1.4 Primary Duties

1. Monitor generator resources:
    - Power System Stabilizer (PSS)
    - Automatic Voltage Regulator (AVR)
    - Bus Voltage within parameters
    - Adhering to Updated Desired Base Point (UDBP)

2. Monitor Ancillary Service (AS) Responsibilties:
    - Responsive Reserve Service (RRS)
    - Regulation Up (REGUP)
    - Regulation Down (REGDN)
    - Non-Spinning Reserve Service (NSRS)

3. Monitor and respond to any Grid Emergency, including:
    - Deployment of Emergency Response Service (ERS)
    - Deployment of Load Resources (LR)
    - Issuance of Energy Emergency Alert (EEA)

4. Verbally notify ERCOT of unplanned changes (Forced Outages) in Load and Generation Resources as soon as practicable
5. Monitor LCRA load zone forecast and inform Day-Ahead Market (DAM) team
6. Monitor Real-Time position hourly for length or shortfall
7. Monitoring/coordinate Reliability Unit Commitment (RUC) shortfall and response
8. Monitor and interpret PCI alarm notification and respond accordingly
9. Communicate and submit resource derates and outages with facilities, ERCOT, DAM staff
10. Communicating, coordinate and submit resource test request
11. Receive and disemenate ERCOT Operating Instruction (OI) to Generation Resource
12. Receive and disemenate Transmission Operator (TOP) OI to Generation Resource
13. Communicate and coordinate resource commitments/de-commitments with facilities
14. Monitor gas flows and line pressures, submit gas volume nomination and renomination during real-time

1.5 Secondary Duties

1. Assist DAM staff with long-range outage coordination
2. On weekends and holidays, submit DAM bids and offers to ERCOT
3. On weekends and holidays, process DAM results, including; allocation of ancillary service responsibility among portfolio, submit updated Current Operating Plan (COP), communicate awards to committed resources, submit email to third party notify Sandy Creek awarded energy and AS.

2. Procedures

2.1 Communications Under Emergency Conditions

As the Reliability Coordinator for the Regional Interconnection, ERCOT has the responsibility to coordinate activities involved in maintaining reliability of the Bulk Electric System (BES). In order for ERCOT to manage this coordination, proper and effective communication is critical to maintaining and restoring the BES to reliable operating conditions. ERCOT routinely delivers system wide notifications to all market participants to inform them of potential impacts to the BES. Additionally, when the BES is experiencing emergency reliability operating conditions, ERCOT will communicate system wide instructions for market participants to perform to aid in maintaining system integrity. ERCOT has classified these system wide notifications into four types. In accordance with ERCOT Nodal Protocols and Operating Guides, ERCOT will use these notifications to coordinate all system wide operation activities. The four types of communications are the following:

1. Operating Condition Notice
2. Advisory
3. Watch
4. Emergency Notice

The notices may be issued in any order as determined by ERCOT. When these communications are received the GenDesk Operators will:

A. Communicate all ERCOT notifications [redacted];
B. Communicate all LCRA Alert Levels via email and text [redacted]; and
C. Document the notices in the GenDesk "Daily Operator Log" located on SharePoint

**NOTE: Hotline calls that pertain to weekly testing of the hotline, time error corrections, data base failovers or any other hotline call that does not escalate to a level of an OCN should only be emailed to the "GenDesk Trader" email group.

In addition to performing the actions required of ERCOT's system wide notification, the GenDesk Operator shall also comply with any Dispatch Instructions that are received directly from ERCOT or the LCRA TOP, unless actions would violate safety, equipment, regulatory, or statutory requirements. [redacted] In all instances, the GenDesk Operator will coordinate between ERCOT, the TOP and the generation resource to ensure proper action is completed.

The GenDesk Operator will render available emergency assistance to neighboring systems as requested as long as actions would not violate safety, equipment, regulatory, or statutory requirements. LCRA's GenDesk Operator shall coordinate with ERCOT and TOP to ensure no adverse conditions would impact our system.

2.2 Dispatch of LCRA Generation

a. Generation resource dispatching [redacted]. However, during emergencies, verbal notification to the resource plant operator should occur to ensure dispatching compliance.

b. Based on inputs from LCRA's QSE, ERCOT's SCED generates the Unit Desired Base Point (UDBP) and locational marginal price (LMP) in order to manage energy and balance load demand while reserving any ancillary service responsibility. The UDBP is updated every five minutes. Real-time coordination between LCRA QSE and all LCRA generator resources shall be maintained. When deviations occur, the GenDesk Operator will take the necessary actions and contact the resource plant operator to resolve the issue as quickly as possible but no longer than 10 minutes. To minimize Base Point Charges, the GenDesk Operator may have the plant operator change the telemetered ramp rate to 0.1mw.

c. The GenDesk is staffed 24 X 7 and maintains constant vigilance of committed LCRA generation. When resource outages, loss of GMS, or other technical difficulties cause an uncontrolled deviation from dispatch requirements, the GenDesk Operator shall make efforts to restore system control and continuity with ERCOT.

d. The GenDesk Operator shall make every attempt to alleviate any AS shortfalls to reduce exposure to an ERCOT SASM. In most cases, [redacted]:

[redacted]

2.3 Constant Frequency Control

Constant Frequency Control (CFC) will be implemented by ERCOT in the event ERCOT experiences a loss of Electric Management Systems (EMS) at both primary and backup control centers.

ERCOT shall conduct unannounced testing to verify a QSE's capability to operate in CFC mode. Only QSEs with at least 350 MW of spinning reserve room will be tested. QSEs shall be tested at least once every three years and each test lasting no more than 15 minutes.

When issued an OI or an unannounced test is directed by ERCOT to switch to CFC, within ***5-minutes,*** the GenDesk Operator will:

A. Using 3-part communication, verbally confirm the ERCOT issued OI directive.
B. Utilizing OSI GMS, follow steps 1 through 6, or the visual instructional steps in Appendix C
    1. Open AGC Menu – select AGC Summary
    2. Input the frequency if other than 60.000Hz
    3. Verify the ACE Mode is set to CF (Constant Frequency). If ACE Mode is not set to CF, select CF from the drop down
    4. Input the Frequency Bias value as directed by ERCOT Area Control – using the drop down menu change from MARKET to LOCAL
    5. After switching to LOCAL, all thermal resources listed on Unit Summary will switch from MARKET mode to MANUAL mode
    6. Change the Control Mode for all thermal resources from MANUAL mode over to AUTO mode so that they can start responding to frequency deviations.

****NOTE: All thermal resources in FIXED mode will remain in FIXED mode.**

While operating in CFC mode, ERCOT could issue a OI Emergency Base Point.

1. Go to Open AGC menu and select Base Point Override
2. Change the control mode on the instructed resource from MANUAL to FIXED
3. Enter the MW value in the Constant Frequency Base Point column for the instructed resource
4. At the conclusion of the test, complete the above steps but in reverse order

2.4 Operating Instructions (OI)

ERCOT can issue OI, directing any resource to follow Emergency Base Points, via electronically, land line or hot line phone. When an OI is issued to LCRA, the GenDesk Operator will:

A. Using 3-part communication, verbally confirm the ERCOT issued Operating Directive
B. The GenDesk Operator shall electronically acknowledge receipt of the OI, ***within 1-minute of receipt*** through the ERCOT Portal Market Information System (MIS).
C. Utilizing OSI GMS, follow the defined steps below or the visual instructional steps in Appendix A.

1. Open AGC Menu – select Base Point Override, or Unit Summary – bottom of screen select Base Point Override
2. Base Point Override column – select for the appropriate resource
3. Base Point Override column – double-click the current value and enter new desired value
4. If the GMS to plant communications is out of service or found unreliable, then the GenDesk Operator shall call the resource operator and request that the resource go into manual and enter the issued Emergency Base Point from ERCOT, as their MW demand set point.
5. In the sole and reasonable judgment of the LCRA QSE that such compliance to the OI would create an undue threat to safety, undue risk of bodily harm or undue damage to equipment then the GenDesk Operator will immediately notify ERCOT of the inability to follow the Emergency Base Point.
6. Notify/Coordinate with ERCOT if any Emergency Dispatch Instruction prevents the Resource from serving its AS responsibility (High Ancillary Service Limit - HASL).
7. Verify that the resource is following the required Emergency Base Point demand.
8. Upon returning to normal operations, remove the override tags by deselecting the Override Indication column for the appropriate resource.

2.5 Use of USB Portable Media Devices

All GenDesk Operators are required to maintain copies of the most current GenDesk Emergency Processes [redacted].

GenDesk Operators shall adhere to the requirements of the Information and Technology Management section of the LCRA Employee Policy Manual with regard [redacted].

[redacted]

2.6 Hourly Reliability Unit Commitment (HRUC) Award

In the event an HRUC award is received from ERCOT, PCI is coded to process the award automatically, based off the notification message.

1. Award notification from ERCOT is received in PCI.
2. Award notification received via email to all GenDesk Operators.
3. PCI will automatically execute the AS Allocator Tool to allocate any RUC ancillary values to proper resources.
4. PCI will automatically execute a “COP Submit Current Day” or “COP Submit Next Day” macro after the AS Allocator Tool is complete.
5. PCI will automatically execute a “TPO Submit Current Day” or “TPO Submit Next Day” macro.
6. Verify in the ERCOT MIS Portal that all RUC committed hours of generation resources reflect the required Energy Offer Curve floor price, as required in the Nodal Protocols.

2.7 Supplemental Ancillary Service Market (SASM) Awards

ERCOT, at its sole discretion, will procure additional AS from the market when necessary. Currently, LCRA allows our AS offers to expire once the DAM closes. If ERCOT opens a SASM, and it occurs during normal business hours while the Day-Ahead staff is available, the GenDesk Operator is instructed to notify them as quickly as possible. Day-Ahead staff will submit our addititonal leftover offers into the market. If this occurs after normal business hours and no Day-Ahead staff is available, DO NOT submit leftover AS into the market. After ERCOT's SASM study has completed, Market Participants will be notified of the additional AS obligations through the ERCOT notifications monitor, which is received in the PCI market application. When this process is completed and the SASM awards are posted, the GenDesk Operator will:

A. If a SASM award is given to LCRA QSE, verify the notification in the MIS or PCI Market Manager. It should indicate the awarded amount, unit obligated and time of award. A follow-up email will automatically be sent but the attachment with the awards can be difficult to locate.
B. Upon notification an automated process in PCI is initiated to execute the A/S Allocator Tool and distribute the SASM awards.
C. PCI will automatically execute a "COP Submit Current Day" or "COP Submit Next Day" macro after the AS Allocator Tool is complete.PCI will automatically build and submit the TPO.
D. PCI will automatically execute a "TPO Submit Current Day" or "TPO Submit Next Day" macro.
E. If necessary, make manual adjustment to the COP or TPO in the ERCOT MIS to reflect proper status.

Note: Please see the detailed screen shot for SASM awards in Appendix B.

2.8 Reconfiguration Supplemental Ancillary Services Market (SASM)

LCRA does not currently participate in this service, however, in the event of future participation, the GenDesk Operator will complete the following:

1. Prior to 08:45, modify the COP by submitting less AS capacity than the AS Responsibility (obligation) for any hours between HE13:00 – HE24:00 for the current operating day
2. The difference between these two amounts will equal what is procured by the reconfiguration SASM
3. You must also submit or have standing, an AS offer equal to or greater than the requested reconfiguration amount
4. ERCOT will not execute the reconfiguration SASM if there are not enough offers to procure the AS reconfiguration amount (to date, no reconfiguration SASM has been executed)

2.9 System Congestion Response

The ERCOT grid can become congested in real-time due to transmission outages that are planned or unplanned. When this occurs it may be realized that one of our resources could respond to the

congestion in a positive manner, but is limited in its ability to move because of its HASL being reached. The best indicator of this is noted in the SCED generated LMP for the resource that can best assist in the congestion is going to be higher value than other resources within the portfolio.

When this is noted and the congestion is still present after a few SCED intervals, the GenDesk Operator will monitor the Ancillary Service Monitor (ASM) to ensure reallocation of the AS to relieve the congestion or manually move the AS to other resources. This will allow for the best resource to respond to the higher SCED LMP's and assist to alleviate congestion.

2.10 Revising the Current Operating Plan (COP)

The COP for LCRA Generation will be continually monitored and adjusted as needed to inform ERCOT of the changes to the LCRA generation resources.

For any changes to unit availability (i.e. outage, derate, bringing a unit online or offline), a COP must be submitted to ERCOT to reflect the changes. If the change will only affect the current operating or next operation hour, the change will be made by changing the resource schedule in the GMS Open MOS as soon as practicable. If the change will affect adjustment period hours, the change is to be submitted via the PCI GenManager market interface and submitted for all hours affected by the change.

LCRA's AS responsibility and schedule for temporary conditions are monitored to identify when LCRA, or a specific resource, is experiencing a shortfall and is not meeting its total AS Obligation.

2.10.1 During the Adjustment Period

The GenDesk Operators will monitor the COP and make modifications after a resource trips or a de-rate ocurrs that renders the resource unable to fulfill the awarded AS Responsibility originally assigned. The Three-Part-Offer or Offer Curve will be modified to reflect changes caused by outages, etc. for the remainder of the operating day.

2.10.2 During the Operating Period

The GenDesk Operator will monitor the telemetery attributes of all resources, including AS responsibilities and Schedule, HSL/LSL, UDBP, ramp rates, etc. When ERCOT identifies an AS shortfall they will notify LCRA via the Market Information System (MIS) through a market notification or initiate a verbal communication to the GenDesk Operator. Within ***10-minutes*** of retrieval of the market notification or verbal communication, the GenDesk Operator shall correct the shortfall. See Section 2.2 (D), steps 1-7.

2.11 Coordination of Resource Testing

When the GenDesk Operator receives a resource request for testing, the GenDesk Operator will:

A. Coordinate with internal QSE staff, (Day Ahead and Energy Marketers) to determine date and time;
B. Determine resource status (RST) (ON or ONTEST) to be used; See criteria in Appendix D
C. Enter an unit constraint in PCI to reflect the desired unit status. (UTM, UNAS, etc.);

D. Daily - review the unit constraints in PCI and the "Next Day Conditions Report";
E. Complete an ERCOT Unit Test form and submit to ERCOT at shiftsupv@ercot.com (this can be completed 7-days in advance of actual test);
F. If approved by ERCOT, inform the plant;
G. If not approved, contact ERCOT directly with proposal of alternate date and time.

2.12 Verification of ERCOT Submissions

Any submission made to ERCOT through PCI shall be deemed successful upon verification of changes in ERCOT MIS, including Trades, Resource specific Bids and Offers, Schedules, Self Arranged AS, Resource Parameters, Reports, Notices, OI's and Notifications.

2.13 Coordination of Gas Supply

Daily, after discussions with the DAM team and its determined which gas generators will most likely be started up for the following day, the LCRA gas trader could purchase additional gas to supplement the monthly purchases. The GenDesk Operator will:

a. Submit web-based gas nominations in vendors gas portal (Enterprise, ETC)
b. Monitor gas flow in EDNA to ensure correct meter flows based on nomination
c. Inform gas trader when LCRA begins over-pulling on vendors gas system or notified by gas control

2.14 CSO/ARO Energy Trade Schedules

LCRA allows a Customer Supply Option (CSO) – a percentage of a wholesale customer's load to be supplied by an alternate market participant (supplier). When LCRA customers utilizies these methods, the LCRA QSE and the alternate suppliers agree upon a bilateral trade to account for amount of load being served by that alternate supplier. LCRA serves as the buyer and the alternate supplier serves as the seller for the bilateral trade. The wholesale customer can choose to participate in an Alternative Rate Option (ARO), allowing them to procure a percentage of their load from LCRA Marketing. Below are the steps the GenDesk Operator will complete as part of the CSO process:

Weekday Steps

1. The alternate supplier emails a bilateral energy or capacity trade to LCRA each morning on or before 08:30 AM CST.
2. Day Ahead staff will enter these quantities into Allegro and submit each trade to ERCOT for confirmation.
3. In accordance with the CSO agreement, the alternate supplier is allowed to submit an adjustment to the trade once per day.
4. Day Ahead staff will enter the adjusted values for each trade into Allegro and submit to ERCOT for confirmation.
5. Day Ahead staff will verify that all trades for the next operating day are confirmed prior to the start of the ERCOT Daily Reliability Unit Commitment (DRUC) study.

Weekend / Holiday Steps

1. GenDesk Operators will verify that all trades for the next operating day are confirmed prior to the start of the ERCOT Daily Reliability Unit Commitment (DRUC) study.

2.15 Real-Time Energy/Capacity Trades

GenDesk Operators have the authority to execute bilateral energy and capacity trades in real-time. Market indicators include:

1. LCRA's position (short or long),
2. generator forced outage, and
3. economics

Prior to binding LCRA to purchase or sell either energy or capacity trades, the GenDesk Operator shall consult with the GenDesk Manager and energy marketers.

2.16 Bi-lateral Trades

The purpose of Bi-lateral trades is to:

1. provide the settlement department with verification of all bi-lateral trades from the Operating Day to be correct and confirmed at ERCOT MIS; and
2. provide the mid-office staff the correct "time stamp" as to when unconfirmed trades become confirmed.

Trade Verification Procedure: At midnight, the GenDesk Operator will review ***submitted energy trades*** - ***NOT capacity trades*** - for accuracy in the current operating day and complete the following:.

1. Compare energy trade quantities visible in ERCOT MIS with PCI / Bid Formulator / Trades / Trades Summary
2. If all energy trades are accurate and confirmed in ERCOT MIS, the task is complete.
3. If discrepencies are identified, proceed with the following:
    i. Compare counter-party email with quantities entered in Allegro.
    If correct, proceed with
    ii. Verifying Allegro quantities match PCI / Bid Formulator / Trades / Trades Summary.
    If correct, proceed with
    iii. Resubmitting trade to ERCOT and notifying the counter-party that they're entry is incorrect
    iv. Send LCRA settlements team and email allegro users@lcra.org, providing mismatched hours, screen shots of ERCOT MIS, attach counter-party schedule and other pertinent information you deem necessary.

