RATE SCHEDULE?

A. PNM Proposes to use the same charge types approved by the Commission in NMPRC Case No. 19-00018-UT. PNM Exhibit MJS-5 describes the proposed energy transition charge types and calculation methods for each rate schedule. PNM Table MJS-1 summarizes the energy transition charge types.

PNM Table MJS-1 - Proposed energy transition charge Types

Line	Rate Schedule	Charge Type
1	1A - Residential	Customer Block ($/bill)
2	1B - Residential - TOU	Customer ($/bill)
3	2A - Small Power	Customer ($/bill)
4	2B - Small Power - TOU	Customer ($/bill)
5	3B - General Power	Demand ($/kW)
6	3C - General Power Low LF	Demand ($/kW)
7	3D - Pilot Municipalities and Counties General Power - TOU	Demand ($/kW)
8	3E - Pilot Municipalities and Counties General Power Low LF - TOU	Demand ($/kW)
9	4B - Large Power	Demand ($/kW)
10	5B - Lg. Svc. (8 MW)	Individual Customer ($/bill)
11	10A - Irrigation	Customer ($/bill)
12	10B - Irrigation - TOU	Customer ($/bill)
13	11B - Wtr/Swg Pumping	Customer ($/bill)
14	15B - Universities 115 kV	Individual Customer ($/bill)
15	30B - Manuf. (30 MW)	Individual Customer ($/bill)
16	33B - Lg. Svc. (Station Power)	Individual Customer ($/bill)
17	35B - Lg. Svc. (3 MW)	Individual Customer ($/bill)
18	36B - SSR - Renew. Energy Res.	Individual Customer ($/bill)
19	6 - Private Lighting	Light ($/bill)
20	20 - Streetlighting	Light ($/bill)

III. FCPP SECURITIZATION RIDER TRUE-UP ADJUSTMENT MECHANISM PROCESS

Q. WHAT IS THE TRUE-UP ADJUSTMENT MECHANISM?

A. The True-Up Adjustment Mechanism is a formula-based mechanism to periodically adjust the energy transition charge to correct for any over-collection or under-collection of the energy transition charge and to provide for timely payment of scheduled principal of and interest (or deposits to sinking funds for principal and interest) on the energy transition bonds and the payment of other ongoing financing costs. The True-Up Adjustment Mechanism will remain in effect until the energy transition bonds and all financing costs have been fully paid and recovered, any

under-collection is recovered from customers and any over-collection is returned to customers. The Company proposes that the True-Up Adjustment Mechanism should include both standard adjustments ("Standard True-Up Adjustments") and non-standard adjustments ("Non-Standard True-Up Adjustments").

Q. WHAT IS THE SEMI-ANNUAL STANDARD TRUE-UP ADJUSTMENT MECHANISM PROCESS?

A. A Standard True-Up Adjustment is an automatic adjustment to the energy transition charge that is required to occur at least semiannually. In order to implement a Standard True-Up Adjustment, the Company, as servicer under a servicing agreement described in the testimony of PNM Witness Atkins, will provide the Commission a Standard True-Up Adjustment letter, which will include the calculations required by Section 6(B) of the Energy Transition Act. The Standard True-Up Adjustment letter also will include a compliance Advice Notice for the adjusted energy transition charge for all rate schedules. The semiannual Standard True-Up Adjustment Mechanism process (1) calculates the adjusted Periodic Revenue Requirement for the current and upcoming Remittance Periods, (2) calculates the adjusted Periodic Billing Requirement based on the adjusted Periodic Revenue Requirement and consideration of collection lag and uncollectible amounts, as described in the testimony of PNM Witness Baker, and (3) resets the energy transition charge that appear on customer bills. These steps are performed sequentially. The adjusted Periodic Revenue Requirement is calculated first, taking

into account changes in the Periodic Revenue Requirement for the applicable Remittance Period and any over or under collection of the energy transition charge based on actual collections. The Periodic Billing Requirement is then determined as described in the testimony of PNM Witness Baker, then that adjusted Periodic Billing Requirement is allocated to customer classes and used to recalculate the FCPP Securitization Rider energy transition charge rates. These recalculated rates will be implemented through the compliance Advice Notice filed with the Standard True-up Adjustment letter as contemplated by Section 6 of the Energy Transition Act.

