Competitive Metering Decision Components
September 17, 2002

The underlying question that must be answered to implement competitive metering in the Texas Market…

What defines competitive metering?

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Considerations When Creating A Definition

**Value to consumer**　　　　　　　　　　　**Cost/Impact**

SB7

Items to consider:

1. **Legislative requirements**

2. **PUCT goals and objectives for the electricity market**

3. **REP & QSE needs for metering services**

4. **TDSP, ERCOT, REP & QSE needs for settlement metering data**

5. **Market cost versus benefits for different competitive metering definitions**

   a. **System costs for Market Participants**

   b. **System costs for ERCOT**

   c. **Rule development costs**

   d. **Oversight costs**

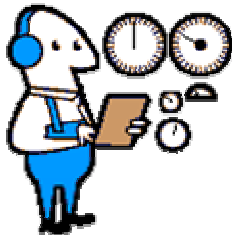6. **Timeline to implement competitive metering**

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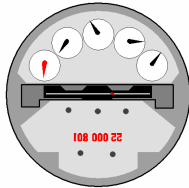
Ownership

- *Asset ownership*
- *Standards*

Installation/Removal

- *Install meter*
- *Inspect installation for code compliance*
- *Data transmittal*
- *Remove meter*

Maintenance

- *Scheduled & Unscheduled testing*
- *Failure investigation*
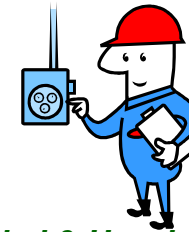- *Equipment repair/replacement*
- *PUCT reporting requirements*

Meter Reading

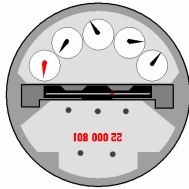- *Scheduled & Unscheduled Meter Reads*
- *Visual inspections & problem reporting*
- *Data transmittal to appropriate entities*

Data Translation (VEE)

- *Validation*
- *Estimation*
- *Editing*
- *Extract billing components*

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Competitive

Ownership

Possible Owners:

- **Customer**
- **TDSP**
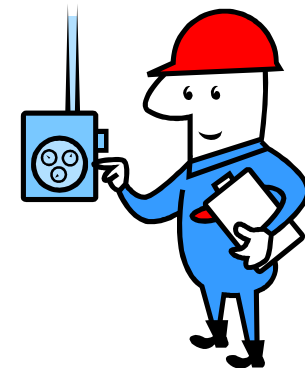- **CR**

Possible Impacts:

- **Ownership information transmission to MPs**
- **Evaluation of meter for installation**
- **TDSP tracking of meters (CRs too?)**
- **Service order processing**
- **Development of Operating Rules & Procedures**
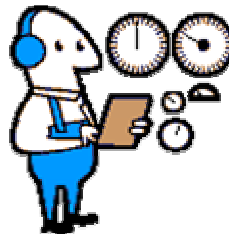
TDSP Maintains Responsibility
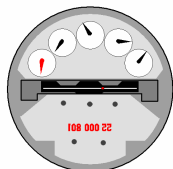
Installation/Removal

Maintenance

Meter Reading

Data Translation (VEE)

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Competitive

Ownership

Installation/ Removal

TDSP Maintains Responsibility

Possible Providers:

- **Customer (ownership only)**
- **TDSP**
- **CR**
- **Meter Service Provider (MSP)**

Possible Impacts:

- **Ownership information transmission to MPs**
- **Meter Installation/Removal**
- **Tracking of meters (TDSP, MSP, CR)**
- **MSP certification & approval process**
- **Tracking of MSP (TDSP, ERCOT?)**
- **Service order processing**
- **TX SET transactions (new field requirements)**
- **TDSP/ERCOT registration processes**
- **Development of Operating Rules & Procedures**

Meter Reading

Maintenance

Data Translation (VEE)

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Competitive

Ownership

Possible Providers:

