



Antelope Elk Energy Center Operating Manual

GSE-AGS-OM, Section 12.8

Cyber Disruption

Golden Spread Electric Co-Op
Antelope Elk Energy Center
Abernathy, Texas

Rev	Date	Prepared By	Reviewed By	Approved By	Pages Affected
3	9/15/2016	Jason Beard	Kevin Moore	Kevin Moore	All
4	10/05/2018	Kevin Moore	Kevin Moore	Ron Kuehnle	4
5	12/1/2020	Kevin Moore	Greg Newman	Ronald Kuehnle	All
6	12/17/2021	Kevin Moore	Kevin Moore	Kevin Moore	All
7	12/15/2022	Kevin Moore	Kevin Moore	Kevin Moore	All



Procedure Revision Summary

1.	Document and Revision Number: GSE-AGS-OM, Section 12.8
2.	Document Title: Cyber Disruption
3.	Effective Date:
4.	Document Change:
Rev 0	Initial draft of procedure
Rev 1	Updated PIC Address and changed Antelope Station logo to higher resolution
Rev 2	Updated Facility Name and Logo throughout document
Rev 3	Updated Facility Name and Logo throughout document.
Rev 4	Incorporated reference to NERC CIP and EOP-004 as additional requirements which may be required dependent on event.
Rev 5	Review – Made updated to align with current operating mode.
Rev 6	Annual Review
Rev 7	Annual Review
5.	Training Requirements: Required reading for all personnel.



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12.8 Cyber Disruption

12.8.1 Purpose

[Redacted text block]

12.8.2 Procedures

12.8.2.1 Incident Identification

[Redacted text block]

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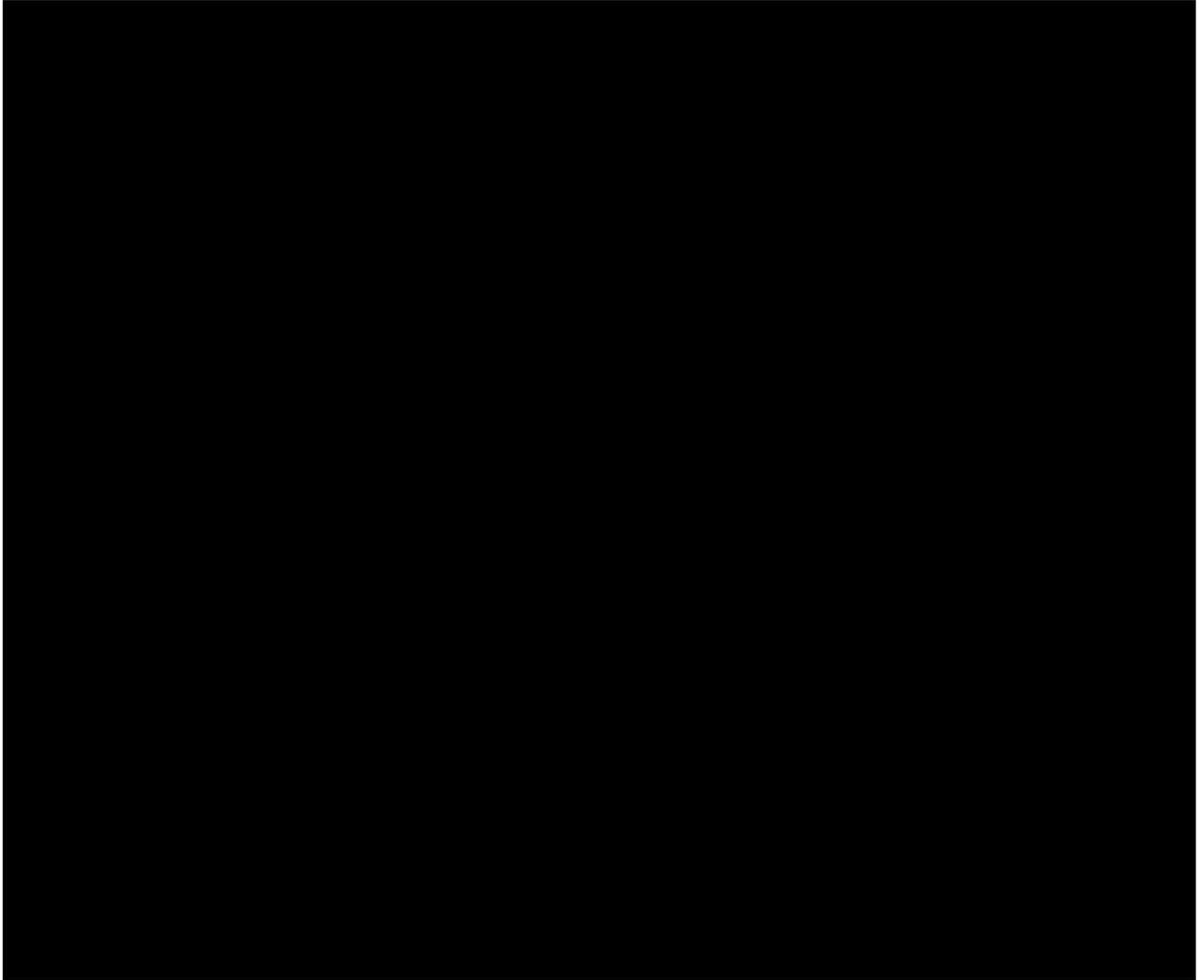
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Cyber Disruption
Antelope Elk Energy Center
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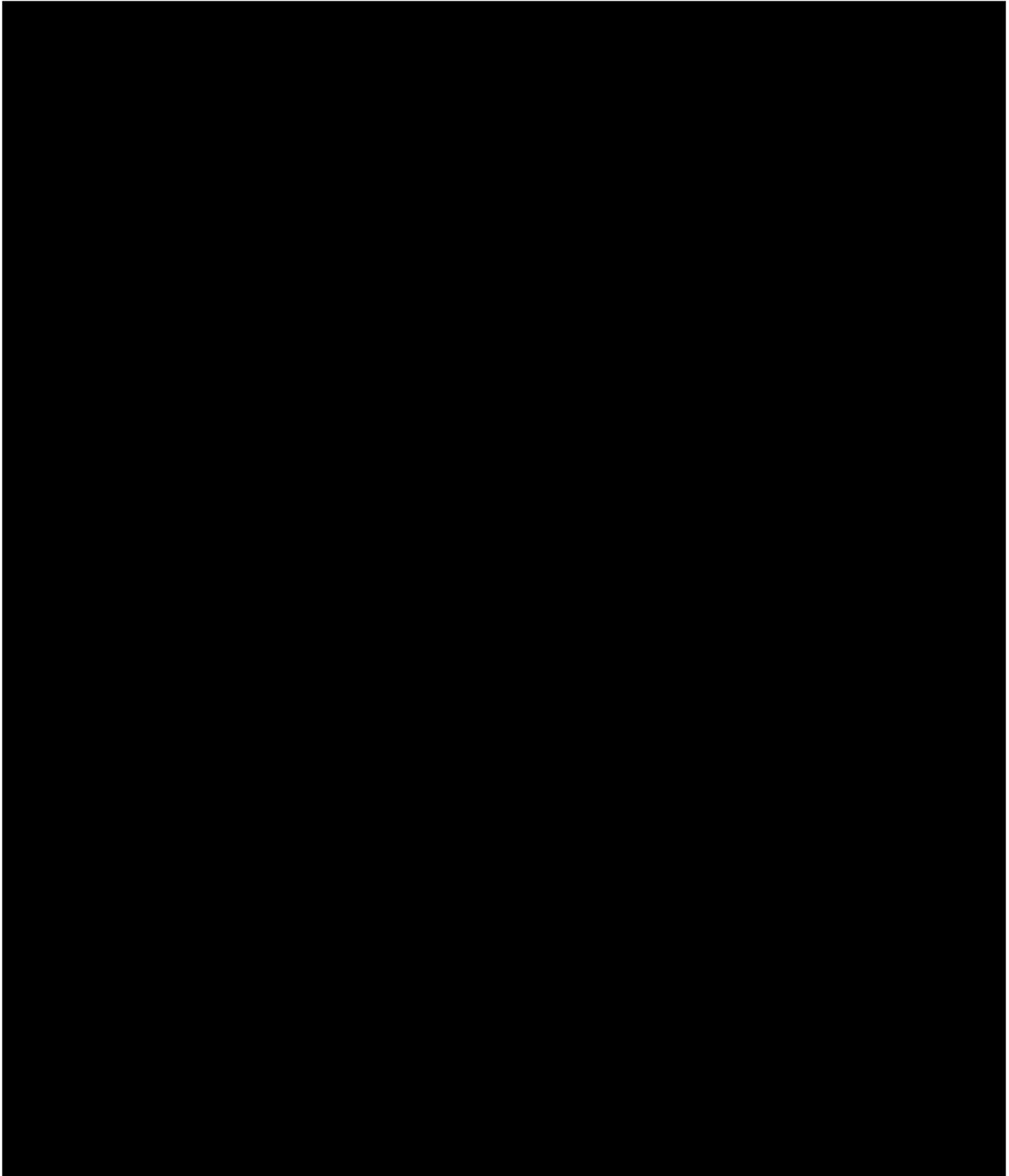