Q. WHAT IS THE PURPOSE OF THE TRUE-UP ADJUSTMENT MECHANISM?

A. The True-Up Adjustment Mechanism has two objectives: (1) reducing variations in the energy transition charge to customers; and (2) ensuring that the SPE has sufficient funds, no more and no less, to make timely payments on the bond principal and interest and to pay other ongoing financing costs. PNM intends to collect only what is needed to make these payments. As a result, on a semiannual basis, the Standard True-Up Adjustment Mechanism recalculates the energy transition charge needed to collect sufficient funds to make timely payments of these costs. The calculation of the adjusted Periodic Billing Requirement (1) trues-up any over or under collection of actual funds from the previous Remittance Period and the completed months of the current Remittance Period; and (2) forecasts the

funds to be billed and collected for the upcoming months (the remaining months in the current Remittance Period and the six months in the next Remittance Period). Adjusted energy transition charge rider rates will be calculated to go into effect approximately three months preceding each bond payment date. PNM Chart MJS-2 displays the timing of the bond payments and the effective dates of the adjusted energy transition charge.

PNM Chart MJS-2. Sample energy transition charge Adjustment and Bond Payment Timeline

Date	Activity
1/15/2025	Bonds are Issued
2/14/2025	Initial Charge becomes effective
6/2/2025	Adjusted Charge effective Date
9/1/2025	Bond Payment #1
12/1/2025	Adjusted Charge effective Date
3/2/2026	Bond Payment #2
6/1/2026	Adjusted Charge effective Date
9/1/2026	Bond Payment #3

Q. WILL STANDARD TRUE-UP ADJUSTMENTS EVER OCCUR MORE FREQUENTLY THAN SEMIANNUALLY?

A. Yes. As required by Section 6(C) of the Energy Transition Act, Standard True- Up Adjustments will be made at least quarterly during the two-year period preceding the final maturity date of the energy transition bonds. In addition, PNM's proposed form of financing order includes authority for PNM to implement optional Standard

True-Up Adjustments at any time and for any reason, without limitation as to frequency, in order to ensure timely payment of scheduled principal of and interest (or deposits to sinking funds in respect of principal and interest) on the energy transition bonds and the payment of other ongoing financing costs. All such adjustments would also be accomplished through the compliance Advice Notice filed with the True-up Adjustment letter as contemplated by Section 6 of the Energy Transition Act.

Q. WHAT ARE THE NON-STANDARD TRUE-UP ADJUSTMENTS YOU REFERENCED ABOVE?

A. A Non-Standard True-Up Adjustment is an adjustment to the energy transition charge that will be made in connection with any general rate case, as necessary to reflect any adjustments in the allocation of energy transition charge as a result of changes in the production cost methodology used in such general rate case. In order to implement a Non-Standard True-Up Adjustment, the Company, as servicer under a servicing agreement described in the testimony of PNM Witness Sanchez, will file with the Commission a Non-Standard True-Up Adjustment letter, which will include the calculations required by Section 6(B) of the Energy Transition Act. Consistent with Standard True-Up Adjustments, Non-Standard True-Up Adjustments will become effective as provided in Section 6 of the Energy Transition Act.

Q. ARE FCPP SECURITIZATIONN RIDER ADJUSTMENTS LIMITED TO ANY SPECIFIC CUSTOMER CLASS?

A. No. The adjustment is calculated based on projected and actual recovery over all customers receiving service under every rate schedule. Shortfalls/overages in any rate class are allocated to all rate classes. This is necessary because customer classes may be added or removed over time. As compared to an annual true-up, a semiannual true-up reduces the variation in the energy transition charge by calculating changes in customer numbers and rate schedules closer to real time. This frequency ensures that adequate funds are available in the SPE to pay bond principal and interest and to pay other ongoing financing costs.

