Nos. 18-1654 & 18-1782

IN THE

United States Court of Appeals

FOR THE SIXTH CIRCUIT

FIRSTENERGY GENERATION, LLC,
Petitioner/Cross-Respondent,
v.
NATIONAL LABOR RELATIONS BOARD,
Respondent/Cross-Petitioner.

PETITION FOR REVIEW OF THE DECISION AND ORDER OF THE NATIONAL LABOR RELATIONS BOARD IN *FIRSTENERGY GENERATION, LLC, A WHOLLY OWNED SUBSIDIARY OF FIRSTENERGY CORP., AND INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS, LOCAL 272, AFL-CIO*, CASE NOS. 06–CA–163303 AND 06–CA–170901, REPORTED AT 366 NLRB NO. 87

APPENDIX OF PETITIONER/CROSS-RESPONDENT
VOLUME IV

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Attorneys for Petitioner/Cross-Respondent FirstEnergy Generation, LLC

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Respectfully submitted,

/s/ Peter N. Kirsanow
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Attorneys for Petitioner/Cross-Respondent FirstEnergy Generation, LLC

CERTIFICATE OF COUNSEL

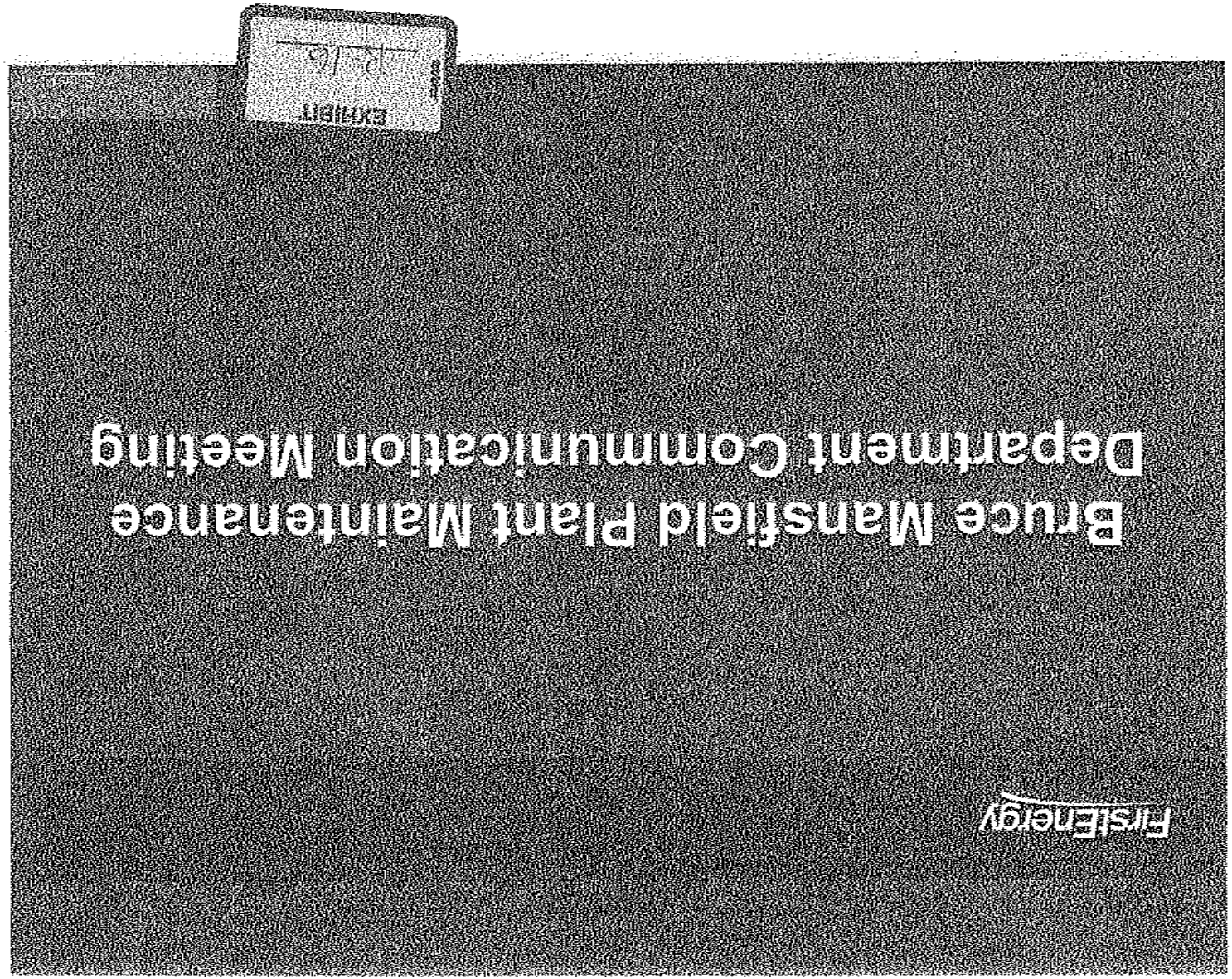
I, Peter N. Kirsanow, pursuant to 6 Cir. R. 30(b)(4)(E) hereby certify that the documents contained in this appendix are properly part of the Agency Record in this matter.