- **Customer (ownership only)**
- **TDSP**
- **CR**
- **Meter Service Provider (MSP)**

Possible Impacts (same as Scenario 2):

- **Ownership information transmission to MPs**
- **Meter Installation/Removal**
- **Tracking of meters (TDSP, MSP, CR)**
- **MSP certification & approval process**
- **Tracking of MSP (TDSP, ERCOT?)**
- **Service order processing**
- **TX SET transactions (new field requirements)**
- **TDSP/ERCOT registration processes**
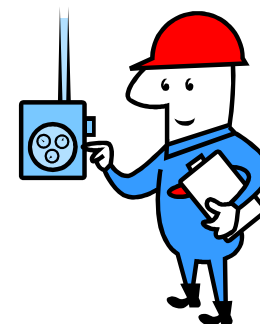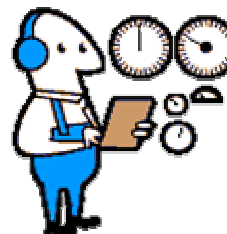- **Development of Operating Rules & Procedures**
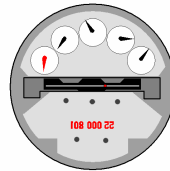
Installation/Removal

Maintenance
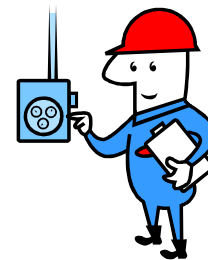
TDSP Maintains Responsibility

Meter Reading

Data Translation (VEE)

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Competitive

Meter Reading

Possible Providers:

- **TDSP**
- **CR**
- **Meter Reading Entity (MRE)**

Possible Impacts:

- **Meter Data Transmission to MPs and ERCOT**
- **TX SET transactions (e.g. sending and forwarding functions)**
- **MRE Certification/Approval Process**
- **Tracking of MRE, including switching (TDSP, CR, ERCOT)**
- **Service order processing**
- **TDSP/ERCOT Registration processes**
- **Development of Operating Rules and Procedures**

TDSP Maintains Responsibility

Maintenance

Installation/ Removal

Data Translation (VEE)

Ownership

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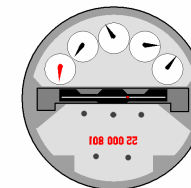
Scenario 5 – Competitive Meter Reading & Data Translation

Meter Reading
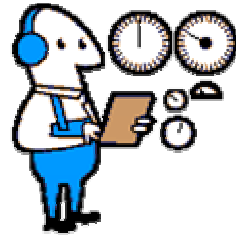
Data Translation (VEE)

Maintenance

Possible Providers:

- **TDSP**
- **CR**
- **Meter Reading Entity (MRE)**

Possible Impacts:

- **Meter Data Transmission to MPs and ERCOT**
- **TX SET transactions (e.g. sending and forwarding functions)**
- **MRE Certification/Approval Process**
- **Tracking of MRE, including switching (TDSP, CR, ERCOT)**
- **Service order processing**
- **TDSP/ERCOT Registration processes**
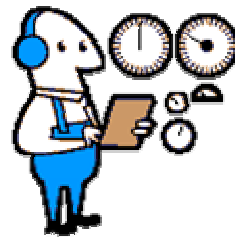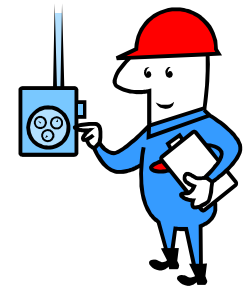- **Development of Operating Rules and Procedures**
- **Certification/Approval Process for VEE**