****NOTE**** If you edit the trade in ERCOT MIS, you must also modify the trade in Allegro to match.

2.17 Submission of Capacity Trades

GenDesk Operators are required to submit capacity trades for LCRA's Wholesale customers that enter into Purchase Power Agreements (PPA) with an alternative supplier. This also provides RUC coverage in DAM. GenDesk Operators will submit and confirm the following capacity trades:

1. AEP South Trent Wind - LCRA receives an email daily from AEP for PEC, BBEC and BEC for their share of the forecasted wind generation capacity for the next operating day.
    i. Enter capacity trade values into Allegro/Power Scheduling/Ancillary Capacity Pane
    ii. PCI/Day-Ahead Dashboard – import daily trades from Allegro
    iii. PCI/GenManager/Bid Formulator/Trades/Trades Summary – submit capacity trades to ERCOT MIS prior to DRUC, 14:30
    iv. If the AEP capacity trade does not arrive, the GenDesk Operator will call the AEP scheduler at 614-583-7240 to discuss the issue
    v. AEP capacity trades will *NOT* be updated in real-time
    vi. AEP will NOT email an associated energy trade for the previous operating day

2. NextEra Callahan Wind Farm – LCRA receives an email daily from NextEra for BEC share of the forecasted wind generation capacity for the next operating day.
    i. Follow steps (i.–v.) above

2.18 Submission of Day-After Energy Trades

QSE's are able to submit energy trades for the previous operating day, which represent the energy that actually flowed. This is mostly seen in the form of a "true-up" trade in relation to a contracted Purchased Power Agreement (PPA) or LCRA Wholesale customer load that is supplied by an alternate supplier. GenDesk Operators will submit and confirm the following energy trades:

1. Sandy Creek Energy Services – LCRA receives an email daily for the previous day's energy flow. An automated process is set up to bring this trade into LCRA's Deal Capture Software and the GenDesk Operator must submit this trade to ERCOT before 14:30
    - Reference the GenDesk Sandy Creek PPA Document for more detailed instructions
2. Bandera Electric Cooperative (BEC) – LCRA receives an email daily from NextEra Energy for the previous day's energy flow.
    i. Enter energy trade values (96 intervals) into Allegro/Power Loadshape/Callahan Energy Trade (HHGT_KENDAL)
    ii. PCI/Real-Time Dashboard – import the energy trade
    iii. PCI/GenManager/Bid Formulator/Trades/Trades Summary – submit energy trade to ERCOT MIS

2.19 Three Part Offer Verification

Three Part Offers (TPO) for all generation resources shall be verified for the next operating day by the GenDesk Operator assigned to the night shift. This verification shall take place prior 10:00 PM CST for all generation resources. The GenDesk Operator will:

1. Review the Next Day Conditions sheet for the next operating day to determine the hourly resource status and AS responsibility.

2. Verify ERCOT MIS for each resource has a TPO that reflects the hourly status in the Next Day Conditions.
   - *Generation Resources that have an hourly status of OUT, ONOS, or ONTEST should not have a TPO submitted to ERCOT*
3. Verify each resource has an Energy Offer Curve (EOC) in MW between LSL and HSL.
4. Verify each resource has an EOC that includes offer prices adequate to recover the fuel costs associated with producing at each MW breakpoint.
5. Verify each resource has an EOC that reflects proper floor prices for applicable ancillary service obligations.
6. For any errors, make appropriate adjustment in PCI or ERCOT to submit corrected values prior to the next operating day.
7. Send an email to the GenDesk Trader email group confirming the verification of all TPOs. If necessary, include details of any errors as feedback to Day Ahead staff of potential corrective action.

3. Forms and Resource Specific Procedures

GMS Procedures and User Guides are located GenDesk Policies and Procedures folder on the SNB/N: drive/ terminal server (snbnas\prd\N: drive).

Unconfirmed Bi-lateral Trade Form – EXAMPLE ONLY

Unconfirmed Bi-lateral Trade Form

1. Today's Date: 2/1/2018
2. Trade Date: 2/1/2018
3. Trade Type: Energy
4. Megawatt amount: [ ] (Leave blank if varible schedule)
5. Allegro trade ID number: 117860
6. Buying: ☒ Selling: ☐
7. Settlement Point / Resource Node: [ ]
8. Settlement Point / Load Zone: [ ]
9. Counter Party: [ ]
10. Counter Party Trader's name: [ ]
11. LCRA Trader's name: [ ]
12. Approximant time of phone conversation: [ ]
13. Trade was unconfirmed by 14:30: ☐
14. Trade was confirmed by 14:30, the day after the operating day: ☐
15. Trade was confirmed on: 2/1/2018 at: [ ].
16. Send this form to the following:
    a. Sarah Bombick – sbombick@lcra.org
    b. Heather Boisseau – hboisseau@lcra.org
    c. Darren Hughes – darren.hughes@lcra.org

4. Document Control

Prepared by:
KEMA 6/20/2008

4.1 Review Log

This document shall be reviewed every calendar year.

Reviewed By	Title	Date
Jay Watson	SME	12/16/2009
Jay Watson, Greg Pyka	SMEs	11/22/2010
Jay Watson / Greg Pyka	SME's	10/25/2011
Jay Watson / Greg Pyka	SMEs	6/14/2012
Jay Watson / Greg Pyka	SMEs	9/28/2012
Jay Watson / Greg Pyka	SMEs	1/25/2013
Clifton Dukes / Alton Matthews / Jim Jackson	SMEs	9/27/2013
Mike Hale / Greg Pyka	SMEs	12/29/2014
Mike Hale / Greg Pyka	SMEs	04/08/2015 & 6/5/2015
Darren Hughes / Greg Pyka	SMEs	12/09/2016
Darren Hughes / Greg Pyka	SMEs	02/09/2018
Darren Hughes / Greg Pyka	SMEs	08/02/2019 - 08/18/2019 & 9/25/2019 – 10/16/2019
Teresa Cantwell / Ron Friday	SMEs	8/4/2020
Ron Friday and LCRA Day Ahead Staff	Real-Time Operations Coordinator; Day Ahead Operations Traders	7/15/2021

4.2 Change History

The change history below reflects changes to the Manual or its structure.

Version	Description of change	Date
V01.00 – V02.04	Detailed description of changes made to prior versions 01.00 – 03.02 can be found in version 04.00	12/05/2008
V04.00	1.3 Verified and updated related documents 1.4 Updated primary duties 2.1 Updated communication delivery method to RAVE 2.2 Created section LCRA generation Removed Voltage Monitoring section, Removed Forced Outage/Derate section, Removed Hydro Real-Time section, Removed Load Resource section 2.10.1 Updated COP during Adjustment Period 2.10.2 Updated COP during Real-Time 2.11 Updated Coordination of Resource Testing 2.12 Updated Verification of ERCOT submissions 2.13 Upated Coordination of Gas Supply Removed Day-Ahead Activities section, Removed Real-Time Acitvities section 2.14 Updated CSO/ARO Energy Trade Schedules 2.15 Updated Real-Time Energy/Capacity Trades 2.16 Updated Bilateral Trades 2.17 Created Submission of Capacity Trades 2.18 Created Submission of Energy Trades 2.19 Updated Three Part Offer Verification Appendix B - updated and confirmed PCI auto task Appendix C – previously identified as “Procedure for Unconfirmed Trades” – removed; Previous Appendix D, “Implementing Constant Frequency in GMS”, is now Appendix C; Previous Appendix E, “ONTEST Guidelines”, is now Appendix D.	08/02/2019 - 08/19/2019 & Finalized 9/25/2019 - 10/16/2019
V04.00 (cont.)	Minor revisions to Section 2.2 (d) identified after V04.00 approval – updated sequencing details to provide further details within this section. Version number will not change.	11/5/2019
V04.00	Periodic Review – No changes	8/4/2020
V04.01	Section 2.1 - Incorporated language implemented under ERCOT NOGRR195; Section 2.12 - Updated	8/18/2021

4.3 Approval

	Major Revision	Management approval required
X	Minor Revision	Management approval not required

SUMMARY

Document name / Version: Real-Time Resource Monitoring and Dispatching Process / V04.01

Authorized by:

Joel Firestone, VP, Regulatory and Market Compliance
(Authorization made via MS Outlook voting feature. See attached report.)

Approved by:

(Approval made via MS Outlook voting feature. See attached report.)

Darren Hughes	Manager, GenDesk
Ron Friday	Real-Time Operations Coordinator

Teresa Krabe

From:	Teresa Krabe
Sent:	Friday, August 20, 2021 4:15 PM
To:	Darren Hughes; Ron Friday; Joel Firestone
Cc:	Teresa Krabe (Teresa.Krabe@lcra.org)
Subject:	APPROVAL REQUEST: Real-Time Resource Monitoring and Dispatching Process, V04.01
Attachments:	Real-Time Resource Monitoring and Dispatching Process V04.01.doc
Importance:	High

Tracking:

Recipient	Response
Darren Hughes	Yes, I have reviewed the document(s) and APPROVE of the contents: 8/23/2021 11:48 AM
Ron Friday	Yes, I have reviewed the document(s) and APPROVE of the contents: 8/23/2021 7:07 AM
Joel Firestone	Yes, I have reviewed the document(s) and APPROVE of the contents: 8/20/2021 4:37 PM
Teresa Krabe (Teresa.Krabe@lcra.org)	
Teresa Krabe	Yes, I have reviewed the document(s) and APPROVE of the contents: 8/23/2021 7:06 AM

An review of the ***Real-Time Resource Monitoring and Dispatching Process, V04.01*** has been conducted and is now ready for your review/approval. A clean copy of this document is attached.

Please complete your review and submit your response - while on the LCRA network using your LCRA issued computer – by way of the vote feature located at the top of this email by **Tuesday, August 24, 2021**. The version effective date within the document header will be identified as the date the last approval is obtained and updated upon completion of the voting process.

Thank you,

Teresa Krabe
Lower Colorado River Authority | Regulatory and Market Compliance Analyst, Sr.
O 512-578-4040 **C** 512-483-1825
Teresa.Krabe@LCRA.org

Enhancing the Lives of Texans

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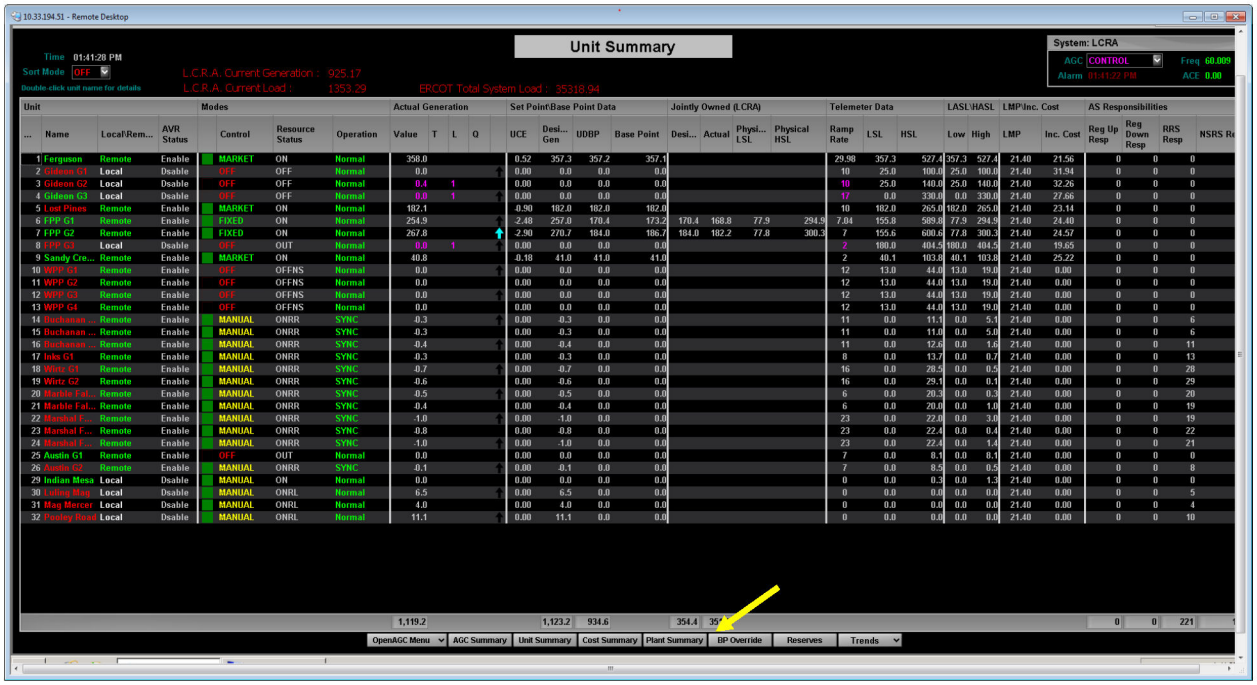
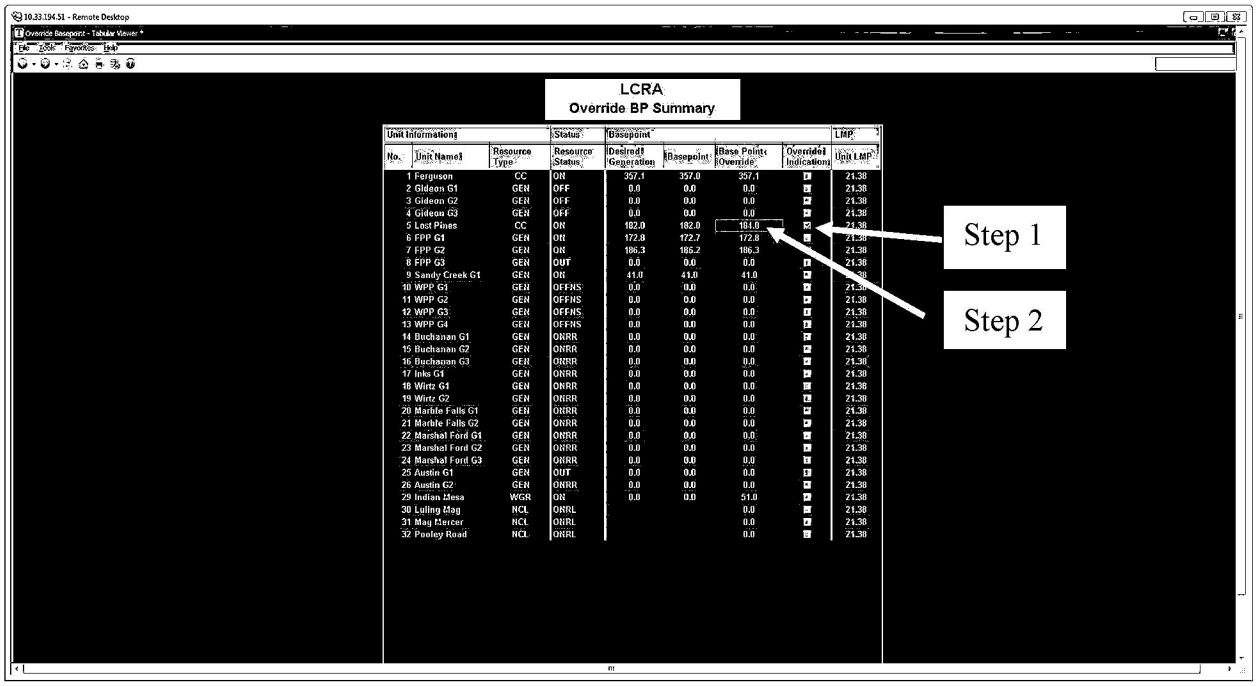
1

Appendix A – Override Base Points from ERCOT





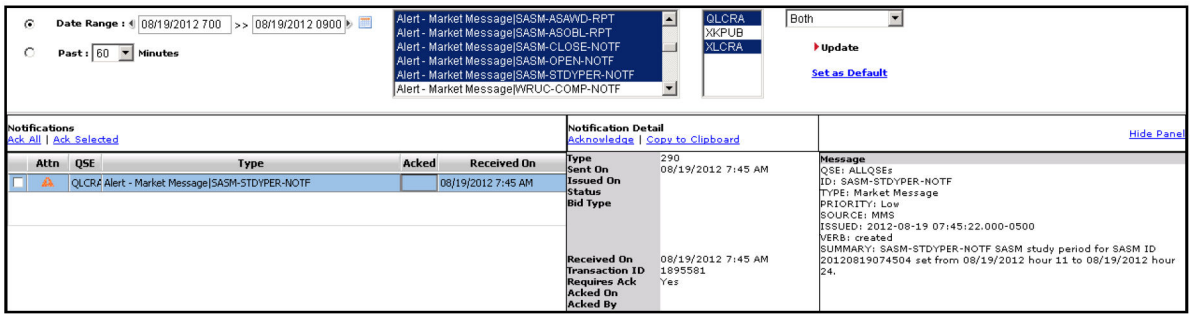
**NOTE: When SCED and LFC fail……..ERCOT will order a QSE to go onto Constant Frequency and order the other QSE's to follow their last good previous base points.

1.Select the buttons under the Override Indication column for all on-line resources including hydro.
2.Double click on every on-line resource base point values under the Base Point Override column and enter the last good previous base point value.
3.Upon returning to normal operations, remove the overrides in Step1.

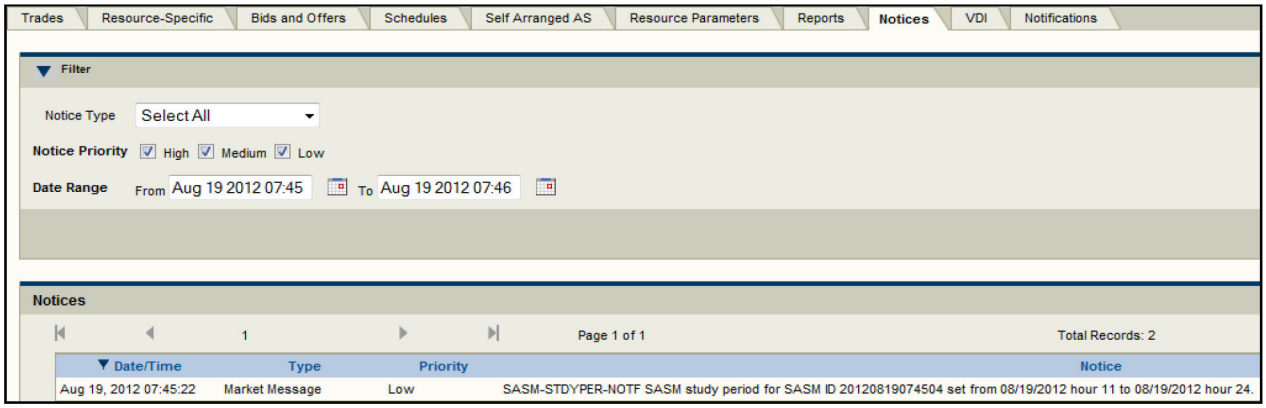
Appendix B - Steps for processing SASM Awards

Procedures

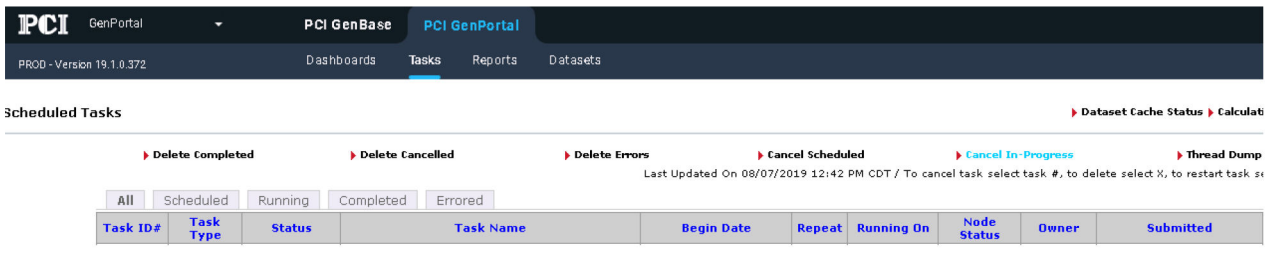
1. GenDesk receives an alarm notification in PCI GenManager/Market Data/Notifications that ERCOT has opened a SASM at 07:45



