

FEI 2016 Rate Design Application

Cost Of Service Allocation Streamlined Review

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Agenda

2016
COSA
Study

Overview of Cost of Service Allocation (COSA)
Study

COSA Results

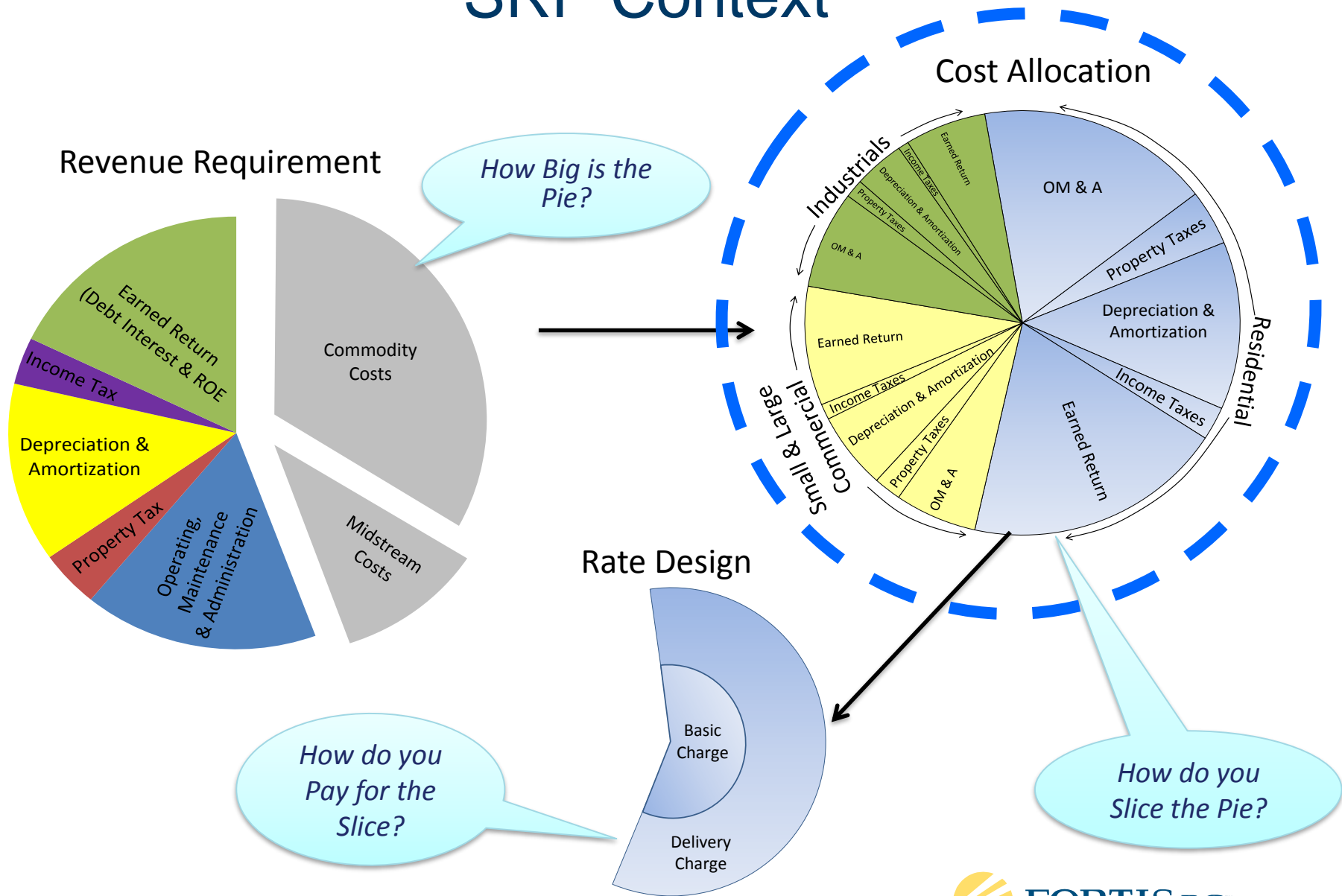
EES Report on FEI's COSA

Elenchus Report on FEI's COSA

Key Areas of Interest

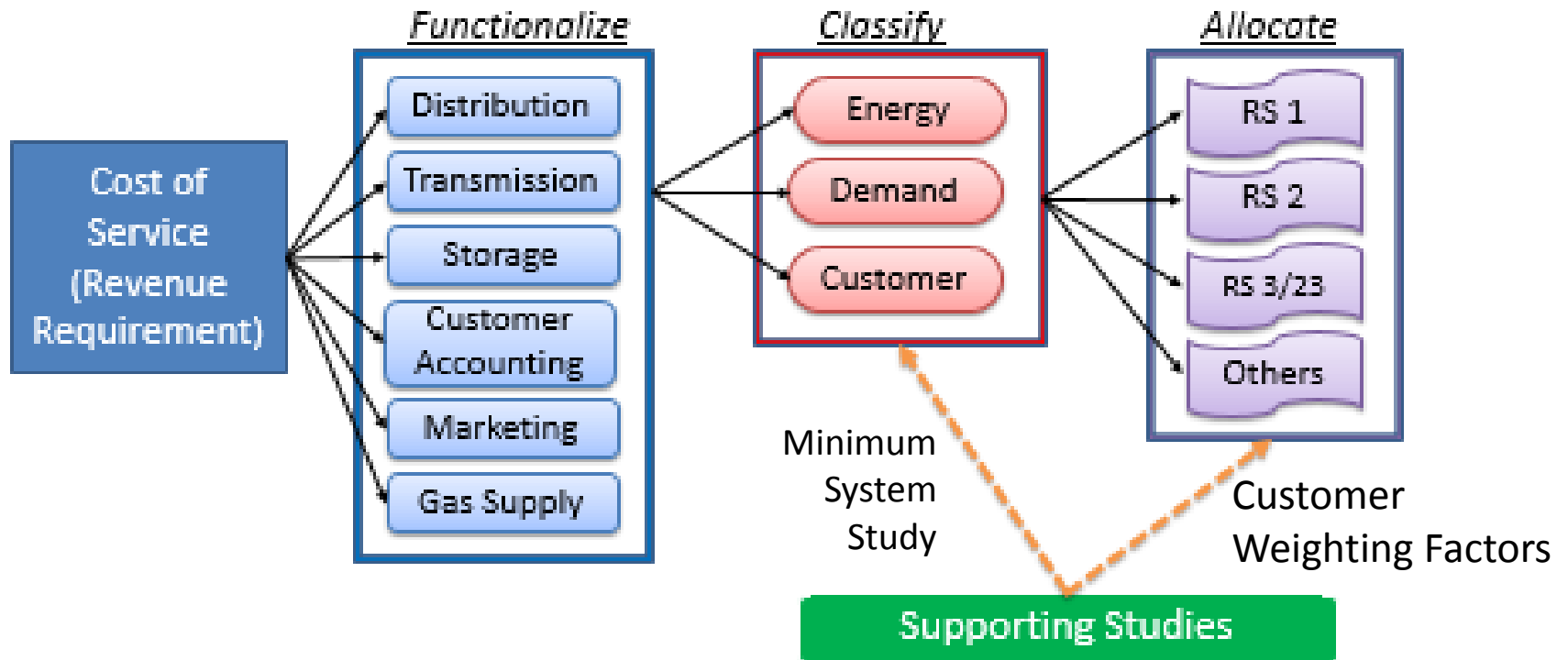
Conclusion

SRP Context



Overview of COSA

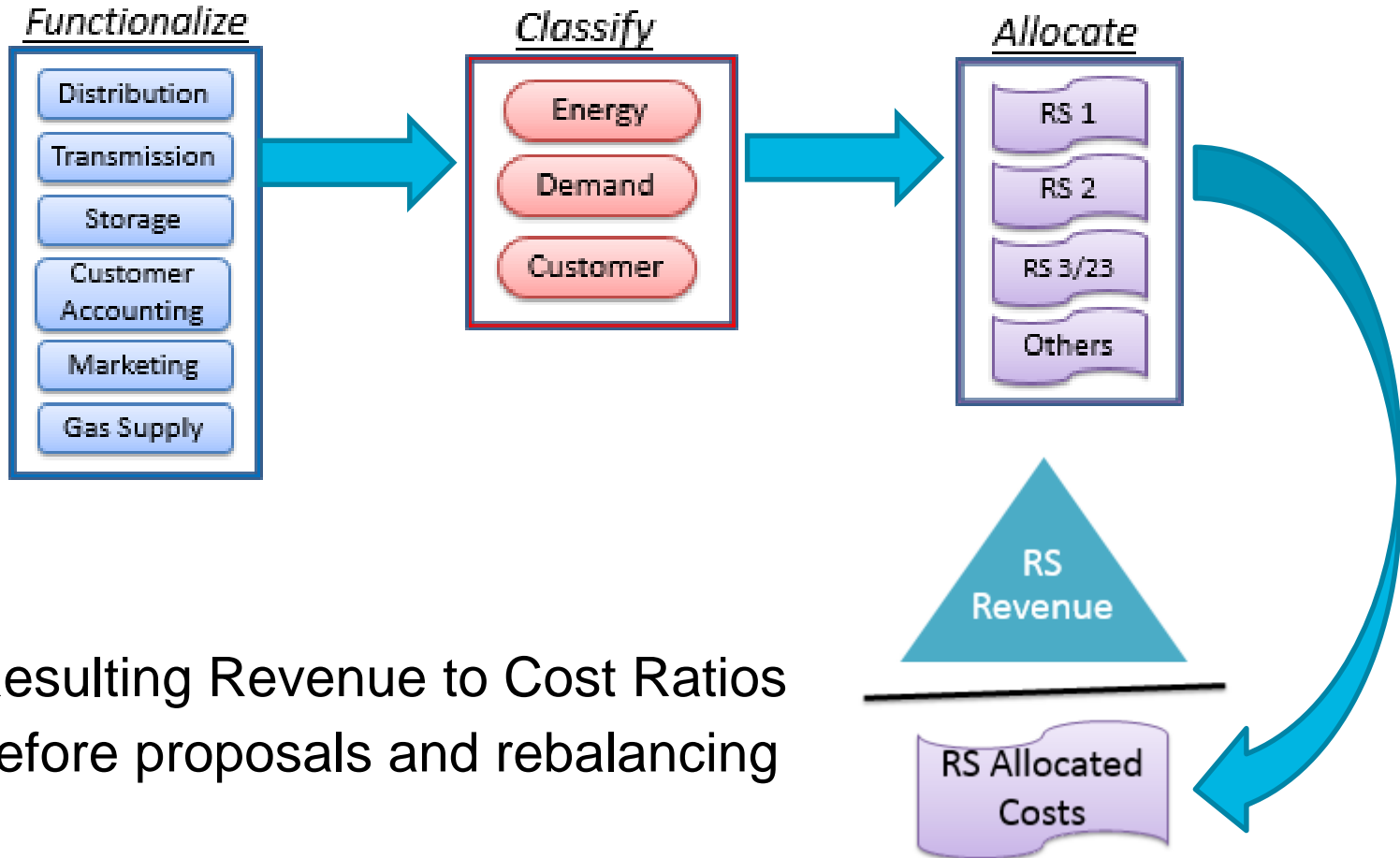
- Fair allocation of costs among customer groups (rate schedules)
- Conducted in accordance with standard utility practice



- Review whether revenue by rate schedule recovers allocated costs (R:C ratio) within a range