Installation/ Removal

Ownership

Existing Infrastructure

MRE → TDSP → (EDI) → ERCOT → (EDI) → CR

MRE → ERCOT → (EDI) → TDSP
ERCOT → (EDI) → CR

*Existing Infrastructure if
MRE submits EDI*

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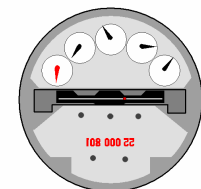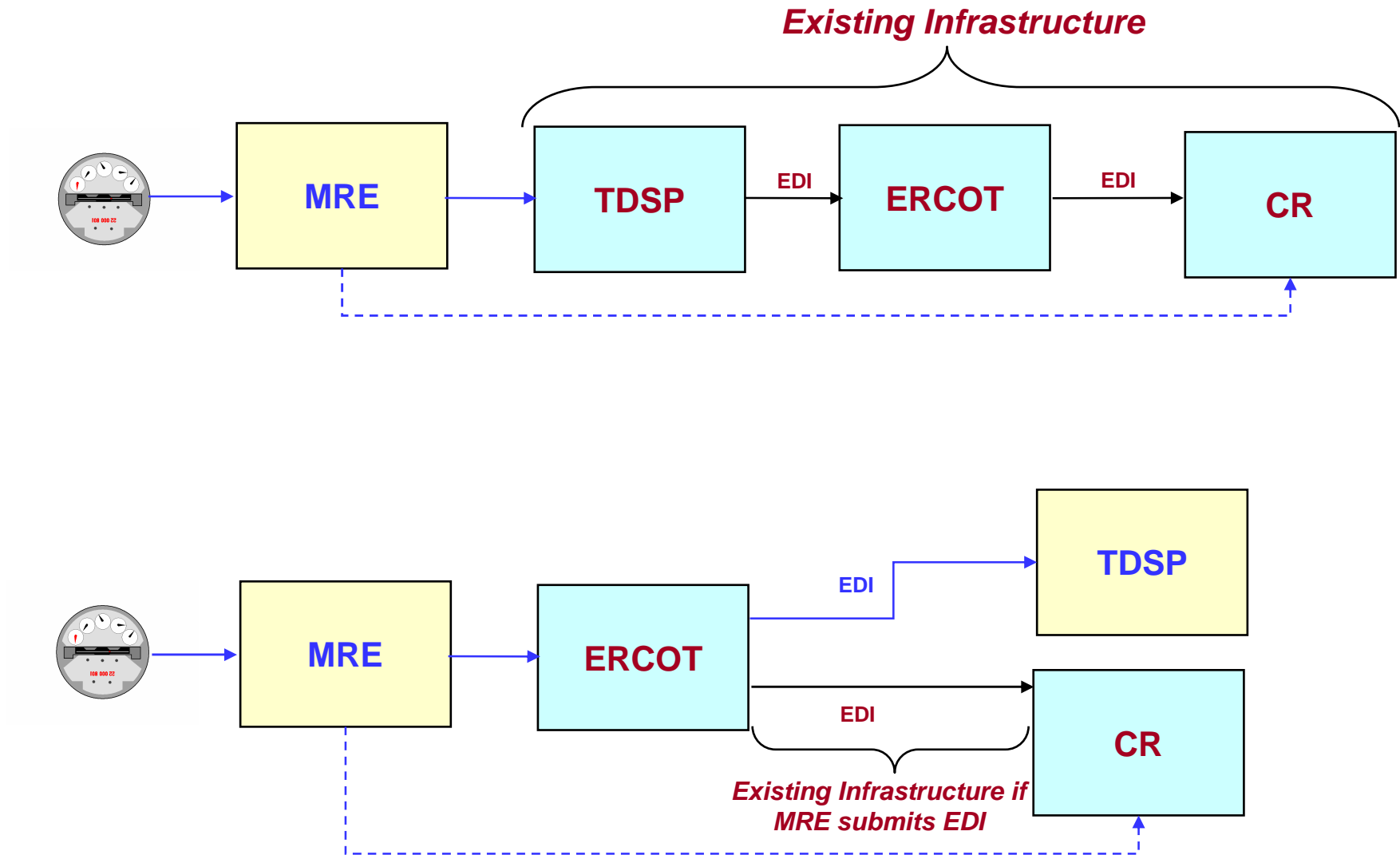
Initial Analysis of Market Participant Impacts by Competitive Metering Scenario