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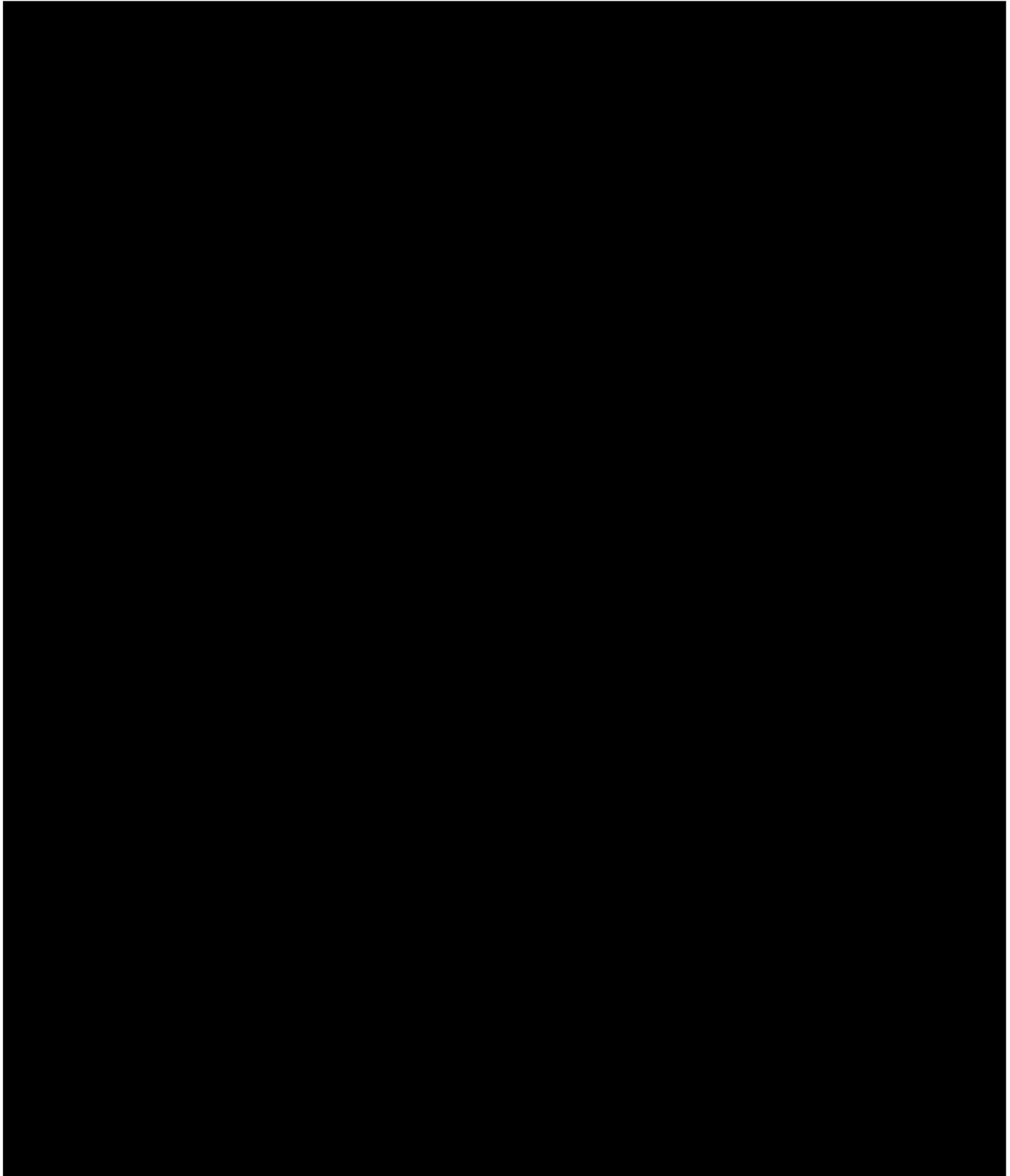




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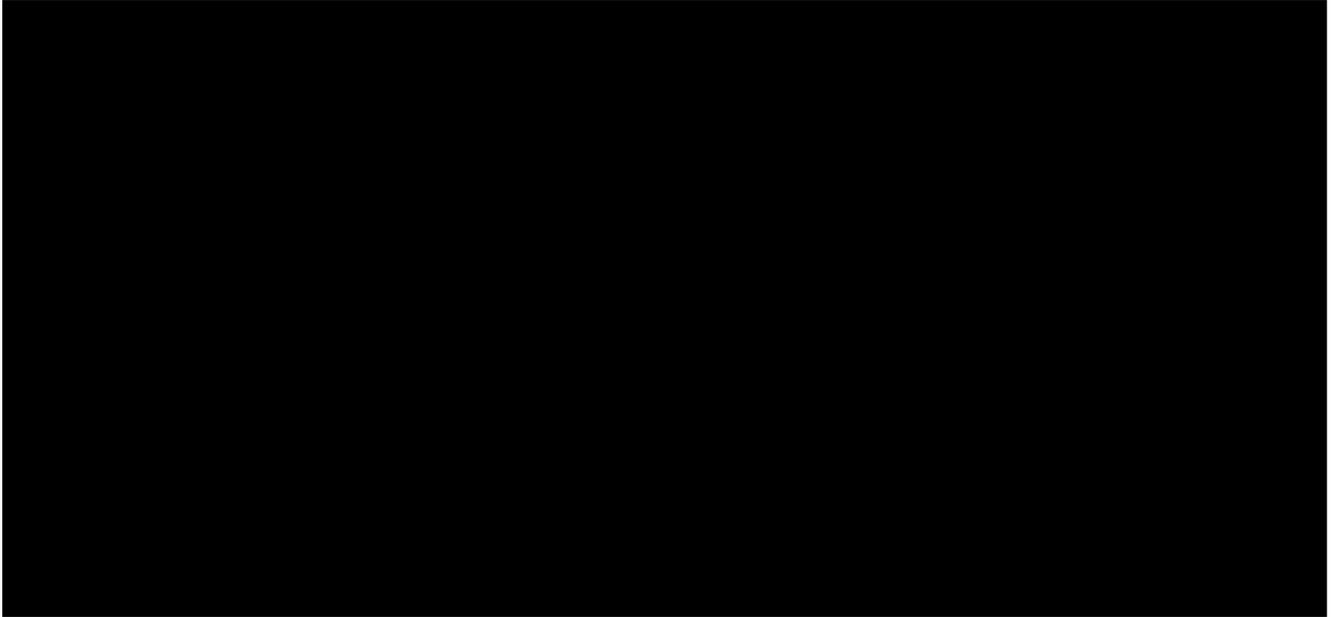




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12.8.2.2 Incident Response Assistance

[Redacted]

[Redacted]

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- [Redacted]
- [Redacted]

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12.8.2.3 Incident Reporting

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Antelope Elk Energy Center Operating Manual

GSE-AGS-OM, Section 12.9

Critical Operations

Golden Spread Electric Co-Op
Antelope Elk Energy Center
Abernathy, Texas

Rev	Date	Prepared By	Reviewed By	Approved By	Pages Affected
3	9/15/2016	Jason Beard	Kevin Moore	Kevin Moore	All
4	10/05/2018	Kevin Moore	Kevin Moore	Ron Kuehnle	5
5	12/1/2020	Kevin Moore	Greg Newman	Ron Kuehnle	All
6	12/17/2021	Kevin Moore	Kevin Moore	Kevin Moore	All
7	12/15/2022	Kevin Moore	Kevin Moore	Kevin Moore	All



Procedure Revision Summary

1.	Document and Revision Number: GSE-AGS-OM, Section 12.9
2.	Document Title: Critical Operations
3.	Effective Date:
4.	Document Change:
Rev 0	Initial draft of procedure
Rev 1	Updated PIC Address. Updated Antelope Station Logo to Higher resolution.
Rev 2	Updated Facility Name and Logo throughout document. Added Elk specific documentation.
Rev 3	Updated Facility Name and Logo throughout document.
Rev 4	Updated title of Operations Authority the "Shift Lead"
Rev 5	Review – Made updated to align with current operating mode.
Rev 6	Annual Review
Rev 7	Annual Review
5.	Training Requirements: Required reading for all personnel.