The same notification may also be viewed in ERCOT MIS, and



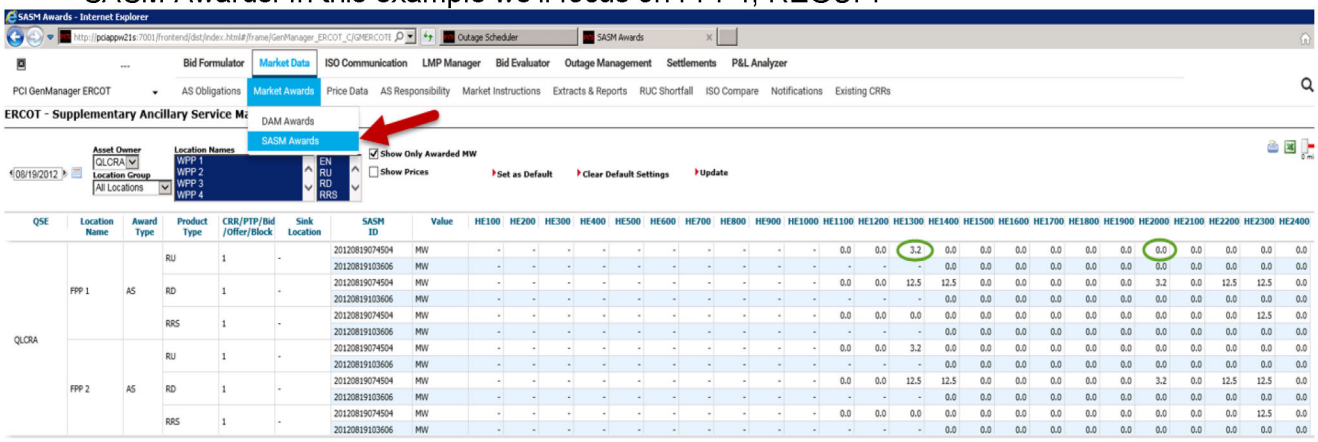
2. An automated task begins in PCI to process the awarded MW amounts using "A/S Allocator", then automatically submit the COP and TPO. Verify this task is running in PCI GenPortal/Tasks/Scheduled Task



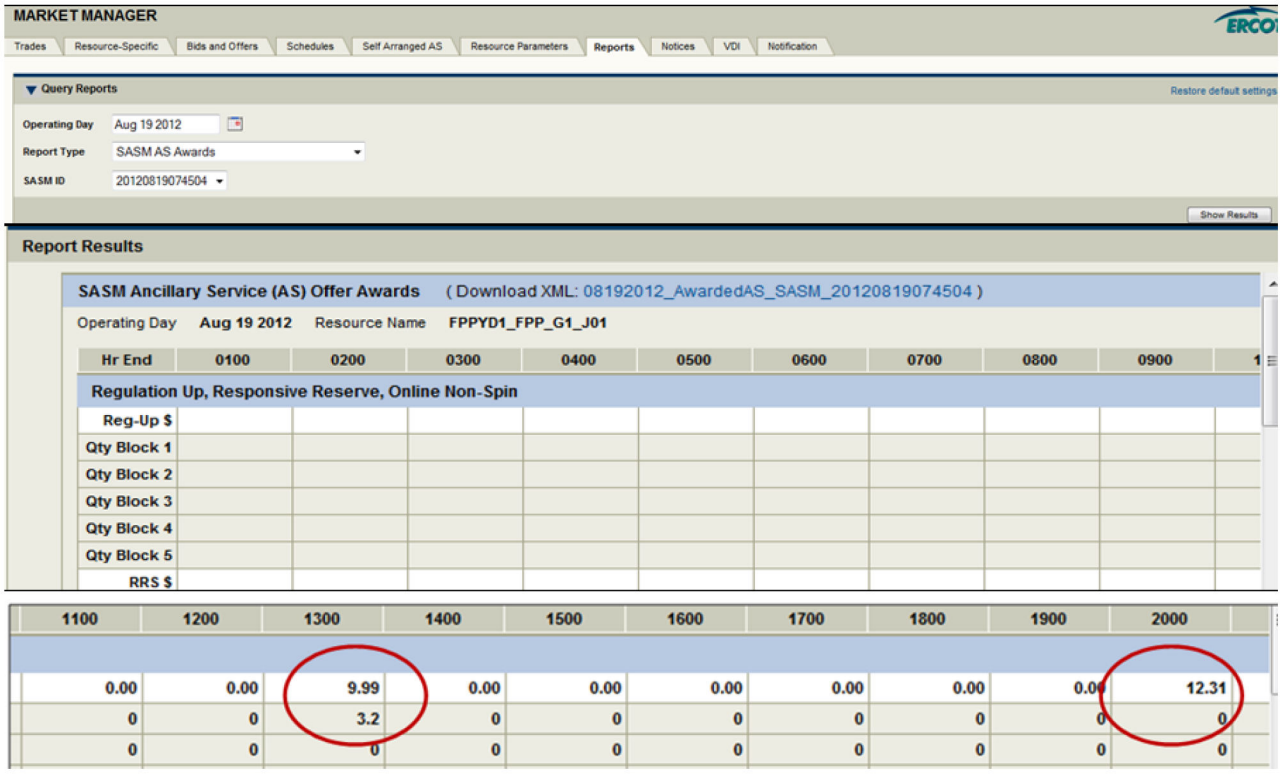
Under the "Status" column, the task will either display "In-Progress" or "Finished" depending on how quickly you view after receiving the award notification. Either way this will confirm that the automated task is working and the awards should be allocated shortly.

2524960	Action	Finished	GMA_COP Submit Current Day	08/19/2012 8:29:42 AM CDT	false	PCIAPPW02G	Available	background	08/19/2012 8:26:42 AM CDT	Completed Successfully	08/19/2012 8:29:42 AM CDT
2525210	Action	Finished	GMA_TPO Submit Current Day	08/19/2012 11:10:02 AM CDT	false	PCIAPPW02G	Available	background	08/19/2012 11:08:17 AM CDT	Completed Successfully	08/19/2012 11:10:02 AM CDT
2525205	Study	Finished	COP_HRUC	08/19/2012 11:08:16 AM CDT	false	PCIAPPW02G	Available	background	08/19/2012 11:05:31 AM CDT	Completed Successfully; with warnings	08/19/2012 11:08:16 AM CDT

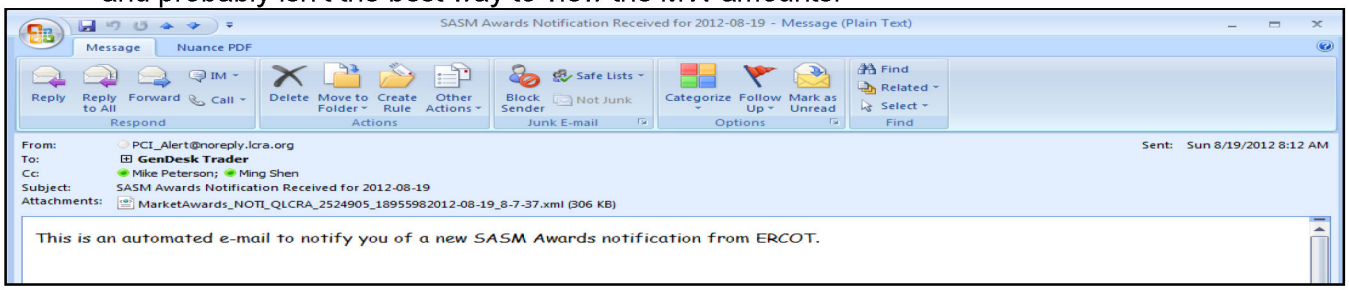
3. The actual SASM awarded MW is visible in PCI/GenManger/Market Data/Market Awards/ SASM Awards. In this example we'll focus on FPP1, REGUP.



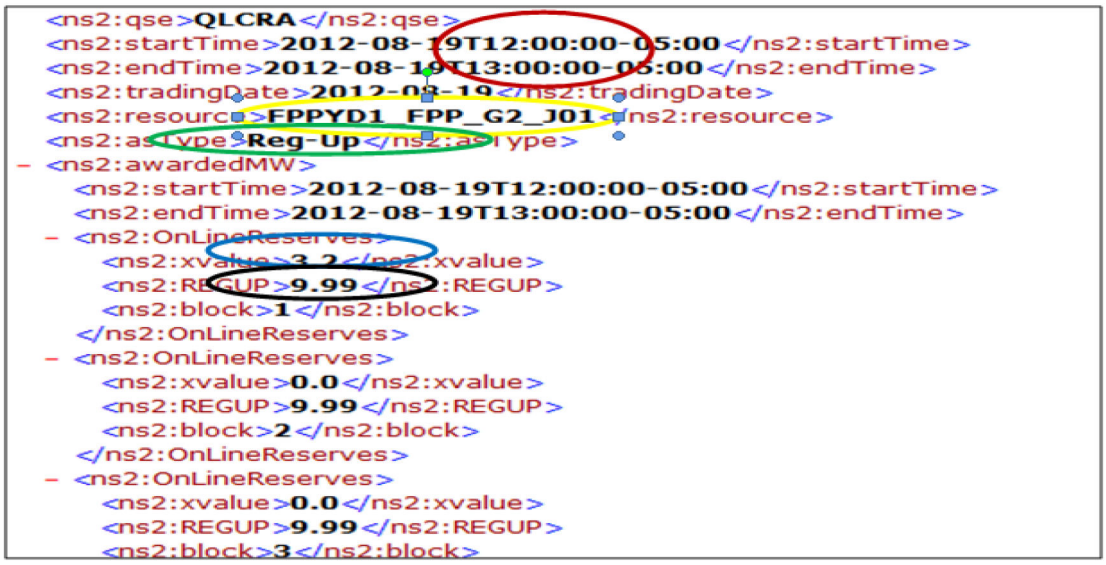
4. Or at ERCOT MIS. This view also gives you the ability to see the cost per MW that ERCOT will pay LCRA for providing the additional MW's. Comparing this view to option 1 above, you will notice the awarded 3.2MW's for HE13:00 with the clearing price of $9.99. However, HE20:00 displays 0MW's awarded with a clearing price of $12.31.



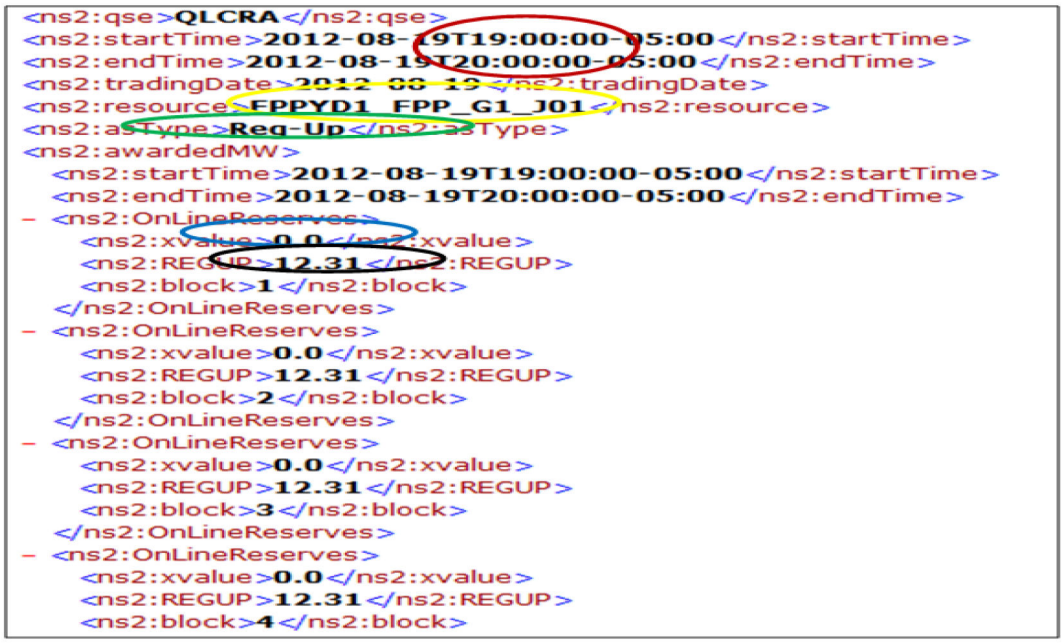
5. GenDesk Operators will also receive a notification email but this arrives about ten minutes later and probably isn't the best way to view the MW amounts.



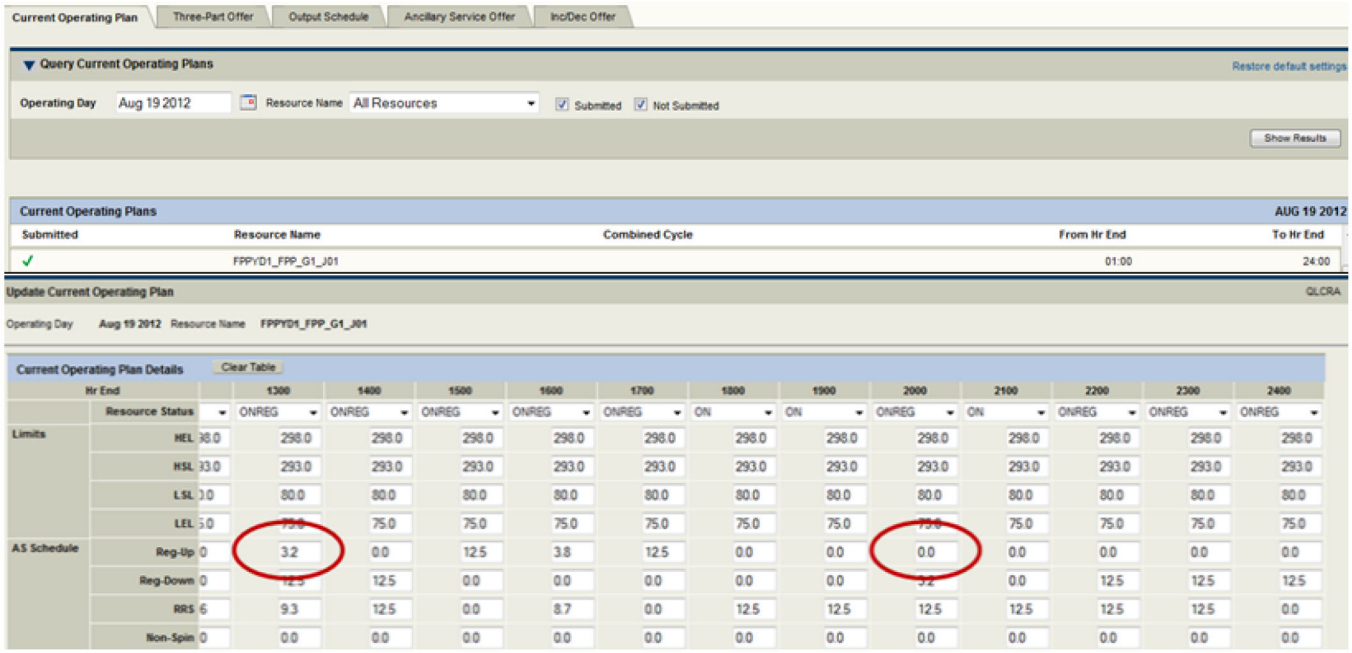
6. In the attachment you can view the hour awarded (red), resource (yellow), type of AS awarded (green), MW amount awarded (blue) and clearing price per MW (black), in that order.



7. However, below you will see LCRA did not receive a Reg-Up award for HE20:00 (blue) but you will still see the clearing price (black).



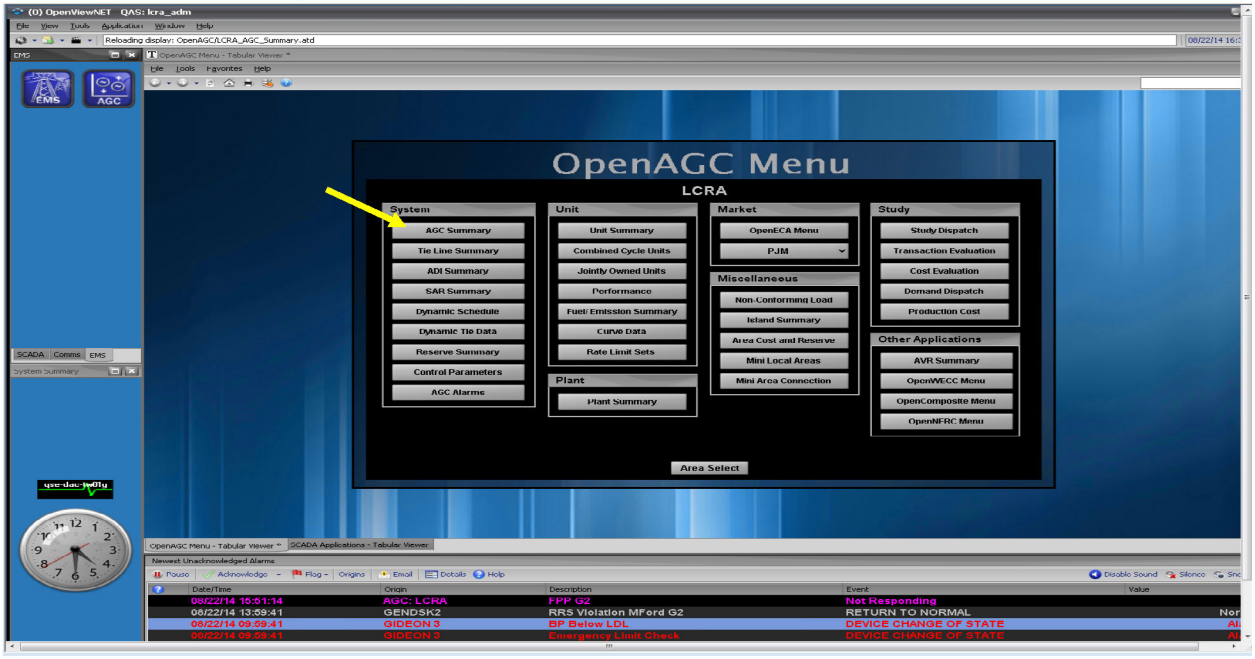
8. At ERCOT MIS, view the awarded 3.2MW's Reg-Up for HE13:00. Take note that there is no MW's for HE20:00 because LCRA was not awarded any. Section 4 in this Appendix referenced that you will see a price but no MW's awarded.