Process	Scenario 1 - Ownership	Scenarios 2/3 – Ownership, Installation/Removal, Maintenance	Scenarios 4/5– Meter Reading & Data Translation *MRE to TDSP to ERCOT*	Scenarios 4/5 - Meter Reading & Data Translation *MRE to ERCOT to TDSP & CR*
Data transmission	CR, TDSP, Customer	CR, TDSP, Customer, MSP	MRE, TDSP, CR	MRE, TDSP, CR
Service Order	TDSP, CR	TDSP, CR, MSP	MRE, TDSP, CR	MRE, TDSP, CR
Tracking Meters	TDSP	TDSP, MSP, CR?		
Tracking MSP		TDSP, ERCOT		
Tracking MRE			TDSP, CR	ERCOT, TDSP, CR
Installation/Removal	TDSP	TDSP, MSP		
TX SET Transactions		ERCOT, TDSP, CR, MSP		ERCOT, MRE, TDSP, CR
Registration Processes		ERCOT, TDSP, CR, MSP		ERCOT, MRE, TDSP, CR
Rules/Procedures	PUCT	PUCT, ERCOT, TDSP, CR, MSP	PUCT, TDSP, CR, MRE	PUCT, ERCOT, TDSP, CR, MRE
MSP certification		PUCT, MSP, TDSP, CR, ERCOT		
MRE certification			PUCT, TDSP, CR, MRE	PUCT, ERCOT, TDSP, CR, MRE
MRE VEE certification			PUCT, TDSP, CR, MRE *(Scenario 5 only)*	PUCT, ERCOT, TDSP, CR, MRE *(Scenario 5 only)*

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Entity Eligible to Perform Function

Function	California*	New York**	Arizona***	Massachusetts
Ownership	CR, TDSP, MSP	CR, TDSP, MSP	CR, TDSP, MSP	TDSP
Installation / Removal	CR, TDSP, MSP	CR, TDSP, MSP	CR, TDSP, MSP	TDSP
Maintenance	CR, TDSP, MSP	CR, TDSP, MSP	CR, TDSP, MSP	TDSP
Meter Reading	CR, TDSP, MRE	CR, TDSP, MRE	CR, TDSP, MRE	TDSP
Data Translation	CR, TDSP, MRE	CR, TDSP, MRE	CR, TDSP, MRE	TDSP
Data Aggregation	CR, TDSP, MRE	TDSP		TDSP
VEE	CR, TDSP, MRE	CR, TDSP, MRE	CR, TDSP, MRE	TDSP

* MSP and MRE must be acting as agent of CR or TDSP

** Customer can contract directly with MSP

*** MSP must be acting as agent of CR or TDSP

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1. **What is the cost for Market Participants and ERCOT for different competitive options?**

2. **Will capital investments be made to justify implementation costs?**

3. **Do potential customer savings justify implementation costs?**

4. **Have customers in other markets embraced competitive metering options? What were the lessons learned?**

5. **Could competitive metering be phased-in and if so, how?**

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APPENDIX

Summary of Implementation In Other States

Initial Analysis of Market Participant Impacts for different Scenarios

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Functions in the State of Arizona

Meter Service Provider (MSP)

- **Provides Metering Services "all functions related to measuring electricity consumption".**

- **Owns the meter – Metering equipment ownership is limited to the Affected Utility, Utility Distribution Company and the Electric service Provider, or the customer, who must obtain the metering equipment through the Affected Utility, Utility Distribution Company or the Electric service Provider**

- **Maintains the meter - maintenance and servicing of metering equipment is limited to the Affected Utility, Utility Distribution Company and the Electric service Provider**

Meter Reading Service Provider (MRSP)