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12.9 Critical Operations

12.9.1 Purpose

[Redacted text block]

12.9.2 Definition

[Redacted text block]

12.9.3 Possible Causes

- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]



12.9.4 Possible Consequences

[Redacted]

12.9.5 Attachments

[Redacted]

12.9.6 Actions to Perform

[Redacted]



Antelope Elk Energy Center Operating Manual

GSE-AGS-OM, Section 12.10

Chemical Spill

Golden Spread Electric Co-Op
Antelope Elk Energy Center
Abernathy, Texas

Rev	Date	Prepared By	Reviewed By	Approved By	Pages Affected
3	9/15/2016	Jason Beard	Kevin Moore	Kevin Moore	All
4	10/05/2018	Kevin Moore	Kevin Moore	Ron Kuehnle	All
5	12/1/2020	Kevin Moore	Greg Newman	Ron Kuehnle	All
6	12/17/2021	Kevin Moore	Kevin Moore	Kevin Moore	All
7	12/15/2022	Kevin Moore	Kevin Moore	Kevin Moore	All



Procedure Revision Summary

1.	Document and Revision Number: GSE-AGS-OM, Section 12.10
2.	Document Title: Chemical Spill
3.	Effective Date:
4.	Document Change:
Rev 0	Initial draft of procedure
Rev 1	Updated PIC Address. Added OSRO Infor.
Rev 2	Updated Facility Name and Logo throughout document
Rev 3	Updated Facility Name and Logo throughout document.
Rev 4	Added SDS access under Insider > Safety First.
Rev 5	Review – Made updated to align with current operating mode.
Rev 6	Annual Review
Rev 7	Annual Review
5.	Training Requirements: Required reading for all personnel.



Chemical Spill
Antelope Elk Energy Center
Operating Manual

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12.10 Chemical Spills

12.10.1 Purpose

[Redacted text]

12.10.2 Definition

[Redacted text]

[Redacted text]

[Redacted text]

[Redacted text]

[Redacted text]

12.10.3 Possible Causes

[Redacted text]

12.10.4 Possible Consequences

[Redacted text]

12.10.5 Attachments

[Redacted text]



Chemical Spill
Antelope Elk Energy Center
Operating Manual

Manual: GSE-AGS-OM

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**Antelope Elk Energy Center
Operating Manual
GSE-AGS-OM, Section 12.11
Extended Power Loss**

**Golden Spread Electric Co-Op
Antelope Elk Energy Center
Abernathy, Texas**

Rev	Date	Prepared By	Reviewed By	Approved By	Pages Affected
3	02/22/2016	Kevin Moore	Kevin Moore	Kevin Moore	All
4	9/15/2016	Jason Beard	Kevin Moore	Kevin Moore	All
5	10/05/2018	Kevin Moore	Kevin Moore	Ron Kuehnle	6-7
6	12/1/2020	Kevin Moore	Greg Newman	Ron Kuehnle	All
7	12/17/2021	Kevin Moore	Kevin Moore	Kevin Moore	All
8	12/15/2022	Kevin Moore	Kevin Moore	Kevin Moore	All



Procedure Revision Summary

1.	Document and Revision Number: GSE-AGS-OM, Section 12.11
2.	Document Title: Extended Power Loss
3.	Effective Date:
4.	Document Change:
Rev 0	Initial draft of procedure
Rev 1	Update PIC Address added higher resolution Antelope Station logo
Rev 2	Updates to improve detail to meet PUCT Ruling 25.53 Requirements
Rev 3	Updated Facility Name and Logo throughout document. Added turbine specific information.
Rev 4	Updated Facility Name and Logo throughout document.
Rev 5	Updated for changes to facility layout.
Rev 6	Review – Made updated to align with current operating mode.
Rev 7	Annual Review
Rev 8	Annual Review, Updated breaker Tech ID due to DCS upgrades
5.	Training Requirements: Required reading for all personnel.



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12.11 Extended Power Loss

12.11.1 Purpose

[Redacted]

12.11.2 Definition

[Redacted]

[Redacted]

[Redacted]

12.11.3 Possible Causes

[Redacted]

12.11.4 Possible Consequences

[Redacted]

12.11.5 Attachments

[Redacted]

12.11.6 Actions to Perform (Antelope Units)

[Redacted]

Winter Conditions (Freezing Conditions)

[Redacted]



- ■ [Redacted]

Summer Conditions (Heat Exposure)

- ■ [Redacted]

12.11.7 Actions to Perform (Elk Units)

- [Redacted]
- [Redacted]



[Redacted]

Winter Conditions (Freezing Conditions)

[Redacted]

[Redacted]



■ ■ [Redacted]

■ ■ [Redacted]

Summer Conditions (Heat Exposure)

■ ■ [Redacted]

■ ■ [Redacted]

Recovery from Winter (Freezing) Conditions

■ ■ [Redacted]

■ ■ [Redacted]

■ ■ [Redacted]



**Antelope Elk Energy Center
Operating Manual
GSE-AGS-OM, Section 12.12
Major Gas Leak**

**Golden Spread Electric Co-Op
Antelope Elk Energy Center
Abernathy, Texas**

Rev	Date	Prepared By	Reviewed By	Approved By	Pages Affected
1	7/23/2013	Gary Burget	Gary Burget	Gary Burget	1
2	02/21/2016	Kevin Moore	Kevin Moore	Kevin Moore	All
3	9/15/2016	Jason Beard	Kevin Moore	Kevin Moore	All
4	12/1/2020	Kevin Moore	Greg Newman	Ron Kuehnle	All
5	12/17/2021	Kevin Moore	Kevin Moore	Kevin Moore	All
6	12/15/2022	Kevin Moore	Kevin Moore	Kevin Moore	All



Procedure Revision Summary

1.	Document and Revision Number: GSE-AGS-OM, Section 12.12
2.	Document Title: Major Gas Leak
3.	Effective Date:
4.	Document Change:
Rev 0	Initial draft of procedure
Rev 1	Updated PIC Address
Rev 2	Updated Facility Name and Logo throughout. Added turbine specific information.
Rev 3	Updated Facility Name and Logo throughout document.
Rev 4	Review – Made updated to align with current operating mode.
Rev 5	Annual Review
Rev 6	Annual Review
5.	Training Requirements: Required reading for all personnel.



Major Gas Leak
Antelope Generating Station
Operating Manual

Manual: **GSE-AGS-OM**

Section: **12.12**

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12.12 Major Gas Leak

12.12.1 Purpose

[REDACTED]

12.12.2 Definition

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

12.12.3 Possible Causes

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

12.12.4 Possible Consequences

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

12.12.5 Attachments

[REDACTED]



Major Gas Leak
Antelope Elk Energy Center
Operating Manual

Manual: GSE-AGS-OM

Section: 12.12

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■ ■ [Redacted]



**Antelope Elk Energy Center
Operating Manual**

GSE-AGS-OM, Section 12.13

**Structure Climbing / Descending
Emergencies**

**Golden Spread Electric Co-Op
Antelope Elk Energy Center**
Abernathy, Texas

Rev	Date	Prepared By	Reviewed By	Approved By	Pages Affected
1	7/23/2013	Gary Burget	Gary Burget	Gary Burget	All
2	02/21/2016	Kevin Moore	Kevin Moore	Kevin Moore	All
3	09/15/2016	Jason Beard	Kevin Moore	Kevin Moore	All
4	12/1/2020	Kevin Moore	Greg Newman	Ron Kuehnle	All
5	12/17/2021	Kevin Moore	Kevin Moore	Kevin Moore	All
6	12/15/2022	Kevin Moore	Kevin Moore	Kevin Moore	All



Procedure Revision Summary

1.	Document and Revision Number: GSE-AGS-OM, Section 12.13
2.	Document Title: Structure Climbing / Descending Emergencies
3.	Effective Date:
4.	Document Change:
Rev 0	Initial draft of procedure
Rev 1	Updated PIC Address used higher resolution Antelope Station Logo
Rev 2	Updated Facility Name and Logo throughout document.
Rev 3	Updated Facility Name and Logo throughout document.
Rev 4	Review – Made updated to align with current operating mode.
Rev 5	Annual Review
Rev 6	Annual Review
5.	Training Requirements: Required reading for all personnel.