IV. FCPP SECURITIZATION RIDER ADJUSTMENT SCHEDULE

Q. PLEASE DESCRIBE THE FCPP SECURITIZATION RIDER ADJUSTMENT SCHEDULE.

A. The calculation of the Periodic Billing Requirement for each Remittance Period is based on the amount of funds that need to be recovered in order to make timely payments of principal and interest on the bonds and the other ongoing financing costs of the SPE on the bonds. While most of these costs making up the Periodic Billing Requirement will be fixed amounts (debt service and the servicing fee), other ongoing financing costs will be subject to variability. The calculation of the energy transition charge involves projecting the forecasted Periodic Billing Requirement, customer count, customer demand, and customer energy usage.

Because forecasts will not perfectly predict the future, adjustments will be necessary to correct for any over or under collection in any Remittance Period. The True-Up Adjustment will occur in the middle of the then current Remittance Period and will adjust the billing requirement to account for the actual rider collections from sales to-date plus what is forecasted to be collected in the remaining months of the Remittance Period and the upcoming Remittance Period at the current rider energy transition charge rates. That determines the under or over collection that should exist at the end of the Remittance Periods. Using this process, the Periodic Billing Requirement will be forecasted, and the necessary energy transition charge will be calculated.

Q. DOES FILING AN INTERIM STANDARD TRUE-UP ADJUSTMENT OR NON-STANDARD TRUE-UP ADJUSTMENT ALTER THE DESCRIBED SEMIANNUAL PROCESS?

A. No. The semiannual schedule stays the same. The interim True-Up Adjustment Mechanism would adjust the ETA rider amount within the current Remittance Period but would not make the projections for the next Remittance Period. The next semiannual Standard True-Up Adjustment would include the three Remittance Periods as described above.

Q. DESCRIBE THE FCPP SECURITIZATION RIDER TRUE-UP ADJUSTMENT MECHANISM SCHEDULE.

A. The Standard True-Up Adjustment happens semiannually at a minimum. The FCPP Securitization Rider forms and associated workpapers will be filed in a manner designed to cause the True-Up Adjustment and the ETC effective date to occur approximately three months before each scheduled bond payment.

Q. HOW IS COMMISSION REVIEW INCORPORATED INTO THE TRUE-UP ADJUSTMENTS?

A. As discussed earlier, in order to implement each periodic True-Up Adjustment, PNM will provide the Commission a True-Up Adjustment request letter that will include the proposed adjustment forms (see PNM Exhibit MJS-2 Appendix 1, Appendix 2, Appendix 3 and Appendix 4) and supporting workpapers containing the information required by Section 6(B) of the ETA. The True-Up Adjustment request letter also will include an Advice Notice with respect to the adjusted energy transition charge for each rate schedule.

Unless the Commission is notified of any mathematical errors in the FCPP Securitization Rider adjustment calculation within 20 days of the filing of the adjustment forms and supporting workpapers and makes the determination set forth in Section 6(F)(2) of the Energy Transition Act, the proposed adjustment will be

deemed approved 30 days after the filing of the True-Up Adjustment request letter and Advice Notice.

Q. WHEN DOES PNM EXPECT TO FILE ITS SEMI-ANNUAL TRUE-UP ADJUSTMENT REQUEST LETTERS?

A. PNM intends to have its semi-annual True-Up Adjustments become effective approximately three months before each sem-iannual debt service payment on the energy transition bonds. In light of the timing provisions of the ETA and to have access to the most current data when filing its True-Up Adjustment request letter, PNM expects to generally file these requests approximately not less than 30 days prior to the proposed effective date of each True-Up Adjustment. As discussed above, PNM anticipates the True-Up Adjustments becoming effective approximately three months prior to each semiannual debt service payment on the energy transition bonds.