/s/ Peter N. Kirsanow
PETER N. KIRSANOW (0034196)
One of the Attorneys for Petitioner/Cross-Respondent FirstEnergy Generation, LLC

CERTIFICATE OF SERVICE

A copy of the foregoing was filed electronically on the 1st day of October, 2018, and served according to the Court's Electronic Filing guidelines.

/s/ Peter N. Kirsanow
PETER N. KIRSANOW (0034196)
One of the Attorneys for Petitioner/Cross-Respondent FirstEnergy Generation, LLC


FirstEnergy
Bruce Mansfield Plant Maintenance
Department Communication Meeting
EXHIBIT
B 16

Meeting Agenda

- Daily Safety and HU Message
- Safety, Generation Leadership Recap, Recognition – AJ
- M116 Outage – Jim Rhodes
- Maintenance Performance Indicators – Jim Mendenhall
- Electrical/IT Maintenance – Mike Curran
- Mechanical Maintenance – Devin Miller
- Plant Construction Update – Bob Kish
- DWF 3D model – Najewicz
- Q&A

EXHIBIT NO. R16 RECEIVED ✓ REJECTED ___

CASE NO. 16-CA-163363 16-CA-170901 CASE NAME FirstEnergy

NO. OF PAGES 90 DATE 12/2/16 REPORTER JAO

Safety, Generation Leadership Recap, Recognition– AJ Vonderembse

FirstEnergy
Generation Corp.

WEDNESDAY - Daily Safety and Human Performance Message

June 17, 2015

Reference: Generation Personal Safety Manual, Rev 02/ GEN-SAF 2009 R00

Human Performance GEN-SAF 2009 R00

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Effective Communications

How to Use the Technique:

3-Part Communication

Effective Three-Part Communication is the responsibility of both the Sender and Receiver.

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6. The Sender should listen to the Receiver's repeat-back to acknowledge the message has been understood correctly and

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Generation Leadership Meeting Recap

The Big 7

1. Stay "FirstEnergy"
2. Remain headquartered in Akron
3. Preserve Generation Assets
4. Preserve and enhance investment grade credit ratings
5. Pursue a conservative generation strategy
6. Continue "Energizing the Future"
7. Identify strategic distribution investments

How? – Focus on Safety, Teamwork, Performance, & Pride

Generation Leadership Meeting Recap

- Cash Flow Improvements – Why?
  - As a generation fleet cash flow is not positive in 2019
    - Supply Chain contracts
    - Capital spend changes
    - Everything!
    - Goal is $400 million ash flow improvement, $200 million sustainable
- PUCO Chairman to visit Sammis with Chuck Jones
- Capacity Performance Product approved for the upcoming PJM Capacity Auction (2018/2019)
  - Viewed very positive
- DWF in current 5 year business plan

Recognition

Stacker Bucket Wheel Motor Safe Completion

- Bob McClune
- Rick Tittiger
- Jeff Charles
- Mike Turbish
- Roger Gallo
- Dave Goodman
- Jeff Mowrey
- Carl Congo
- Dan Collwell
- Mark Hutton
- Bill Hopkins
- Marc Cicone
- Randy Brown