**Structure Climbing / Descending
Emergencies**

**Antelope Elk Energy Center
Operating Manual**

Manual: **GSE-AGS-OM**

Section: **12.13**

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12.13 Structure Climbing / Descending Emergencies

12.13.1 Purpose

[Redacted]

12.13.2 Definition

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

12.13.3 Possible Causes

[Redacted]

12.13.4 Possible Consequences

[Redacted]

12.13.5 Attachments

[Redacted]



12.13.6 Actions to Perform

[Redacted]

- ■ [Redacted]
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- ■ [Redacted]

[Redacted]

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- ■ [Redacted]



Antelope Elk Energy Center Operating Manual

GSE-AGS-OM, Section 12.14

Restoration of Service

Golden Spread Electric Co-Op Antelope Elk Energy Center Abernathy, Texas

Rev	Date	Prepared By	Reviewed By	Approved By	Pages Affected
2	02/21/2016	Kevin Moore	Kevin Moore	Kevin Moore	All
3	09/15/2016	Jason Beard	Kevin Moore	Kevin Moore	All
4	05/17/2019	Kevin Moore	Kevin Moore	Ron Kuehnle	7
5	12/1/2020	Kevin Moore	Greg Newman	Ron Kuehnle	All
6	12/17/2021	Kevin Moore	Kevin Moore	Kevin Moore	All
7	3/30/2022	Gary Burget	Gary Burget	Ron Kuehnle	All



Procedure Revision Summary

1.	Document and Revision Number: GSE-AGS-OM, Section 12.14
2.	Document Title: Restoration of Service
3.	Effective Date:
4.	Document Change:
Rev 0	Initial draft of procedure
Rev 1	Changed PIC Address, used higher resolution Antelope Station Logo
Rev 2	Updated Facility Name and Logo throughout document. Added turbine specific information.
Rev 3	Updated Facility Name and Logo throughout document.
Rev 4	Updated TOP for ERCOT to ONCOR from Sharyland Utilities
Rev 5	Review – Made updated to align with current operating mode.
Rev 6	Annual Review
Rev 7	Changed Title of Procedure, Updated Contact process. Made changes to fit PUCT 25.53 rule dated March 20, 2022. Removed ABB 800xa definition.
5.	Training Requirements: Required reading for all Personnel.



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12.14 Restoration of Service

12.14.1 Purpose

[REDACTED]

12.14.2 Definition

[REDACTED]

[REDACTED]

Emergency (PUCT Definition) – a situation in which the known, potential consequences of a hazard or threat are sufficiently imminent and severe that an entity should take prompt action to prepare for and reduce the impact of harm that may result from the hazard or threat. The term includes an emergency declared by local, state, or federal government, or ERCOT or another reliability coordinator designated by the North American Electric Reliability Corporation and that is applicable to the entity.

[REDACTED]

[REDACTED]

Hazard (PUCT Definition) – a natural, technological, or human-caused condition that is potentially dangerous or harmful to life, information, operations, the environment, or property, including a condition that is potentially harmful to the continuity of electric service.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



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[Redacted]

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[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Threat (PUCT Definition) – the intention and capability of an individual or organization to harm life, information, operations, the environment, or property, including harm to the continuity of electric service.

[Redacted]



12.14.3 Possible Causes

- [REDACTED]

12.14.4 Possible Consequences

[REDACTED]

12.14.5 Attachments

[REDACTED]



Restoration of Service
Antelope Elk Energy Center
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Restoration of Service
Antelope Elk Energy Center
Operating Manual

Manual: GSE-AGS-OM

Section: 12.14

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Restoration of Service
Antelope Elk Energy Center
Operating Manual

Manual: GSE-AGS-OM

Section: 12.14

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Antelope Elk Energy Center Operating Manual

GSE-AGS-OM, Section 12.15

Train Derailment

Golden Spread Electric Co-Op
Antelope Elk Energy Center
Abernathy, Texas

Rev	Date	Prepared By	Reviewed By	Approved By	Pages Affected
2	02/21/2016	Kevin Moore	Kevin Moore	Kevin Moore	All
3	09/15/2016	Jason Beard	Kevin Moore	Kevin Moore	All
4	5/23/19	Greg Newman	Kevin Moore	Ron Kuehnle	All
5	12/1/2020	Kevin Moore	Greg Newman	Ron Kuehnle	All
6	12/17/2021	Kevin Moore	Kevin Moore	Kevin Moore	All
7	12/15/2022	Kevin Moore	Kevin Moore	Kevin Moore	All



Procedure Revision Summary

1.	Document and Revision Number: GSE-AGS-OM, Section 12.15
2.	Document Title: Train Derailment
3.	Effective Date:
4.	Document Change:
Rev 0	Initial draft of procedure
Rev 1	Updated PIC Address, added higher resolution Antelope Station logo.
Rev 2	Updated Facility Name and Logo throughout document.
Rev 3	Updated Facility Name and Logo throughout document.
Rev 4	Annual Review
Rev 5	Review – Made updated to align with current operating mode.
Rev 6	Annual Review
Rev 7	Annual Review
5.	Training Requirements: Required reading for all personnel.



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12.15 Train Derailment

12.15.1 Purpose

[Redacted text]

12.15.2 Definition

[Redacted text]

[Redacted text]

12.15.3 Possible Causes

[Redacted text]

12.15.4 Possible Consequences

[Redacted text]

12.15.5 Attachments

[Redacted text]

[Redacted text]



12.15.6 Actions to Perform

[Redacted]

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- [Redacted]
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- [Redacted]
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- [Redacted]



Train Derailment
Antelope Elk Energy Center
Operating Manual

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Antelope Elk Energy Center
Operating Manual
GSE-AGS-OM, Section 12.16
Extreme Cold Weather Procedures

Golden Spread Electric Co-Op
Antelope Elk Energy Center
 Abernathy, Texas

Rev	Date	Prepared By	Reviewed By	Approved By	Pages Affected
6	2/15/19	Ron Kuehnle	Ron Kuehnle	Ron Kuehnle	Attachment 3
7	4/29/19	Ron Kuehnle	Ron Kuehnle	Ron Kuehnle	All
8	10/24/19	Ron Kuehnle	Ron Kuehnle	Ron Kuehnle	7, All Attachments
9	11/25/19	Ron Kuehnle	Ron Kuehnle	Ron Kuehnle	11,12,Attachment 9&10
10	10/30/20	Ron Kuehnle	Ron Kuehnle	Ron Kuehnle	Attachment 2,5,&8
11	11/12/21	Andrew Pool	Ron Kuehnle	Ron Kuehnle	All attachments & references to
12	1/7/22	Ron Kuehnle	Ron Kuehnle	Ron Kuehnle	Pages 7 & 8
13	11/8/22	Ron Kuehnle	Gary Burget	Ron Kuehnle	Attachments; Pages 5, 8, &9



Procedure Revision Summary

1.	Document and Revision Number: GSE-AGS-OM, Section 12.16
2.	Document Title: Extreme Cold Weather Procedures
3.	Effective Date: 11-11-22
4.	Document Change:
Rev 0	Initial draft of procedure
Rev 1	Updated Facility Name and Logo throughout document. Added turbine specific information.
Rev 2	Updated Facility Name and Logo throughout document.
Rev 3	Updated attachments to incorporate improvements from previous cold weather event.
Rev 4	Added signoff for Manager Review on page 22
Rev 5	Updated "Attachment 2" to account for changes in plant configuration.
Rev 6	Added Attachment #3 – Winter Safety Measures; Referenced this attachment in 12.16.6.3
Rev 7	Updated procedure to address concerns from ERCOT Winter Weatherization Audit
Rev 8	Increased size of check sheets to make them more user friendly
Rev 9	Changed Alert Level 2 rounds to 6 hours; changed Attachment 10 to record Dewpoint readings. Updated descriptions to Attach. 9&10
Rev 10	Updated Attachments 2,5, and 8
Rev 11	Added Alert Level 4. Moved preparation checklists to attachments. All attachments are now separate documents referenced here within and linked. Changed Alert 1 definition and response. Added Monthly Inspection.
Rev 12	Added Antelope Sensing line blowdown to Alert Level 3
Rev 13	Added Capability Table, Changed Antelope CW freeze point to -10 degrees F, Modified Alert level 3 and 4. Separated Preparations from this procedure.
5.	Training Requirements: Required reading for all personnel. Annual review of procedure with Team.



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Attachment 1	Antelope Winter Storm Check	LINK
Attachment 2	Elk Winter Storm Check	LINK
Attachment 3	Winter Safety Measures	LINK
Attachment 15	Winter Prep Procedure (Glycol Composition Checks)	LINK



12.16 Extreme Cold Weather Procedures

12.16.1 Purpose

[Redacted text block]

[Redacted]	[Redacted]	[Redacted]

12.16.2 Definition

[Redacted text block]

12.16.3 Possible Causes

[Redacted text block]

12.16.4 Possible Consequences

[Redacted text block]



12.16.5 Actions to Perform

12.16.5.1 Alert Level 1 – When forecasts project temperatures to fall below 32°F for greater than 8 hours. Reference Attachment 3 for additional safety measures.

Site Tasks

[Redacted Site Tasks]

Antelope Tasks

- [Redacted Antelope Task 1]
- [Redacted Antelope Task 2]
- [Redacted Antelope Task 3]

Elk Tasks

- [Redacted Elk Task 1]
- [Redacted Elk Task 2]
- [Redacted Elk Task 3]
- [Redacted Elk Task 4]

12.16.5.2 Alert Level 2 – When forecasts project temperatures to fall below 25°F for greater than 4 hours. Reference [Attachment 3](#) for additional safety measures.