- **Reads the meter & performs validation, editing and estimation (VEE)**

- **Translates billing-ready data to an approved format**

- **Posts the data to a server for retrieval by billing agents**

- **Manages the server**

- **Exchanges data with market participants**

- **Stores meter data for problem resolution**

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Meter Service Provider (MSP)

- **Provides services to the ESCO or UDC only**
  - **Meter acquisition**
  - **Meter installation**
  - **Meter maintenance functions**

Meter Reading Service Provider (MRSP)

- **Provide services to the ESCO or UDC only**
  - **Meter reading**
  - **Meter data translation**
  - **Validation, editing and estimation functions**
  - **Data Aggregation**

Metering provider of last resort

- **T&D Utilities**

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Meter Service Provider (MSP)

- Can provide services directly to the end use customer

  - Meter acquisition

  - Meter installation and removal

  - Meter maintenance functions

Meter Reading Service Provider (MRSP)

- Can provide services directly to the end use customer

  - Meter reading

  - Meter data translation

  - Customer association

  - Validation, editing and estimation functions

Metering provider of last resort

- T&D Utilities

- T&D Utilities will also track all meters on their system

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Massachusetts

Legislative requirement

- **Directed the Division of Energy Resources (DOER) to conduct a study to determine if metering should be unbundled and offered as a competitive energy service .**

Staff decisions and direction from the study

- **It would not be beneficial to the market to introduce competitive metering at this time.**

- **They would look at the possibility of introducing competitive metering at some point after February 2005 .**

- **There is a need to have a means to deploy advanced metering**

  - **Opened a proceeding to establish the terms and conditions that the distribution companies would offer advanced metering equipment under.**

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Process	Affected Participant	Description
Data Transmission	CR, TDSP, Customer	Non TX SET transactions that parties agree to utilize to facilitate the scenario. (Phone call, web site request, other…?)
Service Order	TDSP, CR	Identify meter ownership for meter failures, other…
Tracking Meters	TDSP	Track asset ownership to ensure proper crediting by ESI ID, internal accounting requirements, other…?
Tracking MSP		
Tracking MRE		
Installation/Removal	TDSP	TDSP coordination with the meter owner to obtain the meter/meter programming software, other…?
TX SET Transactions		
Registration Processes		
Rules/Procedures	PUCT	Establish rules surrounding replacement due to meter failures, meter standards, determine the meter ownership credits, other…?
MSP Certification		
MRE Certification		
MRE VEE Certification		

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Initial Analysis of Market Participant Impacts for Scenarios 2/3
Ownership, Installation/Removal, Maintenance

Process	Affected Participant	Description
Data Transmission	CR, TDSP, Customer, MSP	Non TX SET transactions that parties agree to utilize to facilitate the scenario. (Phone call, web site request, other…?)
Service Order	TDSP, CR, MSP	Identify meter ownership for meter failures, MSP for routing service orders, other…?
Tracking Meters	TDSP, MSP, CR?	Track asset ownership to ensure proper crediting by ESI ID, internal accounting requirements, ensure that energized ESI ID's are metered, other…?
Tracking MSP	TDSP, ERCOT	Track MSP to ESI ID to ensure proper crediting by ESI ID, internal accounting requirements, any notifications that need to occur (meter removal for emergencies), other..?
Tracking MRE		
Installation / Removal	TDSP, MSP	TDSP coordination with the meter owner to obtain the meter/meter programming software, with the MSP for meter set upon circuit being energized, other…?
TX SET Transactions	ERCOT, TDSP, CR, MSP	Some transactions could require the addition of a MSP field for routing purposes. (one example is the 814-03 transaction for a move in request, others…?)
Registration Processes	ERCOT, TDSP, CR, MSP	Some processes could require information flow to / from a MSP. Move ins or move outs could require a status change for the associated ESI ID (energized / de-energized). Move ins require notifications and responses with the scheduled date of work and the date the account is energized. Others…? MSP switch process?
Rules/Protocols/ Procedures	PUCT, ERCOT, TDSP, CR, MSP	Establish rules surrounding replacement due to meter failures, meter standards, coordinating the changing of meter service providers, determine the meter ownership and maintenance credits, other…? Protocol changes? Who certifies the MSP?
MSP Certification	PUCT, MSP, TDSP, CR, ERCOT	Certification requirements to be listed as an approved MSP. Will certification be by TDSP certified area or all of the ERCOT region? (EDI testing, documentation, insurance, skills training, other…?)
MRE Certification		
MRE VEE Certification		