Recognition

SO2 crew for 3D ID fan expansion joint schedule change and safe turn around

Bruce McIntosh
Jay Costello
Mike McCoy
Colby Parkinson
Gerald McCann
Bill Sosack
Greg McDevitt
Bill Barker
Lenny Miller
Paul Thompson
Gerald Anderson
Mark Meadows
Jason Trillow
Robert Lewis
Max Hutchison
Jack Allison
Graham Shaddick
Frank Reilly
Jason Roberts

Recognition

2B BFP turnaround

- Joe Becher
- Bob Greco
- Grimmy
- Dale Kronk
- Keith Mason
- Tim McConaughy
- Mike Molnar
- Jim Clark
- Mark Earl
- Darryl Michael
- Colby Parkinson
- Jason Trillow
- Dave Simmons
- Tim Shaffer
- Gary Arbogast
- Graham Shaddick

Recognition

IT Safety Performance – Over 8 years

Gene Carothers	Ed Miller
Bill Cassidy	Dennis Mitchell
Frank Clyde	Randy Reese
Rick Conrad	Dave Schell
Dave Evans	Mike Schmelick
Rich Flowers	Doug Skeens
Ken Goddard	Guy Taylor
Chuck Joy	Mark Varian
Skip Johnson	Phil Waggoner
Mike Hummel	Bob Wakefield
Greg Kunselman	JR Walker

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Recognition

Construction Budget, Schedule, and Safety Performance

- Bob Kish - Superintendent
- Alan Carson – Refined coal, U3 thickener rake, MATS
- Dave Figley – LBR closure and day to day operations
- Brian Tillett - DWF

Recognition

THANK YOU

- Dave Goodman
- Mike Carson
- Brandon Barr
- Jeff Mowrey

Outage Team Update – Jim Rhodes

FirstEnergy

BMP 2014 Communication Presentation

Area Summary

Outage Communications Plan

Meetings

Daily

Status updates

10:00hrs (approx. 30 mins in length)

Daily Outage Update Report

Weekly Budget Review

Weekly Contractor Forecast Review

Weekly Safety and Environmental Walkdowns

BMP 2014 Communication Presentation

Alice Summer

FirstEnergy

Capital Project List

Project Description
SCR catalyst change
Boiler Water Walls
Replace LP Packing & Spdl Strips
Lower Economizer Replacement
Air Heater Replacement
IP Rotor 4th & 5th Stage Replacement
1A BFPT bucket replacement
Throttle Valve repairement
1A BFPT bucket replacement
Thickener Effluent Distribution Replacement
Cooling Tower Bypass Pipng Replacement
Replace HP Packing and Spll Strips
Replace General Bushing Box

MATS Capital Project List

Project Description
Economizer ash system improvements (MATS)
Large Particle Ash Screen Addition (MATS)
Mercury Re-emissions System Addition (MATS)
CO/O2 analyzer addition SCR outlet (MATS)
ORP/pH probe addition (MATS)
SCR Ammonia Injection System improvements (MATS)
Thickener Rake (MATS)

O&M Worklist

Area Description
Boiler Internal
External Boiler
Turbine
Electrical
SO2
General

Major Component Integrity Assurance

- MCIA Related Scope
  - FD / PA fan inspection
  - ID fan inspection
- HEP / FAC Related Scope
  - FAC (14 Locations)
  - HEP (40 Locations) Main Steam & Hot Reheat
- Protective Device Scope
  - Turbine valve inspection
  - Extraction Check Valve inspection and repair
  - Boiler Safety valve inspection and repair
- Health Study Projects
  - Generator Bushing Inspection

Critical Path

Scope Description
- Boiler Internal

Interferences
- Internal Boiler Inspections
- Waterwall
- Lower Economizer
- LPA Screen