Site Tasks

Perform all Alert 1 Level Tasks

[Redacted]

Antelope Tasks

- █ [Redacted]
- █ [Redacted]
- █ [Redacted]

Elk Tasks

- █ [Redacted]
- █ [Redacted]
- █ [Redacted]
- █ [Redacted]

12.16.5.3 Alert Level 3 – When forecasts project temperatures to fall below 10°F for greater than 4 hours. Reference [Attachment 3](#) for additional safety measures.

Site Tasks

- Perform all Alert Level 2 tasks
- █ [Redacted]

Antelope Tasks

- Perform all Alert Level 2 tasks

[REDACTED]

Elk Tasks

- Perform all Alert Level 2 tasks

Alert Level 4 – When forecasts project temperatures to fall below -10°F for greater than 4 hours or project fuel supplies are insufficient for running units. Reference [Attachment 3](#) for additional safety measures.

Site Tasks

- Perform all Alert Level 3 tasks

[REDACTED]

Antelope Tasks

- Perform all Alert Level 3 tasks

[REDACTED]

Elk Tasks

- Perform all Alert Level 3 tasks

12.16.6 Attachment File Location

[REDACTED]

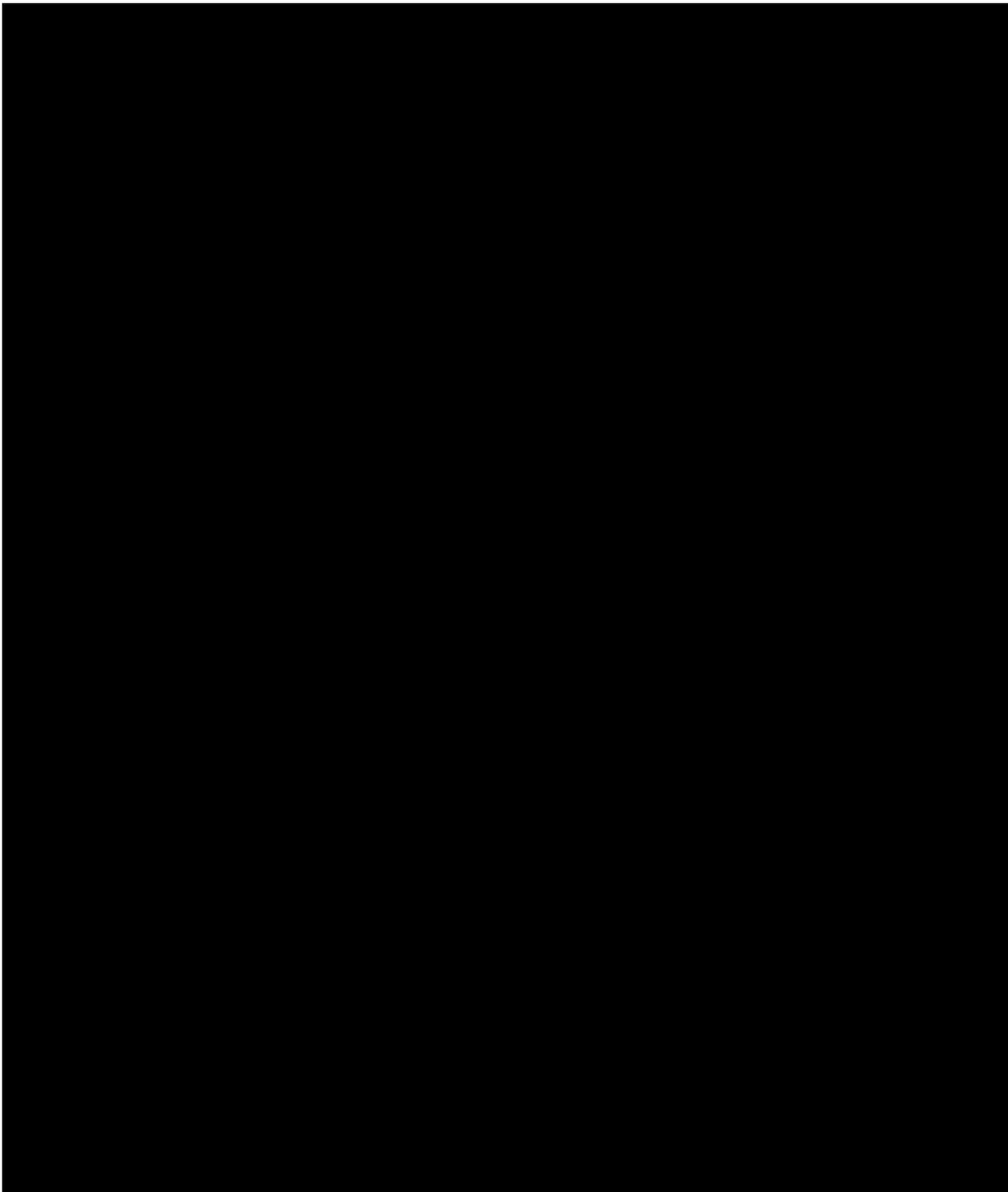


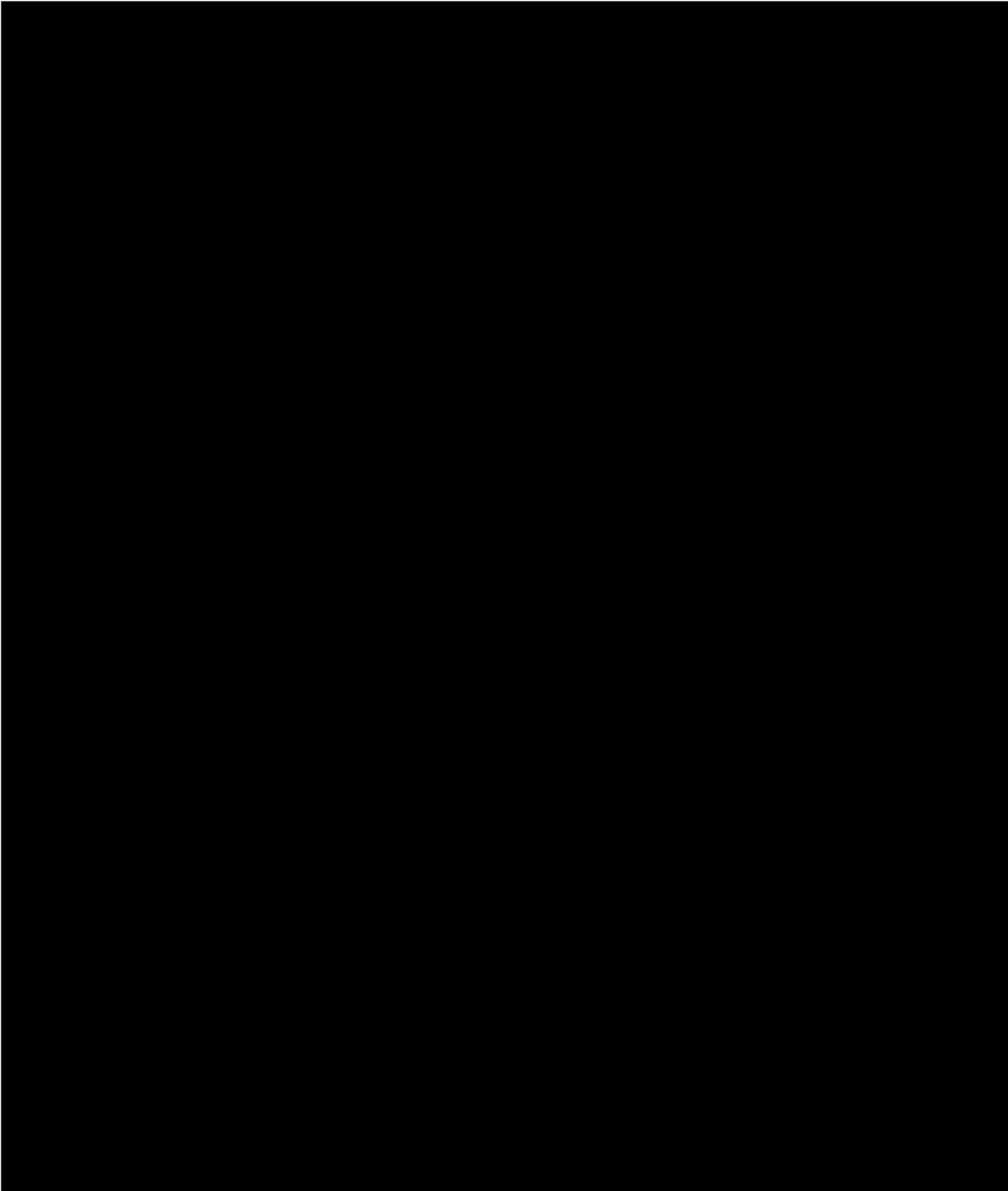
12.16.8 Signature Page

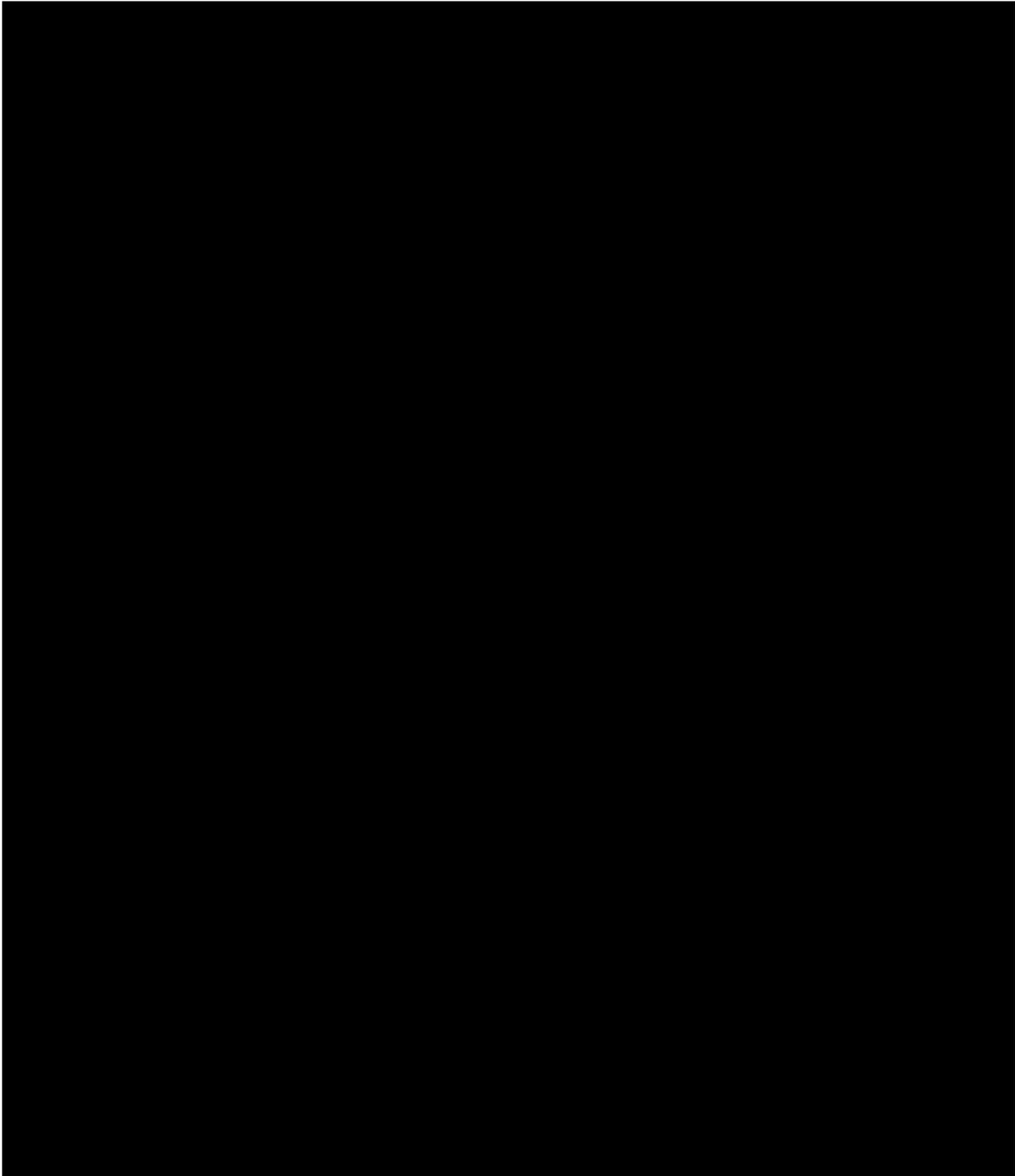
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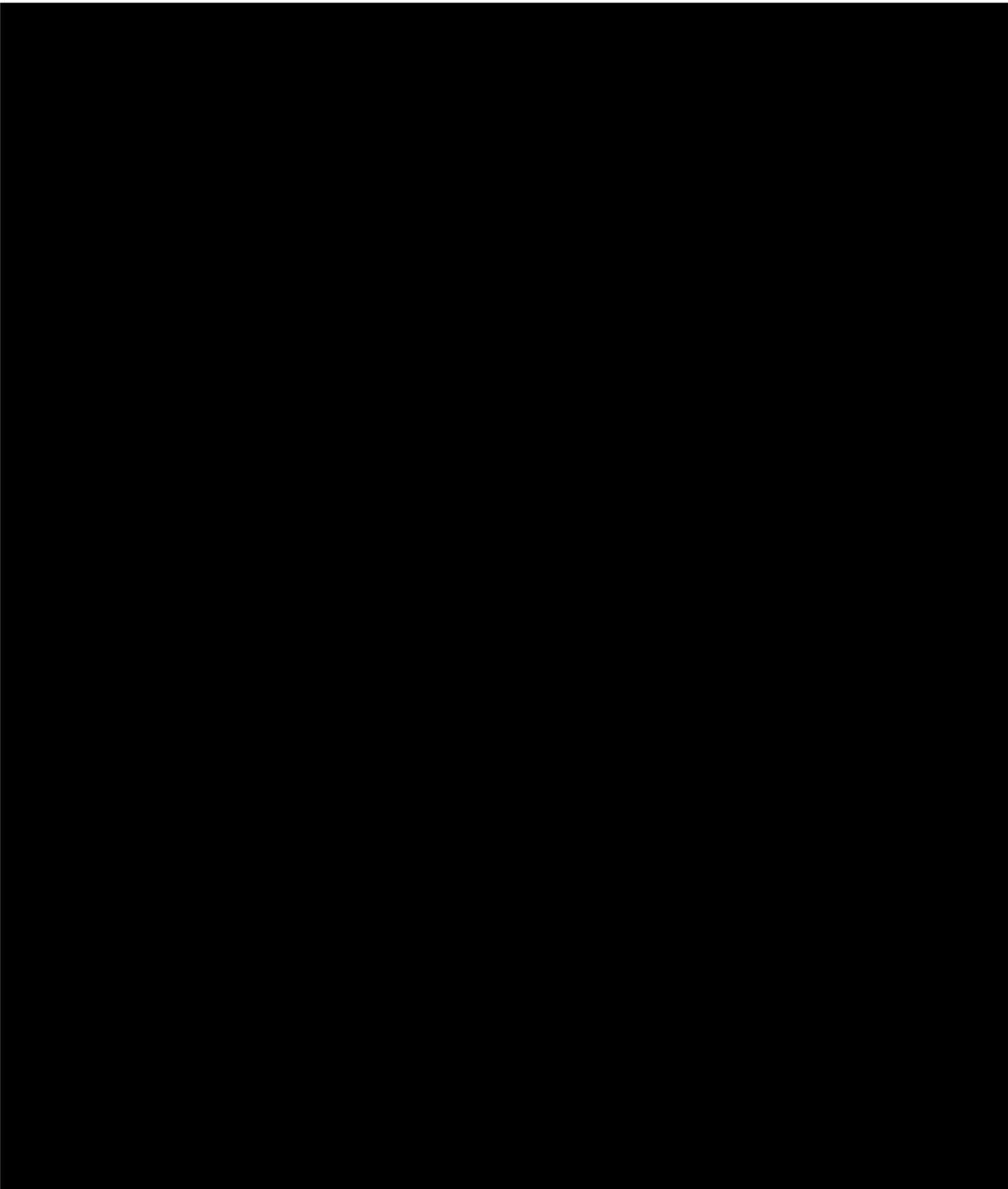
Operations/Maintenance Manager:

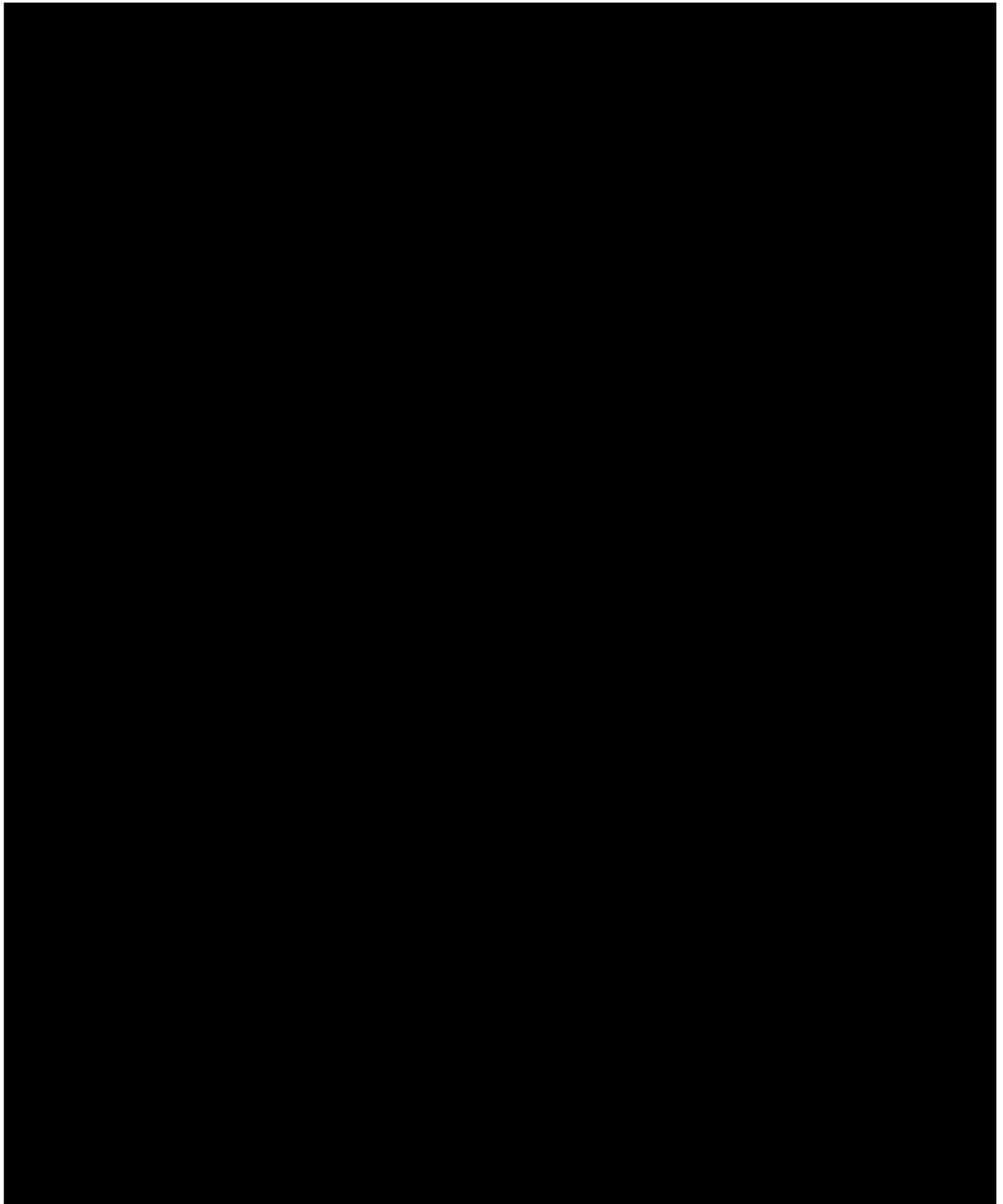
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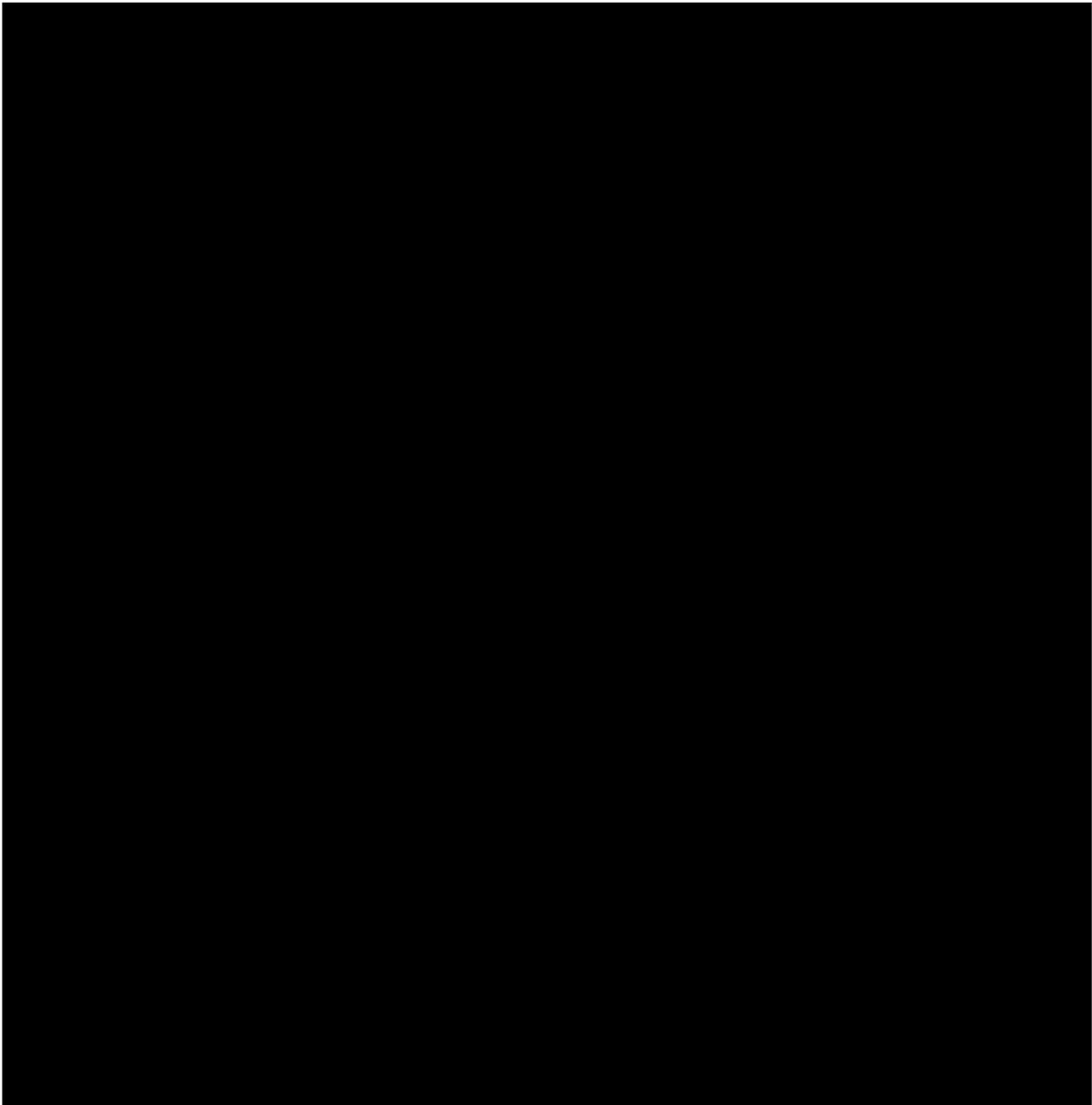