Summary of COSA Results

- Summary of Allocations



- Resulting Revenue to Cost Ratios before proposals and rebalancing

FEI's COSA Results before Proposals/Rebalancing

| Rate Schedule | R:C |
|--|---------|
| Rate Schedule 1 <i>Residential Service</i> | 95.6% |
| Rate Schedule 2 <i>Small Commercial Service</i> | 101.3% |
| Rate Schedule 3/23 <i>Large Commercial Sales and Transportation Service</i> | 101.6% |
| Rate Schedule 5/25 <i>General Firm Sales and Transportation Service</i> | 104.9% |
| Rate Schedule 6 <i>Natural Gas Vehicle Service</i> | 131.2% |
| Rate Schedule 22A <i>Transportation Service (Closed) Inland Service Area</i> | 109.5% |
| Rate Schedule 22B <i>Transportation Service (Closed) Columbia Service Area</i> | 99.7% |
| Rate Schedule 4 <i>Seasonal Firm Gas Service</i> | 147.4% |
| Rate Schedule 7/27 <i>General Interruptible Sales and Transportation Service</i> | 139.6% |
| Rate Schedule 22 <i>Large Volume Transportation Service</i> | 1425.5% |

Fort Nelson's COSA Results before Proposals/Rebalancing

| Rate | R:C |
|--|--------|
| Rate 1 Domestic (Residential) Service | 90.5% |
| Rate 2.1 General (Small Commercial) Service | 108.3% |
| Rate 2.2 General (Large Commercial) Service | 113.2% |
| Rate Schedule 25 General Firm Transportation Service | 112.1% |

EES Report on FEI's COSA

Exhibit B-1, Appendix 6-1, Executive Summary

- “. . . based on appropriate methodologies and takes into account standard practice, past precedent and cost causation.”
- “. . . COSA follows standard utility practice, is generally consistent with past practice for the utility and the results are acceptable for purposes of setting just and reasonable rates for the utility”
- “FEI has proposed using a 90% to 110% revenue to cost ratio range of reasonableness. We consider this to be a reasonable range”

Elenchus COSA Report (Exhibit A2-2)

Summary of Conclusions

- “Elenchus is of the view that the functions used by FEI are appropriate and reflect the various activities that FEI is involved in during the delivery of natural gas to its customers.”
- “Demand, energy and customer are the standard classifications used in COSA studies and Elenchus agrees with the classifications used by FEI in the COSA studies.”
- “Elenchus agrees with the allocators used by FEI in the COSA study and they are the standard allocators used by utilities in COSA studies.”

Elenchus COSA Report (Exhibit A2-2)

Items identified for consideration

- “The 10 year horizon used by FEI in its COSA study to reflect the impact of the Tilbury Expansion project is not consistent with standard practice . . . Except in extraordinary cases . . . Elenchus is not aware of any unique aspects of the Tilbury Expansion Project . . . that justify exceptional treatment of this project in the form of levelizing its costs for purposes of the COSA.”
- “Elenchus opinion is that the PLCC adjustment for Fort Nelson should be based on the characteristics for Fort Nelson”

Elenchus Reports (Exhibits A2-2 and A2-10)

Range of Reasonableness

- “Regulators typically accept rates within a range as constituting full recovery since it is recognized that cost allocation studies are not precise.”
- “. . . deviations from 100% are as likely to be the results of the imprecision of the methodology as they are to be the results of true cost differences.”
- “. . . use of a range of reasonableness is the most common approach to relating proposed rates to the allocated costs.”

Key Areas of Interest

- COSA Treatment of Tilbury Expansion Project
- Minimum System Study
- Customer Weighting Factors
 - Meters and Services
 - Administration and Billing
- Range of Reasonableness
 - Assumptions, Judgements, Simplifications, Estimations
 - Peak Day Demand Regression

COSA Treatment of Tilbury Expansion

Ten Year Levelized vs. Year One of Operations

- FEI included costs and revenues (from LNG sales) using 10 year levelized approach
- Using only the first year of operations changes allocations marginally and affects R:C results

| Rate Sched. | Chg. in R:C | Rate Sched. | Chg. in R:C | Rate Sched. | Chg. in R:C |
|-------------|-------------|-------------|-------------|-------------|-------------|
| RS 1 | +0.2% | RS 6/6P | +0.9% | RS 4 | +1.1% |
| RS 2 | -0.2% | RS 22A | +2.0% | RS 7/27 | +0.9% |
| RS 3/23 | -0.3% | RS 22B | +1.8% | | |
| RS 5/25 | -0.3% | RS 22 | +0.0% | | |