V. FCPP SECURITIZATION RIDER SAMPLE CUSTOMER IMPACTS

Q. HAVE YOU DEVELOPED SAMPLE CUSTOMER IMPACTS FROM RETIRING AND REPLACING THE FOUR CORNERS POWER PLANT?

A. Yes. The main changes to revenue requirements from FCPP abandonment are described by PNM Witness Baker and include savings from the closure of FCPP, the FCPP Securitization Charge, other costs not included in the securitization charge, non-fuel costs for replacement resources, and fuel savings due to change in

resource mix. I show example customer class impacts under two scenarios developed by PNM and discussed by PNM Witness Phillips. These samples impacts are not a forecast of what the actual customer impacts will be because no resource portfolio has been approved at this time. PNM Witness Phillips provides the details of the assumption associated with these two scenarios in his testimony.

Q. WHAT EFFECT WILL SCENARIO ONE HAVE ON PNM CUSTOMER CLASSES?

A. Scenario 1, described by PNM Witness Phillips and shown in PNM Table TSB-8, has an overall net impact of reducing the revenue requirement by $58.8M for PNM Customers. PNM Exhibit MJS-6 page 1 shows the impacts on each individual customer class for Scenario one.

Q. WHAT EFFECT WILL SCENARIO TWO HAVE ON PNM CUSTOMER CLASSES?

A. Scenario two, described by PNM Witness Phillips and shown in PNM Exhibit TSB-8, has an overall net impact of reducing the revenue requirement by $49.0M for PNM Customers. PNM Exhibit MJS-6 page 2 shows the impacts on each individual customer class for scenario two.

Q WHAT EFFECT WILL THE TWO SCENARIOS HAVE ON AVERAGE MONTHLY CUSTOMER BILLS?

A. The Residential 1A and Small Power 2A rate schedules account for over 99% of all PNM customer bills. PNM Exhibit MJS-7 shows the potential impacts of these Scenarios on average monthly bills over a range of usage. For a Residential 1A customer, the impacts range from an increase of $1.32 to a decrease of $19.31 per month based on usage and scenario. For a Small Power 2A customer, the impacts range from an increase of $2.89 to a decrease of $133.12 per month based on usage and scenario.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

GCG#527519

Michael J. Settlage
EDUCATIONAL AND PROFESSIONAL SUMMARY

Name: Michael J. Settlage

Address: PNM Resources, Inc.
MS 0605
414 Silver SW, Albuquerque, NM 87102

Position: Principal, Pricing and Regulatory Service
Public Service Company of New Mexico (PNM)

Education: Bachelor of Science- Electrical and Computer Engineering
Clemson University, 1984

Master of Science- Electrical and Computer Engineering
Specialization in Power Engineering
Clemson University, 1985

Employment:
- *Lead Pricing Analyst*, PNM (02/2019-Present);
- *Manager of Grid Modernization,* PowerServices, Inc. (07/2017-02/2019);
- *Director of Engineering and Project Management,* Nexgrid, LLC. (01/2017-07/2017);
- *Operations Manager,* ElectriCities of NC. (01/2011-01/2017);
- *Owner, ConciseConcept, LLC. (01/2007-11/2013);*
- *Various Positions,* Carolina Power & Light/ Progress Energy/ Progress Ventures/ Arclight Energy Marketing. (01/1986-06/2007);
- *Research Associate,* Clemson University, Clemson University Electric Power Research Association (CUEPRA). (08/1983-12/1985).

Previous Testimony:

Proceeding	**Body**	**Docket**
Adjustment of Base Rates for Fuel Costs of Carolina Power & Light Company	Public Service Commission of South Carolina	1995-1-E

Annual Review of Carolina Power and Light Base Rates for Fuel Costs	Public Service Commission of South Carolina	1998-1-E
Testimony Supporting Reconciliation of PNM's 2018 Energy Efficiency Incentive	NMPRC	17-00076-UT
Testimony in Support of PNM's 2020 Energy Efficiency Incentive	NMPRC	17-00076-UT
PNM's Application for Approval of PNM Solar Direct Voluntary Renewable Energy Program	NMPRC	19-00158-UT
PNM's Renewable Energy Act Plan for 2020	NMPRC	19-00159-UT
PNM's Consolidated Application for Abandonment of San Juan Generating Station	NMPRC	19-00195-UT
PNM's Application for Approval of Energy Efficiency 2021 Plan	NMPRC	20-00087-UT
PNM's Application for Approval of Demand Response Plan	NMPRC	20-00218-UT