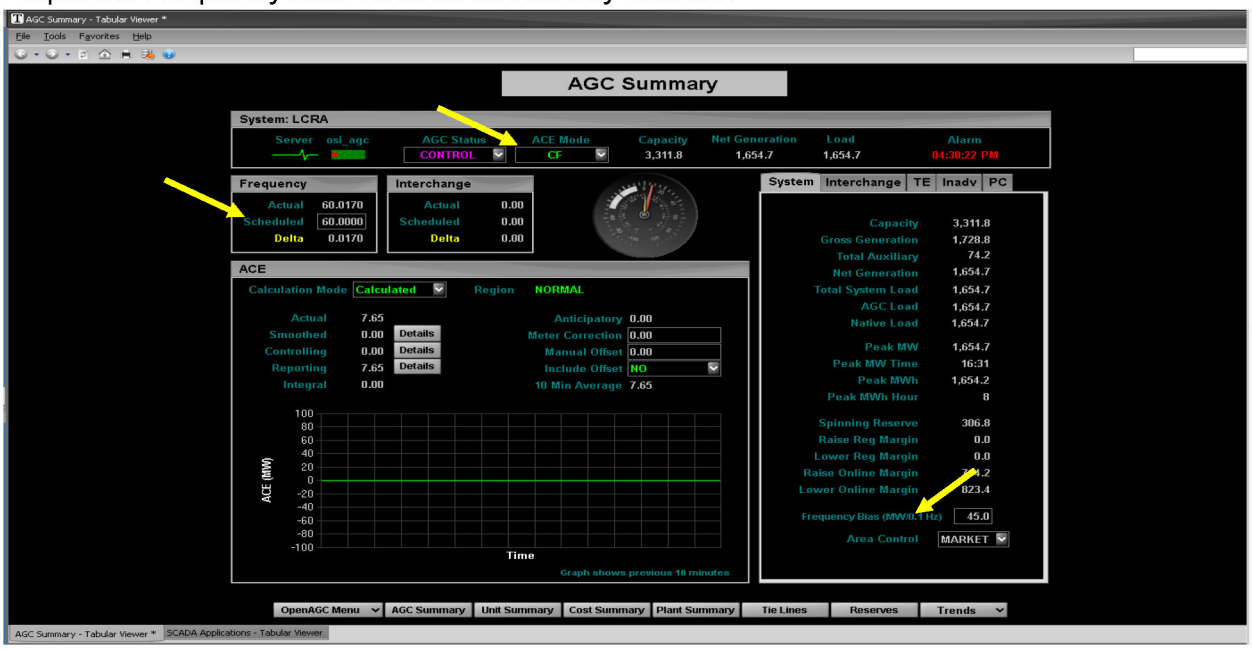
9. Once the data appears at ERCOT MIS, this provides you confirmation that the SASM automation process has been completed as designed.

Appendix C - Implementing Constant Frequency in GMS

1) Select AGC Summary from the OpenAGC Menu.



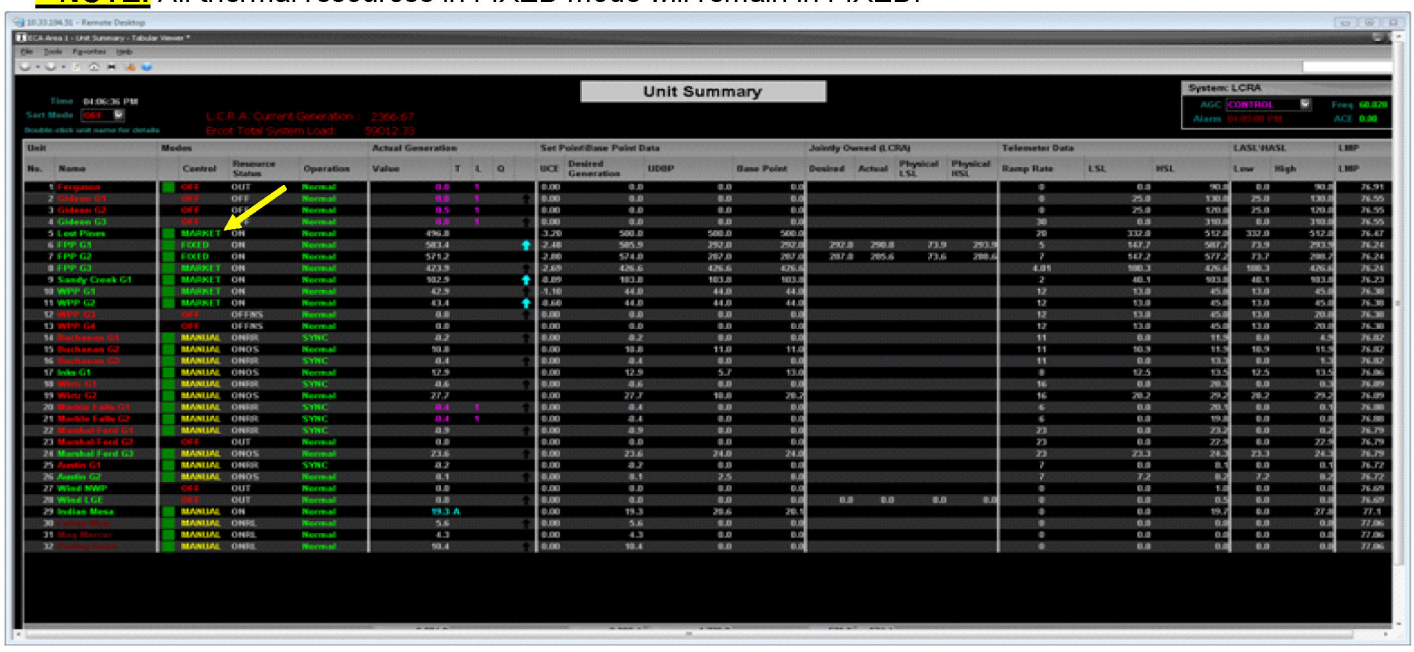
2) Input the Scheduled Frequency if other than 60.000Hz.
3) Verify the ACE Mode is set to CF (Constant Frequency). If not set to CF,
4) Input the Frequency Bias value as directed by ERCOT.



5) Area Control – using the drop down menu change from MARKET to LOCAL
6) After switching to LOCAL, all thermal resources in listed on Unit Summary will switch from MARKET mode to MANUAL mode.

7) On Unit Summary, change the Control Mode for all thermal resources from MANUAL mode over to AUTO mode so that they can start responding to frequency deviations.

**NOTE: All thermal resources in FIXED mode will remain in FIXED.



APPENDIX D - ONTEST Guidelines

Purpose: Provide guidelines for when to use the resource status of "ONTEST" verses "ON" for unit testing and data gathering.

ONTEST RST

ERCOT allows for the use of ONTEST for generation resources that require manual control of their output during testing evolutions. By using ONTEST, ERCOT SCED will deliver base points equal to the resource output at the time that the SCED engine ran. This status type is very useful for testing evolutions that require frequent output changes that can disrupt the resource operation. This method will allow us to continue telemetering the full available resource capability to ERCOT but ***OUT of AGC mode***.

Procedural Steps:

For testing evolutions that require frequent or manual output changes, we will do the following:

1) Use resource status of ONTEST
2) Submit test request to ERCOT for approval
3) Operate in operator MANUAL mode

Evolutions that fit this requirement:

- Reactive testing
- Tuning control testing
- Turbine Governor Speed testing
- Hydro RRS Capability testing
- ERCOT Unannounced HSL testing
- Droop testing (on-line only)
- Control Valve testing (weekly)

ON RST

Testing/data gathering at full load (near HSL) that does NOT require manual output changes but to operate at a steady-state can be achieved utilizing the resource status "ON" and by reducing the telemetered ramp rate during the period of testing. This method will allow us to continue telemetering the full available resource capability to ERCOT while remaining ***IN AGC mode***. However, due to scheduling and a potential mismatch resource status in the COPs with Austin Energy, we will never use "ON" status while testing on FPP 1 & 2.

Usually, this is pre-arranged in day-ahead and should use the Event Type "UNAS" instead of "UTM." By doing so, this restricts any Ancillary Services from being allocated to the resource. However, if the resource is to be tested at the mid-range level, in PCI GenBase select;

i. Assets / MW Limits
ii. select Add to insert a new row, enter the Effective Date to coincide with the beginning start time of the testing, enter the reduced High Limit (MW), Max Capacity and Emergency Max to expected test level
iii. select Add to insert another new row, enter the Effective Date to coincide with the ending time of the testing, enter the seasonal HSL (original value) into High Limit (MW), Max Capacity and Emergency Max fields

iv. the resource must remain in AGC.

****Ensure Ancillary Services are NOT assigned to this resource and any services are moved to other resources prior to taking the actions described below.**

Procedural Steps:

For testing evolutions that do not require frequent or manual output changes, we will do the following:

1) Use resource status of ON
2) Change the telemetered ramp rate to 0.1 MW/min
3) Operate in AGC mode

Evolutions that fit this requirement:

- Steady state RATA testing
- ACI Performance testing
- Mercury / CEMS testing
- AVR testing
- PSS testing
- Full load testing
- Condenser tube leak

****Note:** Under these conditions, ERCOT could still issue an unannounced full load test. This would require the unit to achieve full load within 30 or 60 minutes of the ERCOT dispatch instruction. Notify the resource to cancel the current test, take OUT of AGC mode and manually load-up the resource. Place the resource status to ONTEST during unannounced test period.

LCRA Fuel Supplier Communication Plan

[redacted]

§25.53 (d)(3) A plan to maintain pre-identified supplies for emergency response

ENERGY • WATER • COMMUNITY SERVICES

SUPPLY CHAIN EMERGENCY SUPPORT PLAN

VERSION	PREPARED BY	ISSUE DATE
1	Ashley Erickson	11/01/2012
2	Ashley Erickson	03/28/2013
3	Ashley Erickson	11/25/2013
4	Ashley Erickson	11/25/2014
5	Jeannine Vater	08/04/2015
6	Ashley Erickson	02/01/2016
7	Jeannine Vater	04/04/2016
8	Jeannine Vater	05/24/2016
9	Jeannine Vater	07/05/2016
10	Daniel McKinnis	08/01/2016
11	Daniel McKinnis	09/13/2016
12	Daniel McKinnis	10/03/2016
13	Daniel McKinnis	11/08/2016
14	Daniel McKinnis	02/07/2017
15	Daniel McKinnis	02/27/2017
16	Daniel McKinnis	03/21/2017
17	Daniel McKinnis	06/28/2017
18	Laura Guillory	08/11/2017
19	Laura Guillory	10/10/2017
20	Laura Guillory	2/5/2019
21	Laura Guillory	3/17/2020

Lower Colorado River Authority
March 17, 2020
Version 21

INTRODUCTION

OBJECTIVE

Our objective during an emergency is to expedite the purchasing process while fully leveraging supplier relationships, with the ultimate goal of restoring LCRA to normal operations as soon as possible.

This document is strictly a guide. During an emergency, limited resources may be available and workarounds will be necessary. All procurements conducted during an emergency should be made as competitively as possible under the circumstances. Emergency purchases of goods or services should not exceed the scope or duration of the emergency.

DEFINITION OF "EMERGENCY"

"Emergency" is defined in Employee Policy Manual Policy 106.3 as "a condition or circumstance that poses an imminent threat to power generation, transmission, or distribution; environmental quality; flood control; water operations; employee or public safety; or that could result in an immediate, significant financial, or operational loss or damage to property."

EMERGENCY SUPPORT PLAN PREPARATION

PLAN DISTRIBUTION AND MAINTENANCE

This plan will be distributed to all Supply Chain employees. This plan will also be integrated into the Supply Chain Procurement Manual, effective July 2013.

The Supply Chain Emergency Support Plan will be reviewed by members of the Supply Chain leadership team on an annual basis. Necessary minor updates may be made at any time and will be communicated to staff. Each staff member should keep a current hard copy of this document at work and at home. A department hard copy is located at the GOC, FPP, and Lost Pines.

TRAINING

It is the expectation that every employee will be prepared to deliver on behalf of LCRA during an emergency. In meeting with stakeholders, Supply Chain is encouraged to ask to be involved in any emergency drills conducted by stakeholder groups.

RESPONDING TO AN EMERGENCY

STEP 1: EMERGENCY DECLARATION

Once a stakeholder group, or LCRA at large, has formally issued an emergency declaration, the Vice President of Supply Chain will activate this plan. Once the plan has been activated, the following sections will be implemented, allowing for workarounds where necessary.

Activation of the plan will be declared [redacted]. If a disaster strikes during normal business hours, [redacted]

STEP 2: PRELIMINARY ASSESSMENT ACTIONS

Initiate Call-Tree and Supply Management Conference Call

The Vice President of Supply Chain (VPSC) or his/her designate will [redacted].

[redacted]:

- Toll-Free [redacted]
  - Moderator Passcode: [redacted] (used by SMM or his/her designate)
  - Participant Passcode: [redacted]
  - Client ID: [redacted]
  - Web Password: [redacted]

Initial Assessment Brief and Information Gathering

Each member of the call will work with their staff to provide intelligence to assess LCRA's current needs.

At this point, the following criteria should be used to help gather intelligence of the event:

- [redacted];
- [redacted];
- [redacted];
- [redacted].

STEP 3: DEVELOP INCIDENT ACTION PLAN

Once the overall assessment is finalized, an Action Plan will be developed. The Action Plan should have three major elements (see Appendix I):

1. [redacted]?
2. [redacted]?
3. [redacted]?

The Action Plan will incorporate every major step needed to support the affected group(s) of stakeholders. All steps are to be documented and will serve as future reference for training and document retention purposes.

STEP 4: ASSEMBLE THE RESPONSE TEAM

Based upon the nature of the disaster, the VPSC will appoint a core Response Team. The core Response Team should be composed of Supervisors, Category Managers, and Buyers for primarily affected categories. Employees responding to the emergency should track their actions (see Appendix J).

Primary Assembly Site Location

LCRA Emergency Operations Center (EOC)

The primary L[redacted].

An alternate [redacted]. Additional options include the [redacted]. Depending on the circumstances, a member of Supply Chain may be asked to respond to the disaster [redacted].

Supply Chain Assembly Sites

Supply Chain's primary assembly site will be [redacted]. Depending on the circumstances, [redacted].

STEP 5: RESPOND TO EMERGENCY

Purchases made during an emergency that do not support emergency response efforts should be processed under the standard process and/or postponed.

Emergency Purchasing by Non-Agents

As established in Employee Policy Manual Policy 108R1.3, in an emergency, all LCRA employees are authorized to take prudent and necessary procurement actions and follow up with required approvals, processes, and procedures afterward. LCRA employees taking emergency procurement action should notify the Strategic Sourcing Director by phone or email within 24 hours of the start of the emergency. An Emergency Departure Form should be completed once the emergency is over (see Appendix F).

Emergency Purchasing by Agents

Employees may also contact an LCRA agent when an emergency purchasing need is identified. The requesting employee should provide as much information as possible to the agent, who will then initiate the purchasing action immediately. Approval from the requesting employee's supervisor will be obtained after emergency conditions have ended, or within two weeks of the request, whichever comes earlier.

All emergency purchases should be tracked to ensure systems can later be synchronized (see Appendix G).

A written determination of the basis for the emergency and for the selection of a particular vendor shall be filed in EDMS.

Emergency ProCard Limits

In the event that the General Manager declares an LCRA-wide emergency, [redacted].

STEP 6: TERMINATE THE EMERGENCY SUPPORT PROCESS

The following items and steps are all part of terminating the Recovery Process. Given the specific event encountered, the Recovery Team Lead will address each item listed below, using the corresponding Attachments where needed.

- Records Management: Ensure documentation for actions taken during the emergency are appropriately documented.
- System Synchronization: Ensure transactions conducted during the emergency are loaded to Maximo and PeopleSoft.
- Demobilize: Monitor and terminate the services for any emergency contracts established during the emergency that are no longer needed (*i.e.* portable toilets).
- Restock: Ensure stock used during the emergency is replaced.

STEP 7: LEARNING FROM AN EMERGENCY

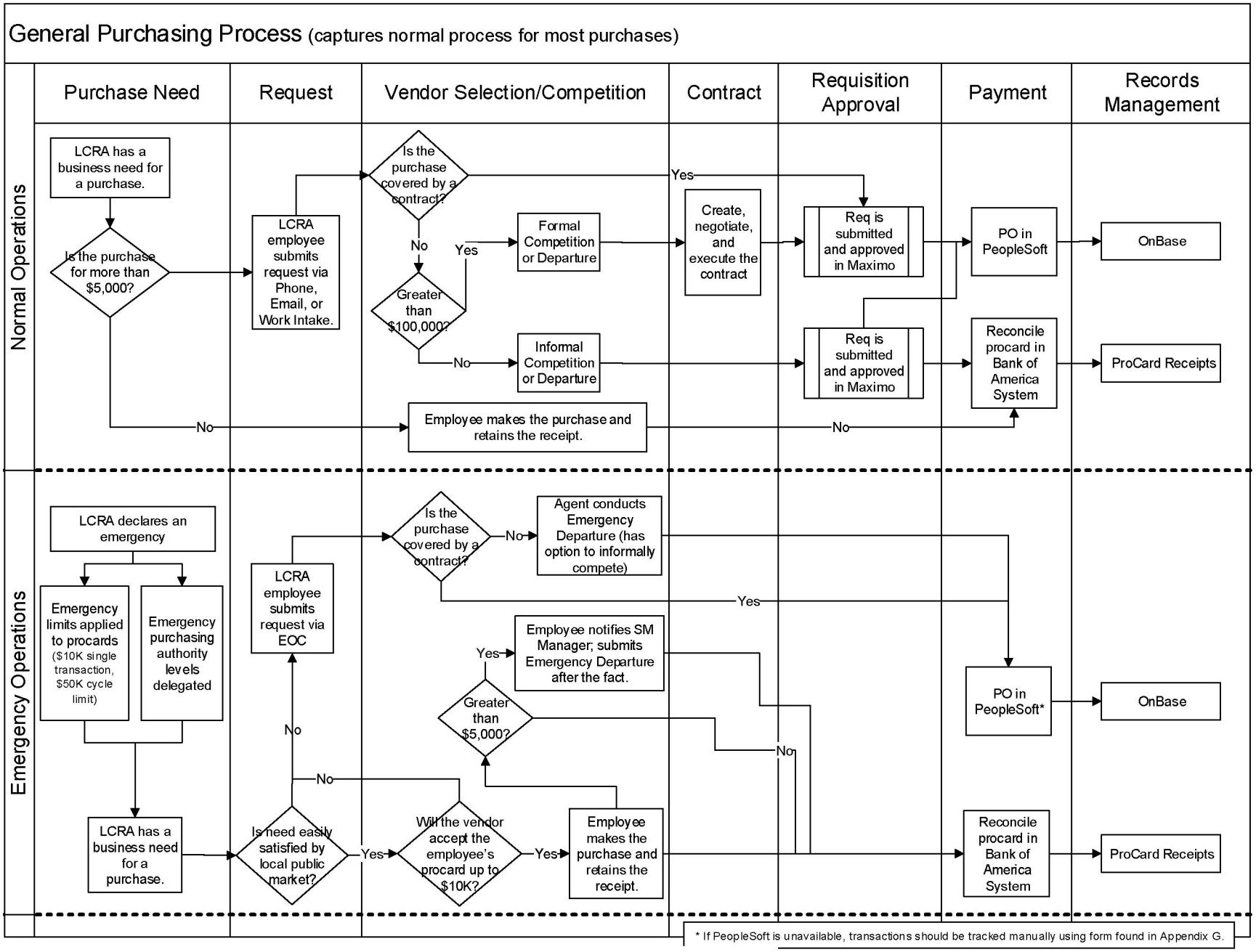
Following the completion of the Recovery Process phase of an emergency response, the Vice President of Supply Chain, directors, managers, supervisors, and members of the core response team will meet with key stakeholders from the emergency to assess interaction and performance during the emergency response, and to identify opportunities to improve this plan. Questions to be considered include:

- What worked?
- What did not work as well as it could have?
- What could we have done better?
- What changes to the plan are required to improve performance next time?