Process	Affected Participant	Description
Data Transmission	MRE, TDSP, CR	Non TX SET transactions that parties agree to utilize to facilitate the scenario. (Phone call, web site request, web site transfer of meter reading information, other…?)
Service Order	MRE, TDSP, CR	Identify MRE to send the service order to, other…?
Tracking Meters		
Tracking MSP		
Tracking MRE	TDSP, CR	Track MRE to ensure proper crediting by ESI ID, internal accounting requirements, mark ESI ID as competitive MRE for any notifications that need to occur, other..?)
Installation / Removal		
TX SET Transactions		
Registration Processes		
Rules/Protocols/ Procedures	PUCT, TDSP, CR, MRE, ERCOT	Establish rules surrounding overdue meter reads, determine the meter reading credits, other…? Protocol changes? Who certifies the MRE?
MSP Certification		
MRE Certification	PUCT, TDSP, CR, MRE	Certification requirements to be listed as an approved MRE. Will certification be by TDSP certified area or all of the ERCOT region? (EDI testing, documentation, insurance, skills training, other…?)
MRE VEE Certification	PUCT, TDSP, CR, MRE *Scenario 5 only*	Certification requirements to be listed as an approved MRE for performing VEE. (Adherence to established VEE rules, documentation, insurance, skills training, other…?)

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Process	Affected Participant	Description
Data Transmission	MRE, TDSP, CR	Non TX SET transactions that parties agree to utilize to facilitate the scenario. (Phone call, web site request, web site transfer of meter reading information, other…?)
Service Order	MRE, TDSP, CR	Identify MRE for routing service orders, other…?
Tracking Meters		
Tracking MSP		
Tracking MRE	ERCOT, TDSP, CR	Track MRE to ensure proper crediting by ESI ID, internal accounting requirements, mark ESI ID as competitive MRE for any notifications that need to occur, ensuring that information is sent to ERCOT by the correct meter reading entity for each ESI ID, other…?
Installation / Removal		
TX SET Transactions	ERCOT, MRE, TDSP, CR	Some transactions could require the addition of a MRE field. Lodestar currently verifies the MRE to ESI ID relationship for meter data submittal by the authorized entity. The TX SET 867-03 transaction currently utilizes the same field for identifying the TDSP and the MRE. Others?
Registration Processes	ERCOT, MRE, TDSP, CR	Some processes could require information flow to/ from a MRE. Notifications & responses with scheduled date of work for a meter read associated with a switch, others? MRE switch process?
Rules/Protocols/ Procedures	PUCT, ERCOT, TDSP, CR, MRE	Establish rules surrounding overdue meter reads, determine the meter reading credits, responsibility for historical usage for ESI ID's with a competitive MRE, other? Protocol changes? Who certifies the MRE?
MSP Certification		
MRE Certification	PUCT, ERCOT, TDSP, CR, MRE	Certification requirements to be listed as an approved MRE. Will certification be by TDSP certified area or all of the ERCOT region? (EDI testing, documentation, insurance, skills training, other…?)
MRE VEE Certification	PUCT, ERCOT, TDSP,CR, MRE *Scenario 5 only*	Certification requirements to be listed as an approved MRE for performing VEE. (Adherence to established VEE rules, documentation, insurance, skills training, other…?)