- FEI considers 10 year levelized approach appropriate

Minimum System Study (MSS)

Minimum size used in study

- “Elenchus reviewed the MSS and PLCC adjustment study done by FEI and agrees with how FEI has conducted the study and used the results.”
- “. . . utilities that apply the minimum system method to classify distribution mains between customer and demand related use the size of mains currently being installed.” “. . . the key consideration should be the availability of appropriate cost data.”
- FEI’s current minimum standard is 60 mm
- More costing data on 60 mm; better estimates for MSS
- “. . . Elenchus considers the 60 mm to be an appropriate minimum system standard.”



Customer Weighting Factor

For Meters and Services

- Recognizes that larger volume customers (typically Commercial and Industrial) require more expensive meter sets
- Weightings are relative to Residential Class
- The weights include:
 - ▣ Cost of Meters, Regulating Equipment and Installation
 - ▣ Cost of Service Lines
 - ▣ Cost of Telemetry/AMR
- Weightings are used to allocate Meters and Services plant costs

Customer Weighting Factor

For Administration and Billing

- Recognizes that Commercial and Industrial customers typically require more administrative and billing effort
- Factors are relative to Residential Class
- The factors consider:
 - ❑ Use of Remote Meter Reading and frequency of meter reading
 - ❑ Method of collecting and retaining load data
 - ❑ Time spent responding to customer inquiries
 - ❑ Dedicated account managers for Commercial and Industrial customers
 - ❑ Resources dedicated to billing, measurement and marketing
 - ❑ Marketing programs
- Factors are used to allocate customer accounting and marketing costs in the COSA

Customer Weighting Factor

For Administration and Billing

| Rate Schedule | Customer Weighting Factor | Customer Admin & Billing Factor |
|---------------|---------------------------|---------------------------------|
| 1 | 1.0 | 1.0 |
| 2 | 1.7 | 1.0 |
| 3 | 7.0 | 1.2 |
| 4 | 13.6 | 0.9 |
| 5 | 11.1 | 43.0 |
| 6 | 13.3 | 43.0 |
| 7 | 132.5 | 43.0 |
| 22 | 49.9 | 75.0 |
| 22A | 399.2 | 75.0 |
| 22B | 562.6 | 75.0 |
| 23 | 10.3 | 75.0 |
| 25 | 17.6 | 75.0 |
| 27 | 46.2 | 75.0 |

| | |
|---------|---|
| 976,429 | Residential and Commercial Customers |
| 247 | Call Centre Staff |
| 0.00025 | Call Centre Staff to Res and Com Customer |
| 2,651 | Industrial Customers |
| 31 | Key Account Managers (excl. Marketing) |
| 0.01169 | Key Acct Mgrs to Industrial Customer |
| 46 | Ratio relative to Res and Com |

| | |
|---------|--|
| 976,697 | Mass Market Billing Customers |
| 43 | Mass Market Billing Staff |
| 0.00004 | Mass Market Billing Staff to Customer |
| 2,383 | Transport Customers |
| 8 | Billing and Measurement |
| 0.00336 | Billing and Msmt to Transport Customer |
| 76 | Ratio relative to Mass Market |

Range of Reasonableness

A range is required

- COSA based on a forecast
- Supporting studies are imprecise
- Load data is not exact
- Many costs are common costs
- Assumptions
- Judgements
- Simplifications
- Estimations