Following this meeting with stakeholders, the Vice President of Supply Chain, directors, managers, supervisors, and members of the core response team will provide a summary report to all of Supply Chain. This report should include the following information:

- Description of the incident
- List of key affected stakeholders
- Goal of Recovery Team during response
- Post Incident Analysis
- After Action Review/Critique

APPENDIX A: PURCHASING PROCESS DURING AN EMERGENCY (GUIDELINE ONLY – RESPONSE WILL VARY WITH EMERGENCY)



APPENDIX B: LINKS TO KEY RESOURCES

Resource	Link	Workaround if Down
OnBase Hub (Records Management)	[redacted]	Hold new documents; No workaround for accessing stored documents
PeopleSoft Financials	[redacted]	
Maximo	[redacted]	
Bank of America (ProCard)	[redacted]	Can sweep transactions to defaults if staff can't reconcile; AP pay invoice from BoA without review
Contract and PO Spend Tool	[redacted]	
SM Toolbox	[redacted]	
DIR and Comm Tech Coop Contracts	[redacted]	Establish new terms

APPENDIX C: SHIPPING ADDRESSES, PHONE NUMBERS, AND TAX ID NUMBER

Addresses	LCRA Phone Numbers	
GOC Street Address: 3700 Lake Austin Blvd, 78703-3502	LCRA Main #: (512) 473-3200	GOC Facilities: 1588
Service Center Shipping Address: 6641 E. Ben White Blvd, 78741	LCRA, toll-free: (800) 776-5272	Operator: 3200
LCRA PO Address: PO Box 220, 78767-0220	Hancock Front Desk, Security: 2159	Records Center: 3245
FPP Address: 6549 Power Plant Road, LaGrange 78945	Hancock Front Desk: 3235	Help Desk: 3300
AP Address: PO Box 679000,78767-9000	AP Fax: 4070	Mailroom: 2158, 2952,2089
LCRA Tax ID Number	Service Center Front Desk: 6413	VoiceMail: 6245
746002915	24 Hour Dispatch ([redacted]	

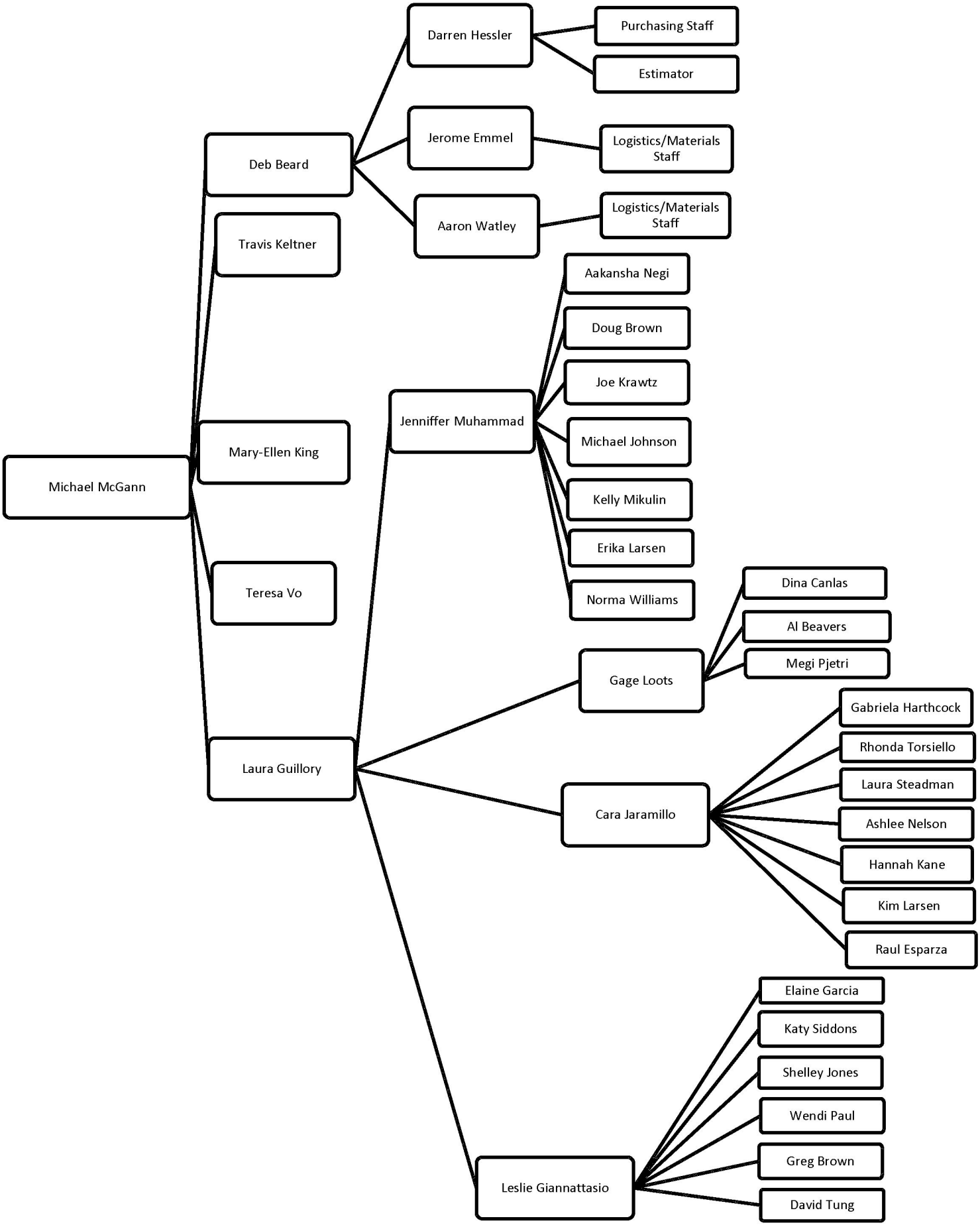
APPENDIX D: SUPPLY CHAIN CONTACT INFORMATION

Area code is (512) unless otherwise noted. For extension-only phone numbers, call 473 - 3333 and then enter the extension.

Name	Title	Mail Stop	Phone	Fax	Cell	Manager
			Supply Chain			
Michael McGann	Vice President of Supply Chain	S213	578-3149	473-4094	[redacted]	Jim Travis
Teresa Vo	Supply Chain Analyst II	S213	578-2147	473-4094		Michael McGann
			Strategic Sourcing			
Laura Guillory	Director, Supply Chain Strategic Sourcing	S213	578-3238	473-4094	[redacted]	Michael McGann
			Construction, Maintenance, and Repair			
Cara Jaramillo	Manager, Strategic Sourcing	S213	578-3377	473-4094	[redacted]	Laura Guillory
Laura Steadman	Senior Category Manager	S213	730-5638	473-4094	[redacted]	Cara Jaramillo
Gabriela Harthcock	Category Manager II	S213	730-5681	473-4094	[redacted]	Cara Jaramillo
Kim Larsen	Category Manager II	S213	730-6719	473-4094	[redacted]	Cara Jaramillo
Ashlee Nelson	Category Manager II	S213	730-6724	473-4094		Cara Jaramillo
Raul Esparza	Category Manager II	S213	730-5644	473-4094	[redacted]	Cara Jaramillo
Hannah Kane	Category Buyer	S213	578-1585	473-4094		Cara Jaramillo
Rhonda Torsiello	Category Buyer	S213	578-7997	473-4094	[redacted]	Cara Jaramillo
			Industrial Services and Equipment			
Leslie Giannattasio	Manager, Strategic Sourcing	S213	578-3274	473-4094	[redacted]	Laura Guillory
Elaine Garcia	Category Manager Lead	S213	578-3313	473-4094	[redacted]	Leslie Giannattasio
Katy Siddons	Category Manager Lead	S213	578-3505	473-4094	[redacted]	Leslie Giannattasio
David Tung	Senior Category Manager	S213	578-2130	473-4094	[redacted]	Leslie Giannattasio
Wendi Paul	Senior Category Manager	LPPP	578-3601	332-3612	[redacted]	Leslie Giannattasio
Shelley Jones	Category Buyer	S213	578-1671	473-4094		Leslie Giannattasio
Greg Brown	Category Buyer	S213		473-4094		Leslie Giannattasio
			Enterprise Services			
Gage Loots	Manager, Strategic Sourcing	S213	578-1584	473-4094		Laura Guillory
Al Beavers	Senior Category Manager	S213	578-3278	473-4094	[redacted]	Gage Loots
Dina Canlas	Category Manager II	S213	578-2437	473-4094	[redacted]	Gage Loots
TBD	Category Manager II	S213		473-4094		Gage Loots
Megi Pjetri	Category Buyer	S213	578-2428	473-4094		Gage Loots
TBD	Category Buyer	S213		473-4094		Gage Loots
			Technology, Fleet, MRO			
Jenniffer Muhammad	Manager, Strategic Sourcing	S213	730-5654	473-4094	[redacted]	Laura Guillory
Erika Larsen	Senior Category Manager	S213	578-3293	473-4094	[redacted]	Jenniffer Muhammad
Joe Krawtz	Senior Category Manager	S213	730-6073	473-4094	[redacted]	Jenniffer Muhammad
Doug Brown	Senior Category Manager	S213	578-1840	473-4094	[redacted]	Jenniffer Muhammad
Norma Williams	Category Manager II	S213	730-6446	473-4094	[redacted]	Jenniffer Muhammad
Kelly Mikulin	Category Manager II	S213	578-1582	473-4094	[redacted]	Jenniffer Muhammad
Aakansha Negi	Category Buyer	S213	578-2643	473-4094		Jenniffer Muhammad
Michael Johnson	Category Buyer	S213	578-2131	473-4094	[redacted]	Jenniffer Muhammad
George Demars	Category Buyer (Temp)	S213	578-3195	473-4094		Jenniffer

						Muhammad
Materials Management						
Debra Beard	Director, Supply Chain Materials Management	A211	730-6363		[redacted]	Michael McGann
Warehouses Generation						
Jerome Emmel	Supervisor, Materials & Logistics		(979) 249-8778			Debra Beard
Patrick Haas	Materials & Logistics Coordinator I	Ferguson	(830) 596-7165	(830) 473-7122	[redacted]	Jerome Emmel
Heath Hunger	Materials Specialist Sr.	FPP Materials	(979) 249-8475	(979) 249-8749	[redacted]	Jerome Emmel
Molly Vasek	Materials Specialist Sr.	FPP Materials	(979) 249-8461	(979) 249-8749	[redacted]	Jerome Emmel
Jonathan Hartley	Materials Specialist II	FPP Materials	(979) 249-8454	(979) 249-8749	[redacted]	Jerome Emmel
Addison Doucet	Materials Specialist I	FPP Materials	(979) 249-8417	(979) 249-8749	[redacted]	Jerome Emmel
Alton Thompson	Materials Specialist I	FPP Materials	(979) 249-8611	(979) 249-8749	[redacted]	Jerome Emmel
Chris Cunningham	Materials Specialist II	LPPP	578-3616	332-3627	[redacted]	Jerome Emmel
Materials Management						
Aaron Watley	Manager, Materials Management	SC 150	730-5050		[redacted]	Debra Beard
Rheadon Harrod	Supervisor, Logistics	SC 150	578-3908	356-6033	[redacted]	Aaron Whatley
Mark Goertz	Materials & Logistics Coordinator	SC 150	730-6344	356-6033	[redacted]	Rheadon Harrod
Jesus Alday	Materials Specialist Sr	SC 150	730-8910	356-6033	[redacted]	Rheadon Harrod
Jesus Cadenas	Materials Specialist I	SC 150	730-5048	356-6033	[redacted]	Rheadon Harrod
Cedric Barnes	Materials & Logistics Coordinator	SC 150	730-5123	356-6033	[redacted]	Rheadon Harrod
Bobby Mikulin	Materials Specialist II	SC 150	N/A	356-6033	[redacted]	Rheadon Harrod
Robert Felps	Supervisor, Materials & Logistics	SC 150	730-5122		[redacted]	Aaron Whatley
Colton Tucker	Materials Specialist II	SC 150				Robert Felps
Dwayne Cotton	Materials Specialist Sr	SC 150	730-6062		[redacted]	Robert Felps
Timothy Tucker	Materials Specialist Sr	SC 150	730-6313		[redacted]	Robert Felps
Samuel Gonzales	Materials Specialist I(Temporary)	SC 150			[redacted]	Robert Felps
Chase Smith	Materials & Logistics Coordinator	SC 150	(979) 966-1922		[redacted]	Robert Felps
Gilbert Rodriguez	Materials Specialist II	SC 150				Robert Felps
Procurement Operations						
Darren Hessler	Manager, Procurement Operations	SC 150	730-6315	(979) 249-8749	[redacted]	Debra Beard
Josh Gigout	Estimator	SC 150	578-4549	(979) 249-8749	[redacted]	Darren Hessler
Will Mikulin	Supervisor, Purchasing		332-3682	473-4094	[redacted]	Darren Hessler
Lauren Bennett	Buyer/Planner Sr	LPPP	498-1902	498-1951	[redacted]	Will Mikulin
Sandi Sivek	Buyer/Planner Sr	FPP Materials	(979) 249-8649	(979) 249-8749	[redacted]	Will Mikulin
Frank Heger	Buyer/Planner Sr	FPP Materials	(979) 249-8465	(979) 249-8749	[redacted]	Will Mikulin
Casey Lange	Buyer/Planner II	FPP Materials	(979) 249-8338	(979) 249-8749	[redacted]	Will Mikulin
Eric Salik	Supervisor, Purchasing	SC 150	730-5645	(979) 249-8749		Darren Hessler
Bradley Nutt	Buyer/Planner Lead	SC 150	730-6070	(979) 249-8749	[redacted]	Eric Salik
Lyn Turner	Buyer/Planner Sr	SC 150	730-6076	(979) 249-8749	[redacted]	Eric Salik
Brian Klaus	Buyer/Planner Sr	SC 150	730-6293	(979) 249-8749	[redacted]	Eric Salik
Andrew Bain	Buyer/Planner Sr	SC 150	730-6459	(979) 249-8749	[redacted]	Eric Salik
TBD	Buyer/Planner Sr	SC 150	730-5032	(979) 249-8749		Eric Salik
Larry Iarossi	Buyer/Planner Sr	SC 150	578-3931	(979) 249-8749	[redacted]	Eric Salik
Nicole Chiniaeff	Buyer/Planner Sr	SC 150	578-1563	(979) 249-8749	[redacted]	Eric Salik
Ryan Byrn	Buyer/Planner II	SC150	578-2352	(979) 249-8749	[redacted]	Eric Salik
Contract Management						
Mary-Ellen King	Director, Contract Management	S213	578-3341	473-4094	[redacted]	Michael McGann
Andrea Rivera	Contract Management Specialist II	S213	730-5226	473-4094		Mary-Ellen King

APPENDIX E: SUPPLY MANAGEMENT CALL TREE



APPENDIX F: EMERGENCY DEPARTURE FORM

Purchaser Name: _____ _____

Product Line: _____

Department: _____

Purchase Amount: _____

Purchase Date: _____

Was this purchase covered by FPP Policy #1500? Yes No

Was this purchase for a consulting or professional service? Yes No

Method of Payment: ProCard Invoice to PO Invoice to Direct Pay

Description of need and emergency: _____

_____

_____

_____

_____

Purchaser Signature: _____ Date: _____

Supervisor's Signature: _____ Date: _____

Supply Management Manager's Signature:_____ Date: _____

APPENDIX G: PURCHASE LOG (USED TO SYNCHRONIZE PEOPLESOFT/MAXIMO AFTER THE EMERGENCY)

Date	LCRA Agent	Contract/PO #	Need Description	Requestor	Supplier	Basis for Selection of Supplier	Amount

APPENDIX H: CORE RESPONSE TEAM(S) (USED TO ASSIGN RESOURCES TO THE EMERGENCY)

Incident Name: _____ Operational Period: From (Date/Time):_____

Team #: _____ of _____ To (Date/Time):_____

Leader	Name	Role	Contact Method	Contact #	Reporting Location

Work Assignments:

Special Instructions:

APPENDIX I: ACTION PLAN (USED TO PLAN RESPONSE TO THE EMERGENCY)

Incident Name:_____ Operational Period: From (Date/Time):_____

To (Date/Time):_____

Specific Tasks (what and where?)	Resource Allocation (who and how?)	Time Line (when/how long?)

APPENDIX J: ACTIVITY LOG (USED TO REPORT TO AUTHORITIES WHAT YOU DID AND WHEN RELATED TO THE EMERGENCY)

Incident Name:_____ Operational Period: From (Date/Time):_____

Staff Name:_____ To (Date/Time):_____

Specific Tasks/Activities	Date / Time

Lower Colorado River Authority

Supply Chain Procurement Procedures Manual

EXCEPTIONS, EXEMPTIONS AND DEPARTURES

BOARD POLICY EXCEPTIONS

The requirements of this manual do not apply to purchases separately authorized under any other applicable LCRA Board policy or under any other procedures manual developed pursuant to LCRA Board policies.

EMERGENCY PURCHASES

An emergency is condition or circumstance that poses an imminent threat to: (a) power generation, transmission or distribution; (b) environmental quality; (c) flood control; (d) water operations; or (e) employee or public safety; or that could result in an immediate significant financial or operational loss or damage to property.

In an emergency, all LCRA employees are authorized to take prudent and necessary procurement actions and follow up with required approvals, processes and procedures afterward. Each individual department may set additional restrictions on which of its employees may declare an emergency for the purposes of this manual. An LCRA employee taking emergency procurement action must notify Supply Chain by email at ProcurementRequests@lcra.org within 24 hours of the start of the emergency. The notice must include:

1. The nature of the emergency, including the LCRA employee responsible for declaring the emergency;
2. The affected department or departments, facility or facilities, or personnel;
3. All procurement actions taken as of the time of the notice, including all purchases made or committed to be made;
4. Any additional procurement actions that may be necessary in order to resolve the emergency.

In an emergency, Supply Chain's objective is to expedite the purchasing process while fully leveraging supplier relationships with the ultimate goal of restoring LCRA to normal operations as soon as possible.

GENERAL EXEMPTIONS TO THE COMPETITIVE PROCESS

A contract of any value may be awarded to a supplier without competition when a general exemption applies. A general exemption requires the Supply Chain agent, working with the end-user department, to gather sufficient documentation to support the general exemption. The following general exemptions are authorized:

Personal services, which are services that can only be performed by the individual person to whom the contract is awarded, such as legislative consultants.

Professional memberships, subscriptions, certifications, benchmarks and trainings that are proprietary to the supplier offering such services, other than software subscriptions.

Advertisements, other than media placement services.

Films, manuscripts and books.

Water and other utility services for LCRA's physical locations.

Insurance policies and employee benefits procured through an outside brokerage firm.

STANDARDIZATION AS AN EXCEPTION TO COMPETITION

A contract of any value may be awarded to a supplier without competition when the specific subject of that contract has been previously approved through a standardization process managed and implemented by Supply Chain.

DEPARTURES FROM THE COMPETITIVE PROCESS

A contract of any value may be awarded to a supplier without competition when a departure applies. A departure from the competitive contracting requirements of this manual requires the Supply Chain agent, working with the end-user department, to gather sufficient documentation to support the departure, as well as the approval of both the contract sponsor and the vice president of Supply Chain. The following departures are authorized:

Sole-source departure. A contract of any value may be awarded to a supplier without competition when that supplier is the only one able to meet LCRA's needs. Examples of purchases that may qualify for a sole-source departure are captive replacement parts or components, and goods or services available from one supplier due to underlying patents, copyrights, secret processes or natural monopolies. A sole-source departure may not be used where market competition for the goods or services is available.

Competitive electric departure. A contract of any value may be awarded to a supplier without competition for purchases related to competitive electric generation when necessary to prevent damage to LCRA's competitive position.