GCG#527497

PNM Exhibit MJS-2

PUBLIC SERVICE COMPANY OF NEW MEXICO
ELECTRIC SERVICES
ORIGINAL RIDER NO. X

ENERGY TRANSITION ACT – PNM ENERGY TRANSITION ACT CHARGES

A) EXPLANATION OF RIDER: Pursuant to the terms of the Energy Transition Act ("ETA"), NMSA 1978, §§ 62-18-1 to -23 and the Financing Order issued by the New Mexico Public Regulation Commission ("NMPRC") in Case No. 19-____-UT on _____, this Rider sets forth the methodology to calculate the non-bypassable Energy Transition Charges for customers taking retail service under PNM retail rates

B) DEFINITIONS:

a) **Energy Transition Charge:** The non-bypassable charge, as required in the ETA Section 5(F)(3), assessed to PNM Customers to recover Energy Transition Costs including True-up Adjustments.

b) **Energy Transition Costs ("ETA Costs"):** The upfront and ongoing cost of the Energy Transition Bonds.

c) **Energy Transition Cost Allocators:** The percentages used to allocate the ETA Costs to customer classes consistent with the production cost allocation methodology established by the NMPRC in PNM's most recent rate case.

d) **True-up Adjustment:** The adjustment of Energy Transition Charges to correct for any over or under recovery of Energy Transition Costs from prior periods and to ensure timely payment of scheduled principal and interest (or deposits to sinking funds in respect of principal and interest) and other ongoing ETA Costs.

e) **True-up Period:** The period over which actual ETA Cost recovery is compared to planned recovery. Initially, the period from issuance of the bonds to the first scheduled debt payment date, then every six-months, or less, as required in ETA Section 6(B). For the final two years prior to final maturity of the Bonds, the adjustment period is three months as required in ETA Section 6(C).

f) **Forecast Period:** The 12-month period including the next True-up Period that is used for all customer count, customer load, customer demand, and ETA costs forecasts.

g) **Final ETA Reconciliation:** Section 4(B)(10) of the ETA.

h) **SPE:** [SPE], LLC, the special purpose entity identified in the Financing Order (the "SPE").

C) APPLICABILITY: The Energy Transition Charge applies to all customers taking service under the following PNM Rate Schedules: 1A, 1B, 2A, 2B, 3B, 3D, 3C, 3E, 4B, 5B, 10A, 10B, 11B, 15B, 30B, 33B, 35B, 36B 6 and 20. Should any new PNM Rate Schedules be added during the time that this Rider is in effect, Energy Transition Charges will be derived during the next applicable true up filing. All charges assessed and collected under this rider are owned by the SPE. PNM (or any successor utility) is acting as collection agent and servicer for the SPE during the time that this rider is in effect.

Advice Notice No. XYZ

Mark A. Fenton
Executive Director, Regulatory Policy and Case Management
GCG #ZZZZZZ

PNM Exhibit MJS-2

PUBLIC SERVICE COMPANY OF NEW MEXICO
ELECTRIC SERVICES
ORIGINAL RIDER NO. X

ENERGY TRANSITION ACT – PNM ENERGY TRANSITION ACT CHARGES

D) COMPONENTS OF ENERGY TRANSITION CHARGE BY RATE SCHEDULE:

Rate Schedule	Customer Charge ($/Bill)	Demand Charge ($/kW)	Light Charge ($/Light)
1A – Residential	X (Block)		
1B - Residential TOU	X		
2A - Small Power	X		
2B - Small Power TOU	X		
3B - General Power TOU		X	
3D - General Power TOU Pilot Municipal and Counties		X	
3C - General Power TOU (Low Load Factor)		X	
3E - General Power TOU (Low Load Factor) Pilot Municipal and Counties		X	
4B - Large Power TOU		X	
5B - Large Service TOU (>= 8,000 kW)	X (Per Indiv. Cust.)		
10A – Irrigation	X		
10B - Irrigation TOU	X		
11B - Water and Sewage Pumping TOU	X		
15B - Large Service for Public Universities (>= 8,000 kW)	X (Per Indiv. Cust.)		