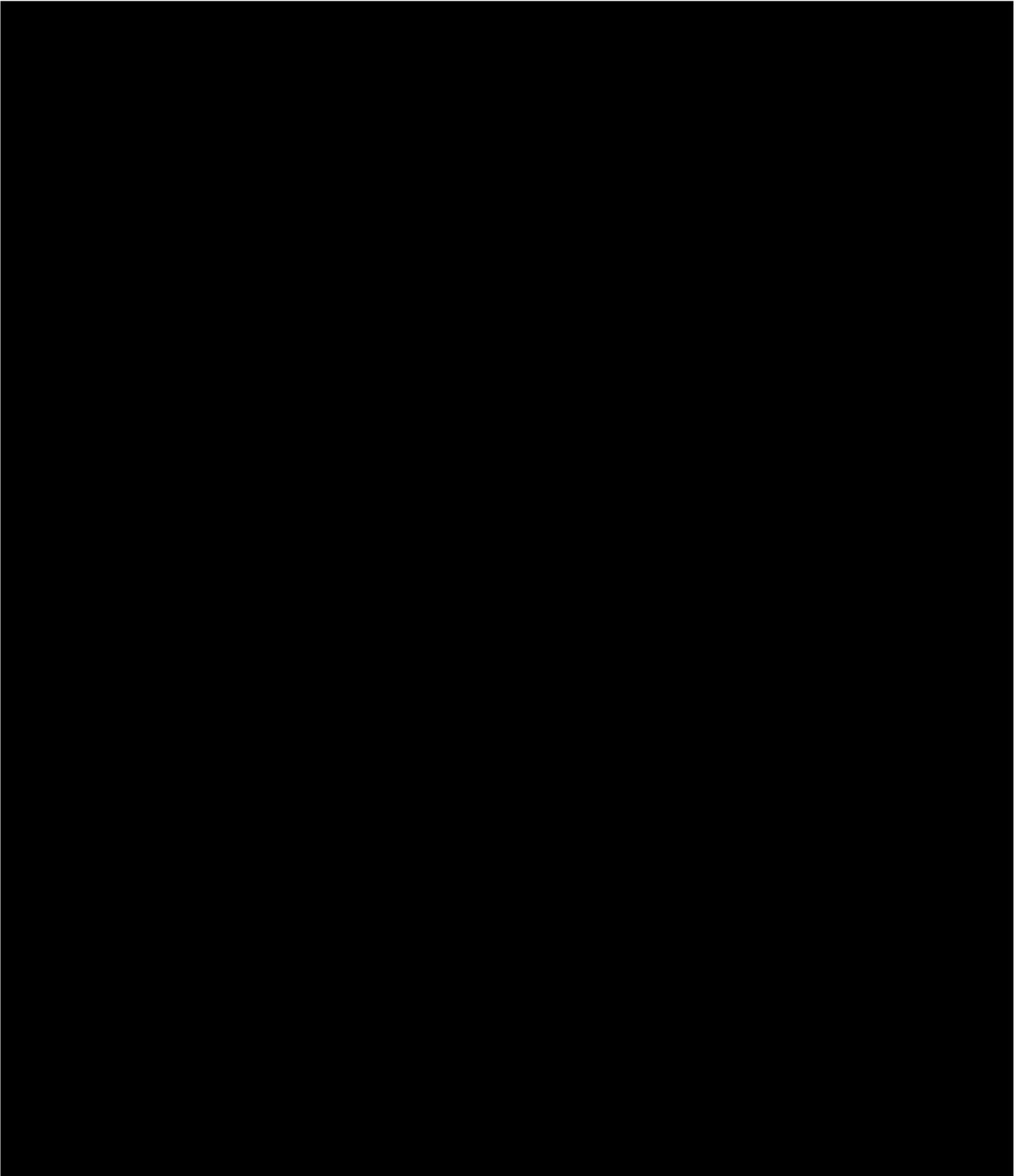












Winter Safety Measures

Winter Safety Condition 1	When ambient temperatures drop below 32°F and forecast indicates the temperature will remain below 32°F for greater than 4 hours.
<ul style="list-style-type: none"> • When working in cold weather it is much easier to overexert yourself. As a minimum, each individual will rest indoors for 10 minutes during every hour of snow removal duties. • Personnel should don proper outer garments for the weather conditions. <ul style="list-style-type: none"> ○ Please note Wind Chill Chart below. Conditions may be worse than expected. • When operating vehicles, operate with EXTREME Caution. Ice may be present and can create potentially hazardous driving conditions. Drive slow, brake early, and minimize turns. 	

Winter Safety Condition 2	Winter Safety Condition 1 that include a forecast for precipitation greater than 1".
<ul style="list-style-type: none"> • Follow Winter Safety Condition 1 measures. • Spread salt / "Ice Melt" in parking areas, exterior walkways, building entrances, and vehicle routes to prevent slipping hazards to personnel and vehicles. • Identify the three levels of snow removal priorities, and how the resources on hand will be deployed to clear the snow. Contact outside contractor for additional snow removal assistance if needed. <ul style="list-style-type: none"> ○ Identify where snow can be piled. ○ DO NOT pile snow near or around Fire Hydrants, Exits, Emergency Evacuation Routes / Muster Points, or other safety features. ○ Should any individual, while working in cold weather on snow removal duties, become dizzy, feel chest pains, or numbing of extremities, that individual must STOP any further physical exertion, and contact the Shift Supervisor for aid. • Ice accumulations on overhead areas pose a threat to bodily injury when it falls. This is especially true once temperatures start to increase above 32°F. • Be careful transitioning between slippery outdoor surfaces to indoor surfaces. • If tasks require you to work on icy surfaces that can't be alleviated with salt and "Ice Melt" take the following measures: <ul style="list-style-type: none"> ○ Utilize Ice Cleats when applicable and available. ○ Perform DRAP to make sure task is absolutely necessary. ○ Perform Level 2 job brief to identify unusual hazards that may arise with these conditions. 	

Wind Chill Chart

Wind (mph)

	Calm	5	10	15	20	25	30	35	40	45	50	55	60
40	36	34	32	30	29	28	28	27	26	26	25	25	
35	31	27	25	24	23	22	21	20	19	19	18	17	
30	25	21	19	17	16	15	14	13	12	12	11	10	
25	19	15	13	11	9	8	7	6	5	4	4	3	
20	13	9	6	4	3	1	0	-1	-2	-3	-3	-4	
15	7	3	0	-2	-4	-5	-7	-8	-9	-10	-11	-11	
10	1	-4	-7	-9	-11	-12	-14	-15	-16	-17	-18	-19	
5	-5	-10	-13	-15	-17	-19	-21	-22	-23	-24	-25	-26	
0	-11	-16	-19	-22	-24	-26	-27	-29	-30	-31	-32	-33	
-5	-16	-22	-26	-29	-31	-33	-34	-36	-37	-38	-39	-40	
-10	-22	-28	-32	-35	-37	-39	-41	-43	-44	-45	-46	-48	
-15	-28	-35	-39	-42	-44	-46	-48	-50	-51	-52	-54	-55	
-20	-34	-41	-45	-48	-51	-53	-55	-57	-58	-60	-61	-62	
-25	-40	-47	-51	-55	-58	-60	-62	-64	-65	-67	-68	-69	
-30	-46	-53	-58	-61	-64	-67	-69	-71	-72	-74	-75	-76	
-35	-52	-59	-64	-68	-71	-73	-76	-78	-79	-81	-82	-84	
-40	-57	-66	-71	-74	-78	-80	-82	-84	-86	-88	-89	-91	
-45	-63	-72	-77	-81	-84	-87	-89	-91	-93	-95	-97	-98	



Frostbite Times	
	30 minutes
	10 minutes
	5 minutes





Freeze Point Chart (*Propylene Glycol*)

Freezing Temp °F	Vol. % Propylene Glycol Req.
20	19
10	30
0	36.4
-10	44
-20	49
-30	53
-40	57
-50	60



Antelope Elk Energy Center Operating Manual

GSE-AGS-OM, Section 12.17 Extreme Heat Procedures

Golden Spread Electric Co-Op
Antelope Elk Energy Center
Abernathy, Texas

Rev	Date	Prepared By	Reviewed By	Approved By	Pages Affected
0	11/03/2014	Gary Burget	Kevin Moore	Gary Burget	All
1	02/21/2016	Ross Wilson	Kevin Moore	Kevin Moore	All
2	09/15/2016	Jason Beard	Kevin Moore	Kevin Moore	All
3	12/1/2020	Kevin Moore	Greg Newman	Ron Kuehnle	All
4	12/17/2021	Kevin Moore	Kevin Moore	Kevin Moore	All
5	12/15/2022	Kevin Moore	Kevin Moore	Kevin Moore	All



Procedure Revision Summary

1.	Document and Revision Number: GSE-AGS-OM, Section 12.17
2.	Document Title: Extreme Heat Procedures
3.	Effective Date:
4.	Document Change:
Rev 0	Initial draft of procedure
Rev 1	Updated Facility Name and Logo throughout document.
Rev 2	Updated Facility Name and Logo throughout document.
Rev 3	Review – Made updated to align with current operating mode.
Rev 4	Annual Review
Rev 4	Annual Review
5.	Training Requirements: Required reading for all personnel.



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12.17 Extreme Heat Procedures

12.17.1 Purpose

[Redacted]

12.17.2 Definition

[Redacted]

12.17.3 Possible Causes

[Redacted]

12.17.4 Possible Consequences

- | [Redacted]
- | [Redacted]

12.17.5 Attachments

[Redacted]



- ■ [Redacted]

12.17.5.3 During High Temperature Events

- [Redacted]
- [Redacted]



■ ■ [Redacted]

■ [Redacted]

■ ■ [Redacted]

■ [Redacted]

[Redacted]

■ ■ [Redacted]

■ ■ [Redacted]



Extreme Heat Procedures
Antelope Elk Energy Center
Operating Manual

Manual: GSE-AGS-OM
Section: 12.17

- ■ [Redacted]



Antelope Elk Energy Center Operating Manual

GSE-AGS-OM, Section 12.18

Water Shortage

Golden Spread Electric Co-Op
Antelope Elk Energy Center
Abernathy, Texas

Rev	Date	Prepared By	Reviewed By	Approved By	Pages Affected
0	10/15/2014	Kevin Moore	Gary Burget	Gary Burget	All
1	02/21/2016	Kevin Moore	Ross Wilson	Kevin Moore	All
2	09/15/2016	Jason Beard	Kevin Moore	Kevin Moore	All
3	12/1/2020	Kevin Moore	Greg Newman	Ron Kuehnle	All
4	12/17/2021	Kevin Moore	Kevin Moore	Kevin Moore	All
5	12/15/2022	Kevin Moore	Kevin Moore	Kevin Moore	All



Procedure Revision Summary

1.	Document and Revision Number: GSE-AGS-OM, Section 12.18
2.	Document Title: Water Shortage
3.	Effective Date:
4.	Document Change:
Rev 0	Initial draft of procedure approved for implementation
Rev 1	Updated Facility Name and Logo throughout document. Update includes turbine specific information.
Rev 2	Updated Facility Name and Logo throughout document.
Rev 3	Review – Made updated to align with current operating mode.
Rev 4	Annual Review
Rev 5	Annual Review
5.	Training Requirements: Required reading for all personnel.



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