§25.53 (d)(4) A plan that addresses staffing during emergency response

FRG - Extreme Weather Staffing - Alert Level 1

	Plant Employees								PSS			Support								
	Management (Supv)	Ops on shift	Ops off shift	Mech	I&C Tech	Elect	Compliance	Lab	Mech	Elect	Ops Support	PdM	I&C Tech	Planner/ Scheduler	Engineer	Env	Stores	Safety	IT/OT/I&C	Buyer
Days																				
Nights																				
Total																				

Total

FRG - Extreme Weather Staffing - Alert Level 2

	Plant Employees								PSS			Support								
	Management (Supv)	Ops on shift	Ops off shift	Mech	I&C Tech	Elect	Compliance	Lab	Mech	Elect	Ops Support	PdM	I&C Tech	Planner/ Scheduler	Engineer	Env	Stores	Safety	IT/OT/I&C	Buyer
Days																				
Nights																				
Total																				

Total

FRG - Extreme Weather Staffing - Alert Level 3

	Plant Employees								PSS			Support								
	Management (Supv)	Ops on shift	Ops off shift	Mech	I&C Tech	Elect	Compliance	Lab	Mech	Elect	Ops Support	PdM	I&C Tech	Planner/ Scheduler	Engineer	Env	Stores	Safety	IT/OT/I&C	Buyer
Days																				
Nights																				
Total																				

Total

Alert Level 0	Alert Level 1	Alert Level 2	Alert Level 3

Alert Level 0	Alert Level 1	Alert Level 2	Alert Level 3

LPPP - Extreme Weather Staffing - Alert Level 0

	Plant Employees								PSS			Support									
	Management (Supv)	Ops Leads	CRO & PO	I&C Tech	Mech	Elect	Compliance	Lab	Mech	Elect	Ops Support	PdM	I&C Tech	Planner/ Scheduler	Engineer	Env	Stores	Safety	IT/OT	Buyer	Lab
LP1																					
Days																					
Nights																					
SGP																					
Days																					
Nights																					
WPP																					
Days																					
Nights																					
Support																					
Days																					
Nights																					
Total																					

Total

LPPP - Extreme Weather Staffing - Alert Level 1

	Plant Employees								PSS			Support									
	Management (Supv)	Ops Leads	CRO & PO	I&C Tech	Mech	Elect	Compliance	Lab	Mech	Elect	Ops Support	PdM	I&C Tech	Planner/ Scheduler	Engineer	Env	Stores	Safety	IT/OT	Buyer	Lab
LP1																					
Days																					
Nights																					
SGP																					
Days																					
Nights																					
WPP																					
Days																					
Nights																					
Support																					
Days																					
Nights																					
Total																					

Total

LPPP - Extreme Weather Staffing - Alert Level 2

	Plant Employees								PSS			Support									
	Management (Supv)	Ops Leads	CRO & PO	I&C Tech	Mech	Elect	Compliance	Lab	Mech	Elect	Ops Support	PdM	I&C Tech	Planner/ Scheduler	Engineer	Env	Stores	Safety	IT/OT	Buyer	Lab
LP1 Days																					
LP1 Nights																					
SGP Days																					
SGP Nights																					
WPP Days																					
WPP Nights																					
Support Days																					
Support Nights																					
Total																					

Total

LPPP - Extreme Weather Staffing - Alert Level 3

	Plant Employees								PSS			Support									
	Management (Supv)	Ops Leads	CRO & PO	I&C Tech	Mech	Elect	Compliance	Lab	Mech	Elect	Ops Support	PdM	I&C Tech	Planner/ Scheduler	Engineer	Env	Stores	Safety	IT/OT	Buyer	Lab
LP1 Days																					
LP1 Nights																					
SGP Days																					
SGP Nights																					
WPP Days																					
WPP Nights																					
Support Days																					
Support Nights																					
Total																					

FPP - Cold Weather Staffing above normal operating shift levels

Freeze Level 1

	Plant Employees									Support					
	Management (Supv)	Ops Leads	Equip Op	Temps	Mech	I&C Tech	Cntrls	Elect	Lab	PdM	Planner/ Scheduler	Engineer	Compliance/ Env	Stores	Safety
Days															
Nights															
Total															

Freeze Level 2

	Plant Employees									Support					
	Management (Supv)	Ops Leads	Equip Op	Temps	Mech	I&C Tech	Cntrls	Elect	Lab	PdM	Planner/ Scheduler	Engineer	Compliance/ Env	Stores	Safety
Days Wkd/ Nights															
Total															

Freeze Level 3

	Plant Employees									Support					
	Management (Supv)	Ops Leads	Equip Op	Temps	Mech	I&C Tech	Cntrls	Elect	Lab	PdM	Planner/ Scheduler	Engineer	Compliance/ Env	Stores	Safety
Days Wkd/ Nights															
Total															

FPP Freeze Alert Level 0	FPP Freeze Alert Level 1	FPP Freeze Alert Level 2	FPP Freeze Alert Level 3

§25.53 (d)(5) A plan that addresses how an entity identifies weather-related hazards

Table of Contents

1 Introduction

This procedure defines the process to be performed when severe weather is approaching. The procedures here-in are referred to as the ***"LCRA QSE Severe Weather Preparedness Plan"*** and are to serve as a guide reference.

Decisions relating to declaring levels of response will be made by the GenDesk Manager, the QSE Operations Manager or designee.

The GenDesk Emergency Operations Center Status Report will be completed and submitted to the LCRA Emergency Operations Center (EOC) as requested by the EOC during any Severe Weather Event.

If requested by ERCOT, the ERCOT Loss of Load Plan will be completed by GenDesk personnel and submitted to ERCOT.

1.1 Purpose

The objective of the severe weather process is to ensure LCRA is prepared for Gulf and winter storms as well as extreme hot and cold weather.

1.2 Related Documents

ERCOT Nodal Protocol Section 6.5.9.3.1 – Operating Condition Notice (OCN)

ERCOT Nodal Protocol Section 6.5.9.3.2 – Advisory

ERCOT Nodal Protocol Section 6.5.9.3.3 – Watch

ERCOT Nodal Protocol Section 6.5.9.3.4 – Emergency Notice

ERCOT Nodal Operating Guide Section 1.5.4 - ERCOT Severe Weather Drill

ERCOT Nodal Operating Guide Section 4.1 (3) – Emergency Operations

ERCOT Nodal Operating Guide Section 4.2.1 – Operating Condition Notice (OCN)

ERCOT Nodal Operating Guide Section 4.2.2 - Advisory

ERCOT Nodal Operating Guide Section 4.2.3 - Watch

ERCOT Nodal Operating Guide Section 4.2.4 – Emergency Notice

2 Procedures

2.1 Hurricane / Tropical Storm Preparations

2.1.1 Storm Location - Gulf of Mexico (GenDesk)

Response Level 1 – Heightened Awareness

1. Monitor Weather Forecasts – Storm is in the Gulf of Mexico.
2. Consult with LCRA Meteorologist on predicted impacts to LCRA service area.
3. ERCOT is currently operating in a secure state but may begin issuing Operating Instructions if conditions warrant it.
4. Complete the GenDesk Emergency Operations Center Status Report and submit to the LCRA EOC ***IF*** requested by the EOC during a Severe Weather Event.
5. Enter information into GenDesk Daily Log
   a. Type of event (Level Changed)
   b. Date Response level changed
   c. Time Response level changed
   d. Verbally contacted resources, log person & time
   e. Direct resources to implement their severe weather process plan
   f. Comments, if any

2.1.2 Gulf Storm - 36 hours away (GenDesk)

Response Level 2 – Increased Readiness

1. Monitor weather forecasts – Storm projections are for Central Texas Coastline – Landfall 36 to 48 hours away.

2.1.3 Gulf Storm - 12 hours away (GenDesk)

Response Level 3 – Escalated Response

1. ERCOT is projecting to be in an insecure state should the storm impacts materialize as currently forecasted.

[redacted]

2.1.4 Gulf Storm - Landfall (GenDesk)

Response Level 4 – Emergency Conditions

1. ERCOT is an insecure state due to the storms impact on the Bulk Electric System (BES)

[redacted]

2.2 Winter Storm / Snow or Ice Preparedness

The winter season normally includes, but not limited to, the months of December, January, and February. During the winter season there is a potential for our service area to witness near freezing and below freezing temperatures, along with precipitation that causes sleet, ice accumulations and snowfall. We must be mindful of the potential for ERCOT wide capacity shortages and ERCOT load demands exceeding [redacted] during times of extreme cold temperatures.

2.2.1 Winter Storm - (GenDesk)

Response Level 1 – Heightened Awareness

1. National Weather Service issues a **Winter Weather ADVISORY** that could affect the LCRA service territory.
2. Continue to monitor weather forecasts and consult with LCRA Meteorologist for updates
3. ERCOT is currently operating in a secure state but may begin issuing Operating Instructions if conditions warrant it.
4. The GenDesk Emergency Operations Center Status Report will be completed and submitted to the LCRA Emergency Operations Center (EOC) if requested by the EOC during a Severe Weather Event.

2.2.2 Winter Storm - (GenDesk)

Response Level 2 – Increased Readiness

1. National Weather Service issues a **Winter Weather WATCH** for the LCRA service territory, predicting sustained freezing temperatures and/or precipitation that is the cause for sleet, ice accumulations and snowfall.

[redacted]

2.2.3 Winter Storm - (GenDesk)

Response Level 3 – Escalated Response

1. National Weather Service issues a **Winter Weather WARNING** for the LCRA service territory, predicting sustained freezing temperatures and precipitation that causes sleet, ice accumulations and snowfall. Monitor existing temperatures versus forecast temperatures in north Texas; this could indicate a more severe storm than originally predicted.
2. ERCOT is projecting to be in an insecure state should the storm impacts materialize as currently forecasted

[redacted]

2.2.4 Winter Storm - (GenDesk)

Response Level 4 – Emergency Conditions

1. LCRA service territory is being impacted by sustained freezing temperatures, sleet, freezing rain, high winds and/or ice accumulations and snowfall.
2. ERCOT is operating in an insecure state due to the storms impact on the Bulk Electric System (BES)

2.3 Extreme Hot Weather

The summer season normally includes, but not limited, to the months of June, July, and August. The summer season is typically our most extreme weather conditions for the resources. It is also the period that we typically see ERCOT load demands exceeding [redacted] with low forecasted wind for consecutive days and/or potential ERCOT wide capacity shortages (OCN's, Advisory, Watch, Alerts, etc. and higher exposure to Market prices).

2.3.1 Extreme Hot Weather Forecasted (GenDesk)

Procedural Steps

1. Consult with LCRA Meteorologist on predicted impacts to LCRA service territory.
2. Monitor the ERCOT forecasted load for the current day and future days looking forward.

[redacted]

2.3.2 Continued Extreme Hot Temperatures (GenDesk)

Procedural Steps

1. If High temperatures and high Load demand continue for consecutive days, continued monitoring and communication shall take place with all resources and ERCOT as necessary.
2. Continue to consult with LCRA Meteorologist on predicted impacts to LCRA service area.

[redacted]

2.4 Extreme Cold Weather

The winter season normally includes, but not limited, to the months of December, January, and February. During the winter season there is a potential for our service area to witness freezing and below freezing temperatures without precipitation. We must be mindful of the potential for ERCOT wide capacity shortages and/or ERCOT load demands exceeding [redacted] with low forecasted wind during times of extreme cold temperatures, even in the absence of winter precipitation.

2.4.1 Extreme Cold Weather Forecasted (GenDesk)

Procedural Steps

1. Consult with LCRA Meteorologist on predicted impacts to LCRA service territory.
2. Monitor the ERCOT forecasted load for the current day and future days looking forward.

[redacted]

2.4.2 Continued Extreme Cold Temperatures (GenDesk)

Procedural Steps

1. If low temperatures and high load demand continue for consecutive days, continued monitoring and communication shall take place with all resources and ERCOT as necessary.
2. Continue to consult with LCRA Meteorologist on predicted impacts to LCRA service area.

3 Loss of Load Plan – LCRA QSE

In the event of a Loss of Load scenario, LCRA (***IF*** directed by ERCOT per current Protocols) will

NOTE: The listing above describes the preferred sequence that LCRA's QSE would propose to follow to facilitate any required generation reductions.

If further reductions are needed, then the following

3. If further reduction is required,

4 Forms

GenDesk Emergency Operations Center Status Report – Links to form on SharePoint

5 Document Control

Prepared by:

Raymond Gilby (KEMA Inc) 8/12/2008

5.1 Review Log

This document will be reviewed every calendar year.

Reviewed By	Title	Date
Jay Watson	SME	12/16/2009
Jay Watson, Greg Pyka	SMEs	11/22/2010
Jay Watson, Greg Pyka	SMEs	07/11/2011
Jay Watson, Greg Pyka	SMEs	1/17/2012
Jay Watson, Greg Pyka	SMEs	2/15/2013
Mike Hale, Greg Pyka	SMEs	1/9/2014
Mike Hale, Greg Pyka	SMEs	07/27/2015
Darren Hughes, Greg Pyka	SMEs	02/13/2017
Greg Pyka, Darren Hughes	SMEs	7/13/2017
Greg Pyka, Darren Hughes	SMEs	8/15/2018
Teresa Cantwell, Darren Hughes	SMEs	2/14/2020
Ron Friday	SME	9/14/2021

5.2 Change History

The change history below reflects changes to the Manual or its structure.

Version	Description of change	Date
V02.00	1.3 Remove process flow diagram 2.2 Defined the months for winter storm with precipitation and removed the time requirement for increased response level decisions 2.3 Defined the months during extreme hot temperatures 2.4 New section added which refers to prolong extreme cold temperatures without precipitation	01/24/2014 & 6/2/2014
V02.01	1.2 Verified related documents section 2.3.1 Clarified that an ERCOT capacity shortage or loads over 65,000mws warrant a “Tools Down” notice 2.4.1 Clarified that an ERCOT capacity shortage or loads over 50,000mws warrant a “Tools Down” notice	07/27/2015

Version	Description of change	Date
V02.02	1.2 Verified related documents section 2.1.4 Inserted hyper-link for Implementing Constant Frequency 2.3 – 2.3.1 Clarified that an ERCOT capacity shortage or loads over 65,000mws warrant a "Tools Down" notice 2.4 – 2.4.1 Clarified that an ERCOT capacity shortage or loads over 50,000mws warrant a "Tools Down" notice 3.1 (2) Modified to include Ferguson CC Appendix A added – Implementing Constant Frequency for GMS. Updated GenDesk Emergency Operations Center Status Report	02/14/2017
V02.03	Updated ERCOT load demand MW capacities in the following sections: Section 2.2 – 52,500 MW (previously 50,000 MW) Section 2.3 & 2.3.1 (step 5) – 67,500 MW (previously 65,000 MW) Section 2.4 & 2.4.1 (step 6) – 52,500 MW (previously 50,000 MW)	7/13/2017
V02.04	2.1.1 – 2.1.4 Changes to "Levels" to align with Market Alert Levels Removed all references of GENDESK ERCOT NOTICE and replaced with using RAVE Notification System. Added link throughout to "RAVE Notification Procedure" 2.2 Raised ERCOT load threshold to 62,500 during winter storm. 2.3 Raised ERCOT load threshold to 70,000 during extreme hot weather. 2.5 removed section that pertained to Generator 2.6 removed section that pertained to IT Staff	08/15/2018
V02.05	Links to RAVE Notification Procedure updated; Links to the GenDesk Emergency Operations Center Status Report Form (folder) updated. Section 2.3.1 – Step 6. i. - Updated	2/14/2020
V02.06	Updated hyperlink link to current RAVE Alert Notification Procedure, V01.04, throughout document. 5.2 – Change History - Changes made to versions 01.00 – 01.06 between 2008 and 2013 can be found in version 02.05	9/14/2021

5.3 Approval

_____ Major Revision Management Approval Required
__X__ Minor Revision Management Approval Not Required

Severe Weather Process / Version 02.06

Authorized by:

Joel Firestone, VP, Regulatory and Market Compliance
(Authorization made via MS Outlook voting feature. See attached report.)

Approved by:
(Approval made via MS Outlook voting feature. See attached report.)

Darren Hughes	Manager, GenDesk
Ron Friday	Real-Time Operations Coordinator

Teresa Krabe

From: Teresa Krabe
Sent: Wednesday, September 15, 2021 3:49 PM
To: Joel Firestone; Ron Friday; Darren Hughes
Cc: Teresa Krabe (Teresa.Krabe@lcra.org)
Subject: APPROVAL REQUEST: Severe Weather Process, V02.06
Attachments: Severe Weather Process V02.06.doc

Tracking:

Recipient	Response
Joel Firestone	Yes, I have reviewed the document(s) and APPROVE of the contents: 9/29/2021 2:08 PM
Ron Friday	Yes, I have reviewed the document(s) and APPROVE of the contents: 9/16/2021 7:04 AM
Darren Hughes	Yes, I have reviewed the document(s) and APPROVE of the contents: 9/15/2021 4:12 PM
Teresa Krabe (Teresa.Krabe@lcra.org)	
Teresa Krabe	Yes, I have reviewed the document(s) and APPROVE of the contents: 9/16/2021 5:58 AM

A review of the ***Severe Weather Process, V02.06*** has been conducted and is now ready for your review/approval. A clean copy of this document is attached.

Please complete your review and submit your response - while on the LCRA network using your LCRA issued computer – by way of the vote feature located at the top of this email by **Wednesday, September 22, 2021**. The version effective date within the document header will be identified as the date the last approval is obtained and updated upon completion of the voting process.