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PNM Exhibit MJS-2

PUBLIC SERVICE COMPANY OF NEW MEXICO
ELECTRIC SERVICES
ORIGINAL RIDER NO. X

ENERGY TRANSITION ACT – PNM ENERGY TRANSITION ACT CHARGES

Rate Schedule	Customer Charge ($/Bill)	Demand Charge ($/kW)	Light Charge ($/Light)
30B - Industrial Large Service (>= 30,000 kW)	X (Per Indiv. Cust.)		
33B: Large Service for Station Power TOU	X (Per Indiv. Cust.)		
35B: Large Power Service (>=3,000 kW TOU)	X (Per Indiv. Cust.)		
36B: Special Service - Renewable Energy Resources	X (Per Indiv. Cust.)		
6 - Private Area Lighting			X
20 – Streetlighting			X

E) RATE ADJUSTMENT PROVISIONS FOR ENERGY TRANSITION COST ALLOCATORS:

The Energy Transition Cost allocators shall be reset every six-months in accordance with the timing set forth in the ETA Section 6.

The cost elements that will be recovered through the ETA Rider shall include the debt service, any adjustments necessary to account for prior over/under recovery, and any other adjustments necessary to ensure the Financing Costs identified in the Financing Order are recovered.

a) The Revenue Requirement includes the up front and ongoing energy transition costs and adjustments for previous period under or over recovery.

$$Revenue\ Requirement\ (\$) = Energy\ Transition\ up\ front\ costs + Energy\ Transition\ ongoing\ costs + true\text{-}up\ adjustments$$

b) The Billing Requirement is the Revenue Requirement adjusted for projected collection lag and estimated uncollectable amounts.

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PNM Exhibit MJS-2

PUBLIC SERVICE COMPANY OF NEW MEXICO
ELECTRIC SERVICES
ORIGINAL RIDER NO. X

ENERGY TRANSITION ACT – PNM ENERGY TRANSITION ACT CHARGES

$$Billing\ Requirement(\$) = revenue\ requirement\ (\$) + adjustments\ for\ collection\ lag\ and\ estimated\ uncollectable\ amounts$$

c) The Billing Requirement is allocated to individual NMPRC approved rate schedules through Energy Transition Act allocators.
d) The energy transition act allocators are re-calculated, consistent with the NMPRC approved methodology, for each true-up adjustment using the most recent forecasts of load and energy.
e) Applying the updated allocators, the ETA costs are allocated to the individual rate schedules based on the proportion of rate schedule to tariff class forecast energy.

$$rate\ schedule\ revenue\ requirement\ (\$) = revenue\ requirement\ (\$) \times allocator \times \frac{forecast\ rate\ schedule\ energy}{forecast\ customer\ class\ energy}$$

F) **ENERGY TRANSITION CHARGE COMPONENT CALCULATION METHODOLOGY**: Customers receiving service under this Rider will be required to pay a non-bypassable Energy Transition Act Charge. The Energy Transition Costs to be recovered are allocated to the Rate Schedules in a manner consistent with the production cost allocation methodology approved in the most recent rate case. For each rate schedule, the specific ETA charges are calculated as indicated in the following sections.

a) ETA Charges consist of a demand charge for general power and large power rate schedules (3B, 3C, 3D, 3E, and 4B). The same demand charge is applied to each customer served by the rate schedule.

$$Demand\ Charge\ \left(\frac{\$}{kW}\right) = \frac{rate\ schedule\ billing\ requirement\ (\$)}{forecast\ rate\ schedule\ demand\ (kW)}$$

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PNM Exhibit MJS-2

PUBLIC SERVICE COMPANY OF NEW MEXICO
ELECTRIC SERVICES
ORIGINAL RIDER NO. X

ENERGY TRANSITION ACT – PNM ENERGY TRANSITION ACT CHARGES

b) ETA Charges consist of a customer charge for the large service and special service rate schedules: (5B, 15B, 30B, 33B, 35B, and 36B). Each customer served by these rate schedules will have a specific customer charge based on their rate schedule and their percentage of the total rate schedule demand.