Range of Reasonableness

A range is required

Assumptions

- Test Year Forecast and Known and Measurable Changes

Judgement

- Demand allocation methods

Simplifications

- Common Costs

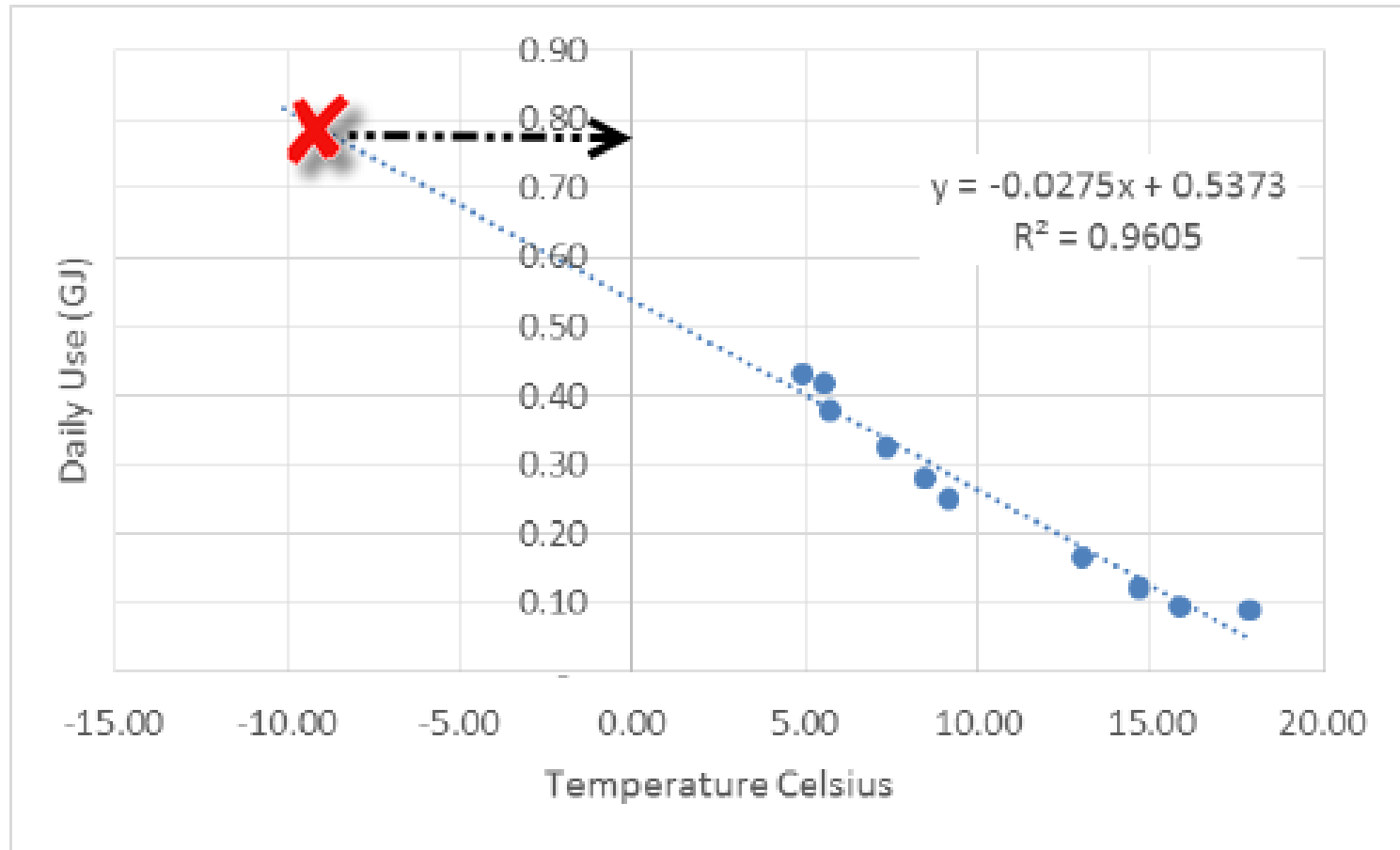
Estimations

- Peak Day Demand

Range of Reasonableness

A range is required

1. Estimate
2. Average
3. Average
4. Plot
5. Regress
6. Calculate Load Factor



Range of Reasonableness

R:C at 90 -110 percent

- Past Precedent on 90 – 110 on R:C Ratio
- Accuracy of COSA similar to past
- Other Jurisdictions use R:C
- R:C reflects customers' experience



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