Teresa Krabe
Lower Colorado River Authority | Regulatory and Market Compliance Analyst, Sr.
O 512-578-4040 C 512-483-1825
Teresa.Krabe@LCRA.org

Enhancing the Lives of Texans

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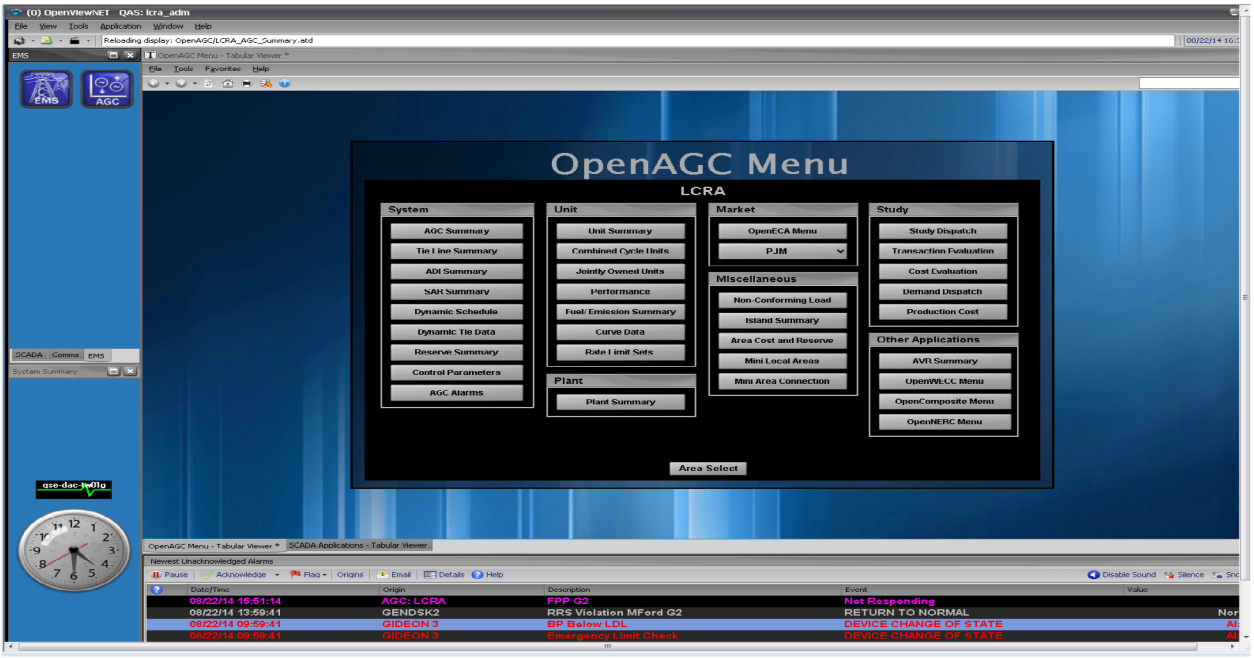
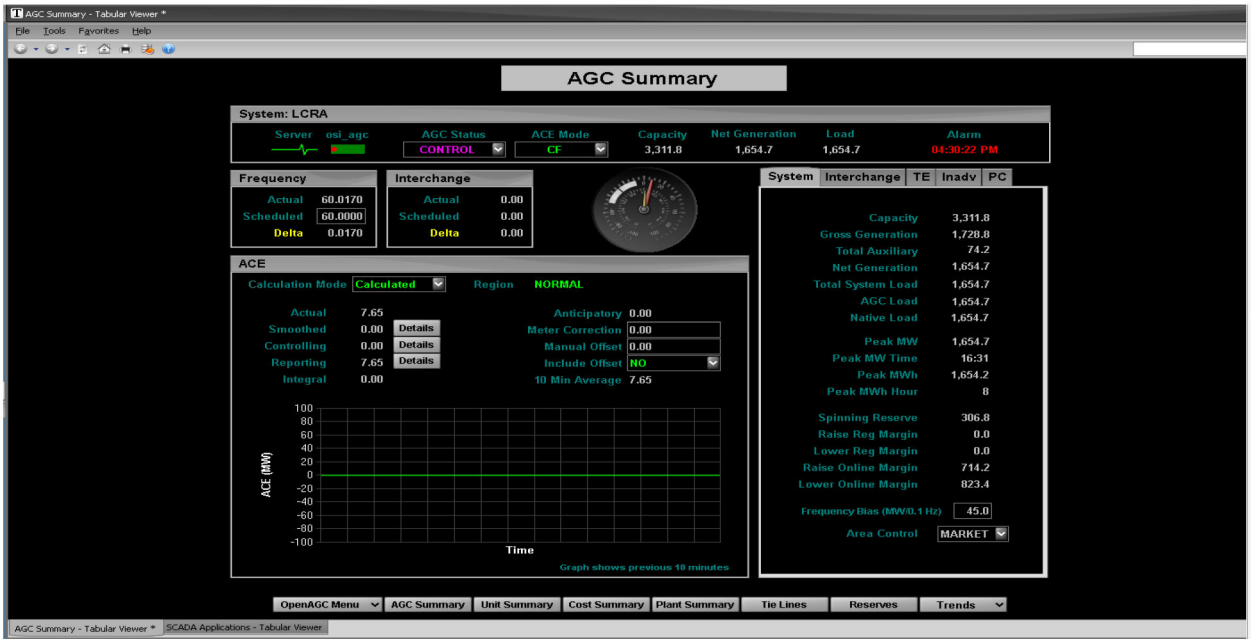
1

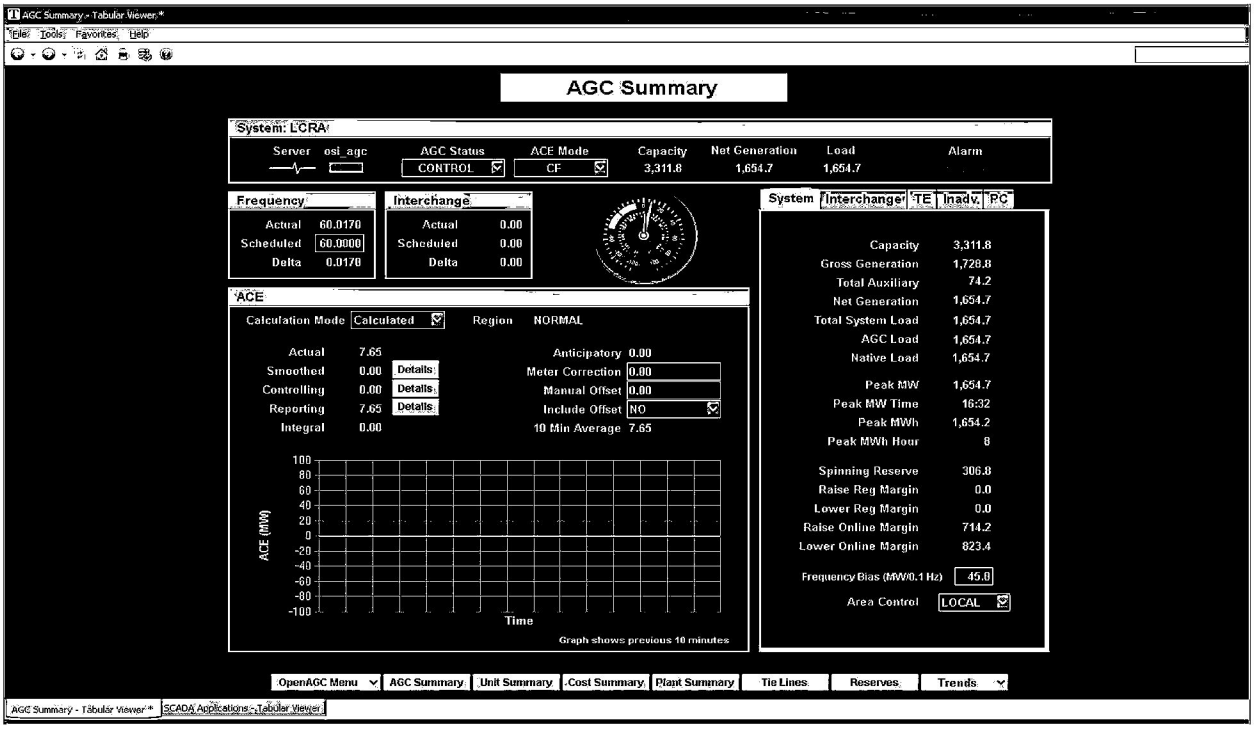
Appendix A – Implementing Constant Frequency in GMS



1) **Select AGC Summary from the OpenAGC Menu.**



2) **Input the Frequency Bias as directed by ERCOT.**
3) **Input the Scheduled Frequency if other than 60.000 Hz.**
4) **Verify the ACE Mode is set to CF for Constant Frequency. If ACE Mode is not set to CF, select CF from the drop down.**



5) **Change Area Control from MARKET to LOCAL, by selecting LOCAL from the drop down. Note: When changing Area Control from MARKET to LOCAL, all units on MARKET mode on the Unit Summary display will go to MANUAL.**
6) **Change AGC Control Mode on the Unit Summary display from Manual to AUTO.**

§25.53 (e)(2)(A) A weather emergency annex

1.0 PURPOSE

To ensure plant equipment and systems are properly maintained and prepared for the winter season. The facility shall follow industry best practices and take proper precautions to prevent equipment damage during a winter event and minimize the risk of an unplanned outage.

2.0 DOCUMENTATION PROTECTION

This document contains ERCOT protected information as defined by Section 1.3.1 of the ERCOT Nodal Protocols. As such, the document and its contents are restricted from public release or access.

3.0

4.0

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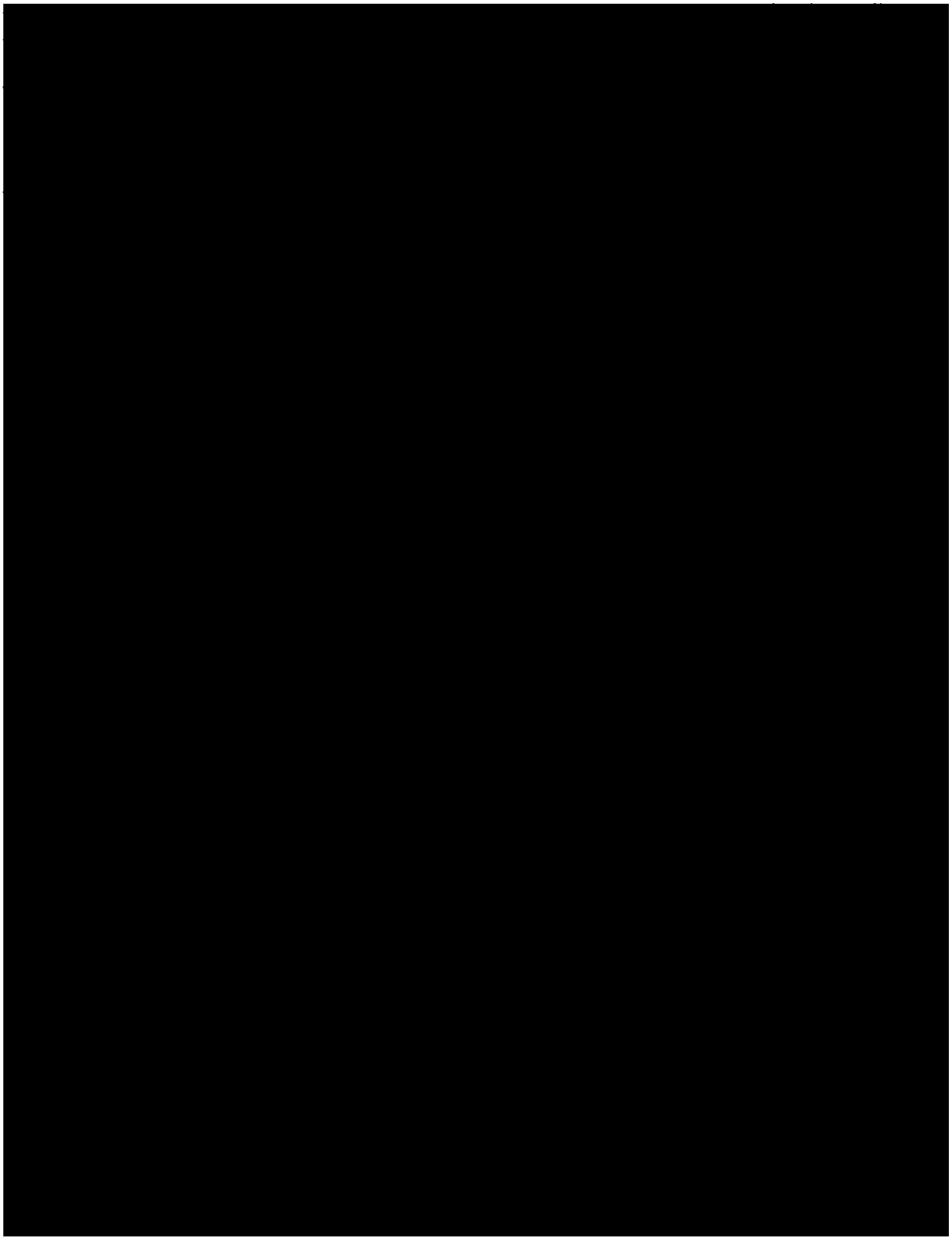

CONFIDENTIAL – PROTECTED INFORMATION

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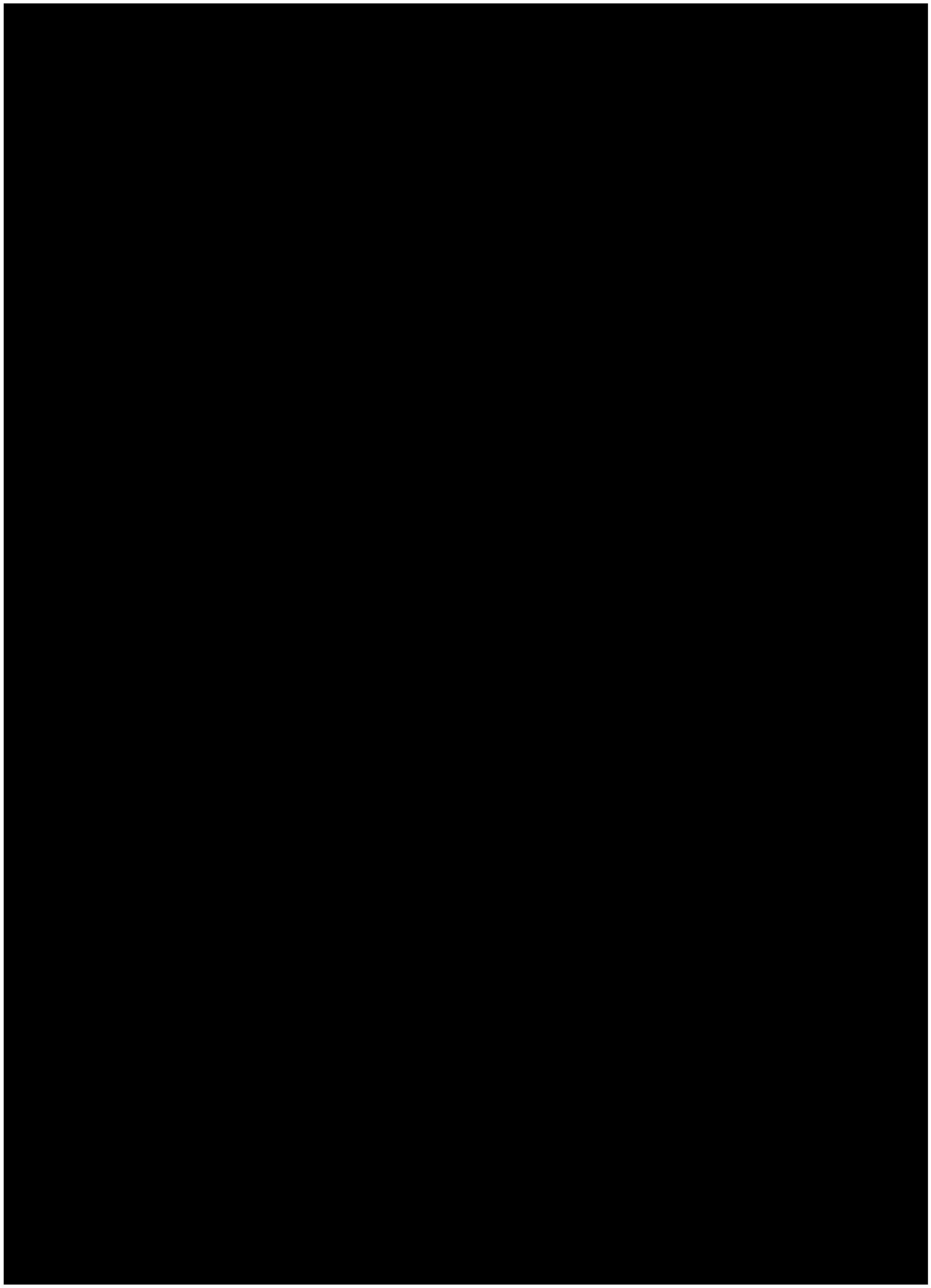

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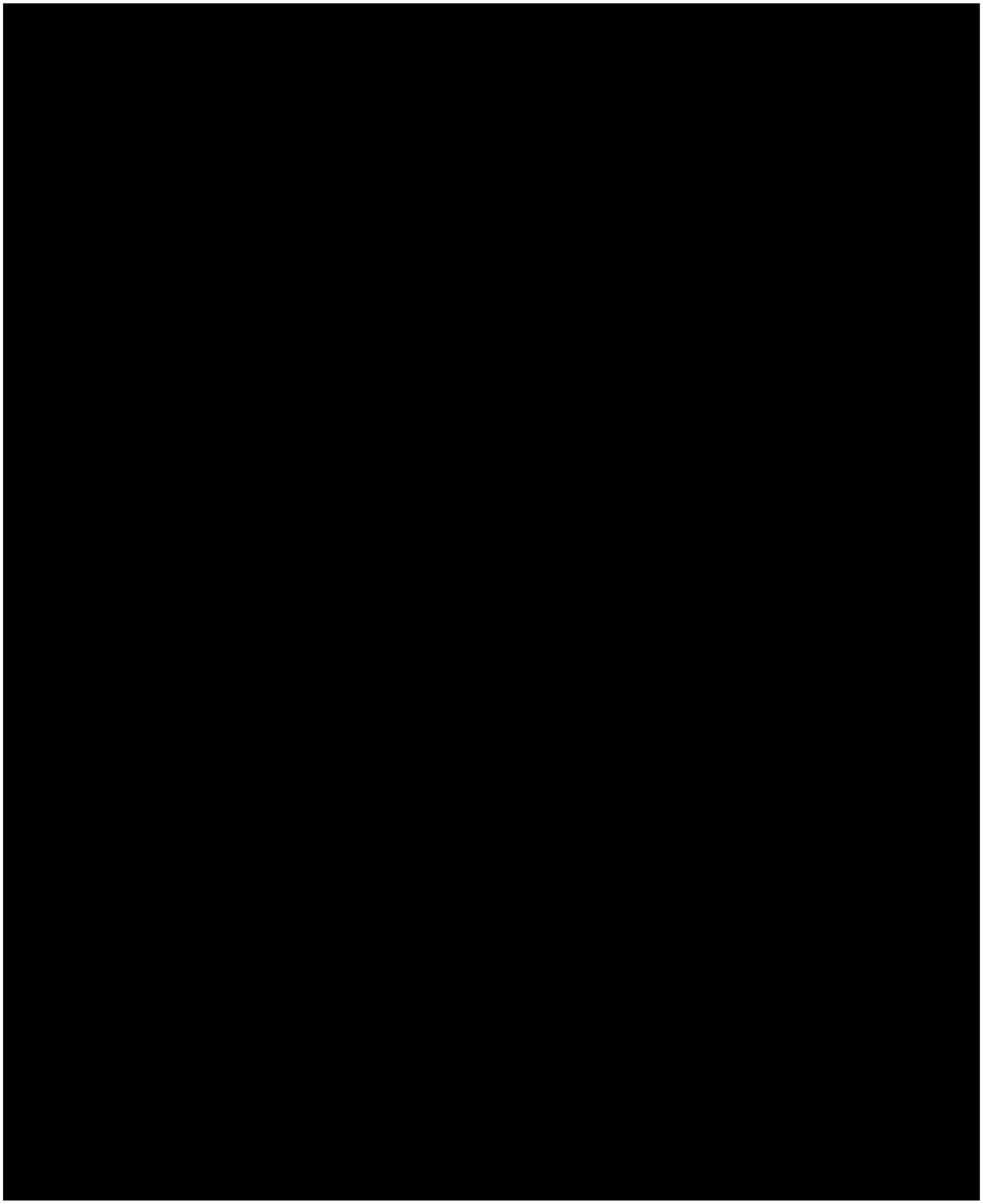
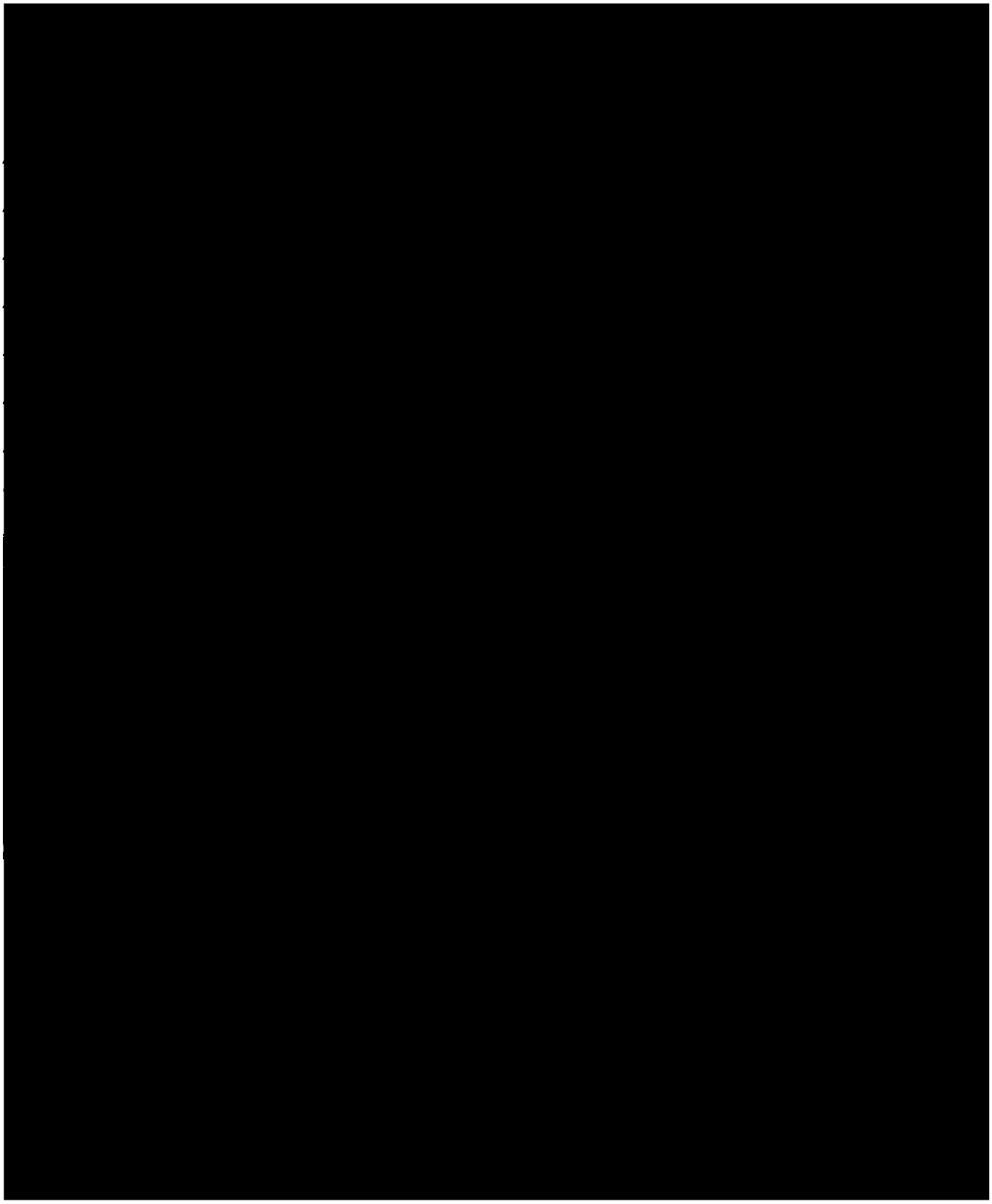
CONFIDENTIAL – PROTECTED INFORMATION