$$\text{Individual } Customer\ Charge\ \left(\frac{\$}{bill}\right) = rate\ schedule\ billing\ requirement\ (\$)\ \times \frac{forecast\ customer\ demand\ (kW)}{forecast\ rate\ schedule\ demand\ (kW)}$$

c) ETA Charges consist of a light charge for the lighting rate schedules (6 and 20). Every account served by one of these rate schedules has the same unit charge.

$$Light\ Charge\ \left(\frac{\$}{light}\right) = \frac{rate\ schedule\ billing\ requirement\ (\$)}{forecast\ rate\ schedule\ light\ count}$$

d) ETA Charges consist of block customer charges for the residential 1A rate schedule. The ETA recovery follows the existing usage blocks in the rate schedule and charges a distinct ETA customer charge for each block.

block1 customer charge is applicable to all customers regardless of net usage.
block3 customer charge is applicable to customers who use energy in block three.

$$block_n\ customer\ charge = \frac{rate\ schedule\ billing\ requirement\ (\$)}{forecast\ block_n\ customers} \times \frac{forecast\ block_n\ energy}{forecast\ Rate\ Schedule\ energy}$$

$$Customer\ Charge\ \left(\frac{\$}{bill}\right) = \sum_{n=1,3} applicable\ block_n\ customer\ charge$$

e) ETA Charges consist of a customer charge for the remaining rate schedules (1B, 2A, 2B, 10A, 10B, 11B). Every customer served by one of these rate schedules has the same energy charge.

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Executive Director, Regulatory Policy and Case Management
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PNM Exhibit MJS-2

PUBLIC SERVICE COMPANY OF NEW MEXICO
ELECTRIC SERVICES
ORIGINAL RIDER NO. X

ENERGY TRANSITION ACT – PNM ENERGY TRANSITION ACT CHARGES

$$Customer\ Charge\ \left(\frac{\$}{bill}\right) = \frac{rate\ schedule\ billing\ requirement\ (\$)}{forecast\ rate\ schedule\ customer\ count}$$

G) RECOVERY PERIOD TRUE-UP FORM:

The Recovery Period True-up Form can be found as Appendix 1, which is attached to this Rider.

H) CUSTOMER CLASS ALLOCATION FORM:

The Customer Class Allocation Form can be found as Appendix 2, page 1, which is attached to this Rider.

I) RATE SCHEDULE ALLOCATION FORM:

The Rate Schedule Allocation Form can be found as Appendix 2, page 2, which is attached to this Rider.

J) ETC CALCULATION FORM:

The ETC Calculation Form can be found as Appendix 3, pages 1 through 5, which is attached to this Rider.

K) ENERGY TRANSITION CHARGES FORM:

The Energy Transition Act Charges Form can be found as Appendix 4, which is attached to this Rider.

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Executive Director, Regulatory Policy and Case Management
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Sections 5(F)(3) and 6(A) of the Energy Transition Act authorize PNM to charge customers an energy transition charge ("ETC") as defined in Section 2(G) of the Energy Transition Act which shall be allocated to customer classes consistent with the production cost allocation methodology established by the commission in PNM's most recent general rate case. At the time of this filing the method was approved in Case No. 15-00261-UT and was also filed in the stipulated Case No. 16-00276-UT. This allocation method is based on the coincident peak during the four highest peak months of the year: 3 summer months (June, July, and August) and 1 winter month (December) ("3S1W"). These four coincident peaks are used to calculate the allocation factors for each customer class as described in the Case No. 15-00261-UT rate case.

As the NMPRC establishes updated production cost allocation methodologies for PNM, the then current method will be adopted and used to develop allocation factors for each customer class.