17.0 [redacted]

CONFIDENTIAL – PROTECTED INFORMATION



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11.0 SIGNATURES

X _____ X _____

Laura Hankins
Compliance Coordinator

Kevin Reed
Operations Manager

X _____ X _____

Jeremy Newman
Maintenance Manager

Tony Anderson
Plant Director

Attachment 1 -
Preparation Checklist for Winter Weatherization

Fill out information below when completed:

☐ Inspect for damaged or removed insulation (TR051019). All insulation shall be repaired or replaced.

Name: _____ Date Completed: _____

☐ Record heat trace panel circuit amperage and ensure values are within allowable limits (TR049582). Reference Attachment A - Heat Tracing Panels.

Name: _____ Date Completed: _____

* Monthly heat trace operational test will be performed November through March according to PM (TR070031).

☐ Verify heater operation in transmitter enclosures (TR050620). Reference Attachment B - Transmitter Enclosures.

Name: _____ Date Completed: _____

☐ Send out closed loop cooling water and LCI cooling water Glycol samples for analysis to ensure adequate concentration levels (TR5430725 and TR049859).

Name: _____ Date Completed: _____

☐ Verify all material and equipment, pursuant to Attachment C - Winter Inventory List, is onsite and available for use.

Name: _____ Date Completed: _____

☐ Verify that salamanders and electric heaters are operational (TR049590).

Name: _____ Date Completed: _____

☐ Ensure Facility Services have inspected HVAC systems in all buildings and enclosures (TR051020).

Name: _____ Date Completed: _____

☐ Perform a walkdown of the instrument air dryer skid and verify dewpoint sensors are operational (TR048952 and TR048953).

Name: _____ Date Completed: _____

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Attachment 1 -
Preparation Checklist for Winter Weatherization (Cont'd)

☐ Verify that winter weather training has been completed through the LMS system by all Plant Personnel (TR051018).

Name: _____ Date Completed: _____

☐ Install temporary scaffolding and tarps around instrument air compressors and dryers (TR068963).

Name: _____ Date Completed: _____

☐ Verify condition and operation of heating blankets on chemical totes (TR068960).

Name: _____ Date Completed: _____

☐ Install custom covers (Coverflex) on valves and equipment. Reference Attachment 4 – Custom Cover Installation Checklist (TR068967).

Name: _____ Date Completed: _____

☐ Verify sufficient onsite gases for CEMS and gas chromatograph.

Name: _____ Date Completed: _____

☐ Verify sufficient onsite kerosene for heaters (approximately 1,000 gallons).

Name: _____ Date Completed: _____

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Attachment 2 -
Alert Level Checklist

Fill out information below when completed:

☐ Verify sufficient plant radios for winter event staffing, and batteries are charged.

Name: _____ Date Completed: _____

☐ Remove standing water from all containments.

Name: _____ Date Completed: _____

☐ Verify the water treatment building heaters are operating per design.

Name: _____ Date Completed: _____

☐ Verify the electric and diesel fire pump building heaters are operating per design.

Name: _____ Date Completed: _____

☐ Verify the deluge building heaters are operating per design.

Name: _____ Date Completed: _____

☐ Verify the combustion turbine fire mist building heaters are operating per design.

Name: _____ Date Completed: _____

☐ Verify the CEMS building heaters are operating per design.

Name: _____ Date Completed: _____

☐ Verify any previously used inventory, pursuant to Attachment C – Winter Inventory List, has been replenished.

Name: _____ Date Completed: _____

☐ Verify the diesel fire pump and diesel generator block heaters are operating per design.

Name: _____ Date Completed: _____

☐ Install e-carts in critical areas throughout plant.

Name: _____ Date Completed: _____

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Attachment 2 -
Alert Level Checklist (Cont'd)

☐ Verify the diesel fuel storage, emergency diesel generator, and fire pump tanks are full.

Name: _____ Date Completed: _____

☐ Verify the kerosene storage tanks are full.

Name: _____ Date Completed: _____

☐ Verify all winterization covers are installed and secured, and the heat source, if applicable, is functioning.

Name: _____ Date Completed: _____

☐ Verify the overhead and man-doors are closed and secure.

Name: _____ Date Completed: _____

☐ Drain STG underfloor sprinkler system.

Name: _____ Date Completed: _____

☐ Ensure evaporative cooling system is drained.

Name: _____ Date Completed: _____

☐ Enable Aux Steam auto drain function in the DCS.

Name: _____ Date Completed: _____

Attachment 3 - Winter Event Staffing Plan

FRG - Alert Level 1

	Plant Employees								PSS			Support								
	Management (Supv)	Ops on shift	Ops off shift	Mech	I&C Tech	Elect	Compliance	Water Lab	Mech	Elect	Ops Support	PdM	I&C Tech	Planner/ Scheduler	Engineer	Env	Stores	Safety	IT	Buyer
Days																				
Nights																				

[redacted]

FRG - Alert Level 2

	Plant Employees								PSS			Support								
	Management (Supv)	Ops on shift	Ops off shift	Mech	I&C Tech	Elect	Compliance	Water Lab	Mech	Elect	Ops Support	PdM	I&C Tech	Planner/ Scheduler	Engineer	Env	Stores	Safety	IT	Buyer
Days																				
Nights																				

[redacted]

Attachment 3 - Winter Event Staffing Plan (Cont'd)

FRG - Alert Level 3

	Plant Employees								PSS			Support								
	Management (Supv)	Ops on shift	Ops off shift	Mech	I&C Tech	Elect	Compliance	Water Lab	Mech	Elect	Ops Support	PdM	I&C Tech	Planner/ Scheduler	Engineer	Env	Stores	Safety	IT	Buyer
Days		[redacted]																		
Nights																				

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Attachment 4 -
Custom Cover Installation Checklist

Complete the installation of the following custom covers:

EQUIPMENT #	EQUIPMENT DESCRIPTION	DATE COMPLETED	NOTES
1BS-FV-1305	1100 LP BYPASS SPRAY VALVE		
HV-0221	SOLENOID		
HV-0221 LP	LP BYPASS SPRAY WATER BLOCK		
1BS-HV-0314	BONNET LP HOOD SPRAY		
HV-1102 T1	HP BYPASS SPRAY		
HV-1102	SOLENOID		
HV-1210 HRH	HRH BYPASS SPRAY BLOCK		
HV-1210	SOLENOID		
HV-2102 HRH	HRH BYPASS SPRAY BLOCK		
HV-2102	SOLENOID		
1BS-HV-2210	2100 HRH BYPASS VALVE SPRAY BLOCK		
HV-2210	SOLENOID		
1BS-HV-2310	LP BYPASS SPRAY WATER BLOCK		
HV-2310	SOLENOID		
1CI-BPV-0001	AMMONIA TRANSFER MIN RECIRC VALVE		
1CO-PCV-0142	REG SENSING LINE - PLUS TUBING COVER		
1CW-PDSH-0205	DIFFERENTIAL PRESS SWITCH FOR ACW FILTER		
1FG-AE-0100	FUEL GAS CHROMATOGRAPH		
1FG-PV-0107A1	FUEL GAS REGULATORS		
1FG-PV-0107A2	FUEL GAS REGULATORS		
1FG-PV-0107B1	FUEL GAS REGULATORS		
1FG-PV-0107B2	FUEL GAS REGULATORS		
1FW-FV-1178A	BFP MIN RECIRC FLOW CONTROL VALVE		
1FW-FV-1178B	BFP MIN RECIRC FLOW CONTROL VALVE		
1FW-FV-2178A	BFP MIN RECIRC FLOW CONTROL VALVE		
1FW-FV-2178B	BFP MIN RECIRC FLOW CONTROL VALVE		
1HR-HV-1310	HP SUPERHEATER 1 DRAIN VALVE		
HV-1310 LP	LP BYPASS SPRAY WATER BLOCK		
1HR-PSV-1400	IP ECON OUTLET PORV		12"x36" heater installed. Nearest receptacle 20ft away
1HR-PSV-1775	LP FEEDWATER PORV		12"x36" heater installed. Nearest receptacle 20ft away
1HR-PSV-2400	IP ECON OUTLET PORV		12"x36" heater installed. Nearest receptacle 20ft away
1HR-PSV-2775	LP FEEDWATER PORV		12"x36" heater installed. Nearest receptacle 20ft away
1MW-AE-0100	STREAMING CURRENT DETECTOR		Cover has been installed, but instrument is slated for demo per work order #5480466
1MW-FV-0100A	CLARIFIER INLET FLOW CONTROL VALVE		
1MW-LT-0140	BACKWASH SUMP LEVEL TRANSMITTER		
1ST-PT-0489A	REHEAT BOWL PRESSURE TRANSMITTERS - PLUS TUBING COVER		
1ST-PT-0489B	REHEAT BOWL PRESSURE TRANSMITTERS		
1ST-PI-0490	STG 1ST STAGE PRESSURE GAUGE		
1ST-PI-0496-A	1ST STAGE PRESSURE TRANSMITTER		
1ST-PT-0496	1ST STAGE PRESSURE TRANSMITTER - PLUS TUBING COVER		
1SW-LT-0100A	SERVICE WATER TANK LEVEL XMITTER		18"x12" heater installed. Nearest receptacle 40ft away
1SW-LT-0100B	SERVICE WATER TANK LEVEL XMITTER		18"x12" heater installed. Nearest receptacle 40ft away
1DW-RTV-LT-0100B	LEVEL TRANSMITTER		18"x12" heater installed. Nearest receptacle 40ft away
1HR-FT-1650	HRSG 1100 IP STM OUTLET FLOW TRANSMITTERS		

EQUIPMENT #	EQUIPMENT DESCRIPTION	DATE COMPLETED	NOTES
1HR-FT-2650	HRSG 2100 IP STM OUTLET FLOW TRANSMITTERS		
1CO-PCV-0142	CONDENSATE PUMP DISCHARGE PRESSURE CONTROLLER		
1CO-PCV-0140A	CONDENSATE PRESSURE CONTROL FOR CHEM DAY TANKS		
1CO-PCV-0140B	CONDENSATE PRESSURE CONTROL FOR CHEM DAY TANKS		
1100 PERF HTR BFW INST	1100 PERF HTR IP BFW FLOW/PRESSURE INSTRUMENTS		
2100 PERF HTR BFW INST	2100 PERF HTR IP BFW FLOW/PRESSURE INSTRUMENTS		

Attachment A – Heat Tracing Panels

☐Panel #1801, located on ground level East Side of #1100 HRSG, Fed from MCC-C (PDC) position 2K.

☐Panel #1802, located on ground level East Side of #2100 HRSG, Fed from MCC-F (Aux Sub) position 3K.

☐Panel #1803, located on ground level North West Corner of Water Treatment Building, Fed from MCC-G (Aux Sub) position 3A.

☐Panel #1804, located on ground level North East End of #2100 HRSG (By Feed Pumps), Fed from MCC-A (Aux Sub) position 7G.

☐Panel #1805, located on #1100 HRSG Steam Drum Level, Fed from 1EP-PL-1004, circuits #31, #33, and #35.

☐Panel #1806, located on #2100 HRSG Steam Drum Level, Fed from 1EP-PL-1005, circuits #31, #33, and #35.

☐Panel #1807, located on ground level South West of the Battery Room, Fed from MCC-A (Aux Sub) position 4G.

☐Panel #1808, located on ground level North East End on #1100 HRSG (By Feed Pumps), Fed from MCC-D (PDC) position 5A.

☐Panel #1809, located on ground level North of Sample Panel Room, Fed from MCC-D (PDC) position 5K.

☐Panel #1811, (Digi Trace Panels), located at Ammonia Bulk Tank, Fed from 1EP-PL-1043 circuit #28 in the PDC.

☐Panel #1812, (Digi Trace Panels), located North of the Fire Pump House at the intake, Fed from 1EP-PL-1055 circuits #1, #3, and #5.

☐Panel #1813, (Digi Trace Panels), located South of the Fuel Gas Compressor Building, Fed from 1EP-PL-1081 circuits #25, #27, and #29.

Attachment B –Transmitter Enclosures

Yellow = Critical

	Location	Plant Level/Area	Instrument Tag#	Instrument Name
1	UNIT #1	Ground floor west side HRSG 1100	1HR-PT-1345A	HRSG 1 HPDSH SPRAY WATER PRESSURE
2	UNIT #1	Ground floor west side HRSG 1101	1HR-PT-1345B	HRSG 1 HPDSH SPRAY WATER PRESSURE
3	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
22	UNIT #2	HRSG 2100 GROUND FLOOR WEST SIDE	1HR-PT-2345A	HRSG 2 HP FW TO HP ECONOMIZER 1 PRESSURE A
23	UNIT #2	HRSG 2100 GROUND FLOOR WEST SIDE	1HR-PT-2345B	HRSG 2 HP FW TO HP ECONOMIZER 1 PRESSURE B
24	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]		[redacted]	

25		[redacted]		[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]		[redacted]	

	[redacted]	[redacted]LDING GROUND FLOOR		
52	COOLING WATER HEAT EXCHANGER	WEST SIDE DEMIN BUILDING GROUND FLOOR	1CW-PDI-0130B	D/P FOR 1CC-HX-0100B
53	COOLING WATER HEAT EXCHANGER	WEST SIDE DEMIN BUILDING GROUND FLOOR	1CW-PDI-0130C	D/P FOR 1CC-HX-0100C
54	CLOSED LOOP COOLING PUMPS	SE SIDE CC PUMPS GROUND FLOOR	1CC-PT-0190	CLOSED COOLIING WATER PRESSURE
55	CLOSED LOOP COOLING PUMPS	NE SIDE CC PUMPS GROUND FLOOR	1CC-PT-0100A	CLOSED COOLING PUMP DISCHARGE PRESSURE A
56	CLOSED LOOP COOLING PUMPS	NE SIDE CC PUMPS GROUND FLOOR	1CC-PT-0100B	CLOSED COOLING PUMP DISCHARGE PRESSURE B
57	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
59	MAKE-UP WATER AREA	SOUTH SIDE OF CLARIFIER	1MW-AE-0101	CLARIFIER OUTLET CHLORINE
60	MAKE-UP WATER AREA	EAST SIDE PRESSURE FILTER A	1MW-PDT-0065A	MEDIA FILTER A D/P
61	MAKE-UP WATER AREA	EAST SIDE PRESSURE FILTER B	1MW-PDT-0065B	MEDIA FILTER B D/P
62		[redacted]	[redacted]	[redacted]

	[redacted]			
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
66	CONDENSER	GROUND FLOOR NORTH SIDE CONDENSER	1CW-PDI-0125	CONDENSER WATER BOX D/P
67	CONDENSER	GROUND FLOOR NORTH SIDE CONDENSER	1CW-PDI-0127	CONDENSER WATER BOX D/P
68	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

74	SOUTH SIDE CONDENSER	GROUND FLOOR SOUTH SIDE CONDENSER	1CW-PDI-0126	CONDENSER WATER BOX D/P
75	SOUTH SIDE CONDENSER	GROUND FLOOR SOUTH SIDE CONDENSER	1CW-PDI-0128	CONDENSER WATER BOX D/P
76	[redacted]	[redacted]	[redacted]	[redacted]
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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
79	INTAKE	SOUTH SIDE CIRC PUMP B	1CW-PT-0101B	CIRC WATER PUMP B DISCHARGE PRESSURE
80	[redacted]	[redacted]	[redacted]	[redacted]
81	INTAKE	SOUTH SIDE COOLING WATER STRAINER	1CW-PT-0104	AUX CW TO USERS PRESSURE
82	INTAKE	SOUTH SIDE CIRC PUMP A	1CW-PT-0101A	CIRC WATER PUMP A DISCHARGE PRESSURE
83	[redacted]	[redacted]	[redacted]	[redacted]
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