At each true-up, new customer class allocation factors will be calculated using the commission established method. The Periodic Billing Requirement is multiplied by the allocation factors to calculate the revenue requirement for each customer class.

$$\begin{aligned} &Customer\ Class\ Billing\ Requirement\ (\$) \\ &\quad = Periodic\ Billing\ Requirement\ (\$) \\ &\quad \times production\ allocation\ factor \end{aligned}$$

The form of the Periodic Revenue Requirement calculation is from PNM Exhibit MJS-2 Appendix 1.

The form of the customer class billing requirement is provided in PNM Exhibit MJS-2, Appendix 2, page 1.

The Periodic Billing Requirement, described in PNM Witness Settlage's testimony, is allocated to the customer classes as described in PNM Exhibit MJS-3. This exhibit describes how the customer class billing requirements are sub allocated to the rate schedules.

PNM currently has fifteen customer classes with nineteen active rate schedules approved by the Commission. These customer classes and rate schedules are listed in PNM Table MJS-2.

PNM Table MJS-2 Customer Classes and Rate Schedules

Customer Class	Rate Schedule(s)
1 Residential	01A and 01B
2 Small Power	02A and 02B
3B General Power	3B and 3D
3C General Power (Low LF)	3C and 3E
4B Large Power	4B
5B Large Service (>= 8,000 kW)	5B
10 Irrigation	10A and 10B
11B Water and/Sewage Pumping	11B
15B Large Service for Public Universities (>= 8,000 kW)	15B
30B Industrial Large (>= 30,000 kW)	30B
33B Large Service for Station Power	33B
35B Large Service (>=3,000 kW)	35B
36B Special Service - Renewable Energy Resources	36B
6 Private Area Lighting	06
20 Streetlighting	20

Five customer classes currently aggregate two rate schedules. PNM will allocate the customer class revenue requirements on a more granular level to each individual rate schedule.

Customer Class Billing Requirements allocated to rate classes with multiple rate schedules, currently Residential, Small Power, General Power, General Power Low LF, and Irrigation customer classes, will be sub-allocated to each individual rate schedule using tariff class to rate schedule allocators.

The rate schedule allocator is calculated as the forecast energy for the rate schedule divided by the total energy for the rate schedules in the customer class, expressed as a percentage.

$$Rate\ Schedule\ Allocator\ (\%) = \frac{forecast\ rate\ schedule\ load\ (kWh)}{forecast\ customer\ class\ load\ (kWh)}$$

$$Rate\ Schedule\ Billing\ Requirement\ (\$) = Rate\ Schedule\ Allocator\ (\%) \times Customer\ Class\ Billing\ Requirement(\$)$$

For example, if customers served under rate schedule 2B Small Power Service Time Of Use account for 2% of the forecast energy in rate class Small Power, that rate schedule is allocated 2% of the customer class billing requirement.

The most recent forecasts that cover the recovery period are used for the allocator calculations. The allocators are re-calculated for each True-Up Adjustment to account for changes in customer usage.

The rate schedule billing requirement calculation form is provided in PNM Exhibit MJS-2, Appendix 2, page 2.

To ensure that energy transition charges are non-bypassable, and to recover energy transition costs consistent with energy and demand allocations within each customer class, PNM proposes different energy transition charge types suited to the specific characteristics of the PNM rate schedules and the customers served thereunder.

The Form of the energy transition charges is provided in PNM Exhibit MJS-2, Appendix 3, pages 1 through 5.

The proposed energy transition charge types include a customer charge ($/bill) that applies to all customers within the rate schedule, an individual customer charge that is different for each customer within the rate schedule, a block customer charge that is assessed to Residential 1A customers based on their usage, a demand charges ($/kW) that is applies to all customers within the rate schedule, and a light charge ($/light) that applies to all lights within the rate schedule.

Customer Charge

A rate schedule customer charge is proposed for the PNM rate schedules 1B, 2A, 2B, 10A, 10B, 11B. These rate schedules have hundreds to thousands of customers each and do not have demand metering. Every customer served by one of these rate schedules has the same energy charge.

$$Customer\ Charge\ \left(\frac{\$}{bill}\right) = \frac{rate\ schedule\ billing\ requirement\ (\$)}{forecasted\ rate\ schedule\ customer\ count}$$