Risks
- Schedule Interferences
- Logistics Interferences

Opportunities
- Planning Stages

Mitigation Actions
- Schedule Completed by September

Critical Path

Scope Description
- Turbine Work

Interferences
- HP Work Scope
- IP Work Scope
- LP Work Scope
- Turbine Valves

Risks
- Schedule Interferences
- Logistics Interferences

Opportunities
- Planning Stages

Mitigation Actions
- Schedule Completed by September

Near Critical Path

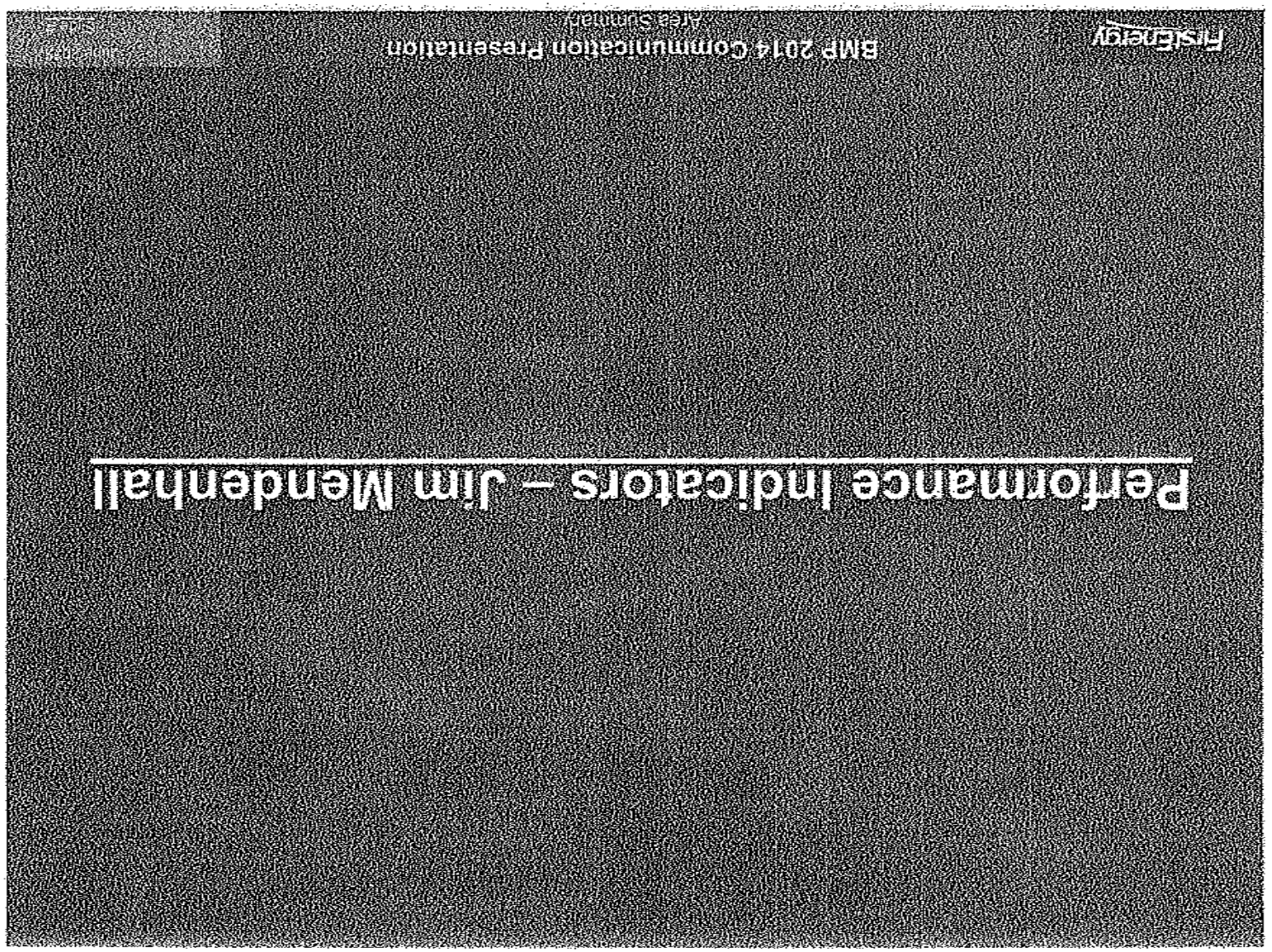
Scope Description
MN1 Thickener Rake Replacement

Interferences with Other Work
Cleaning the Thickener
~5.1 million gallons of liquid need to be pumped to LBR
3100 tons of CCB material will need to be trucked to LBR

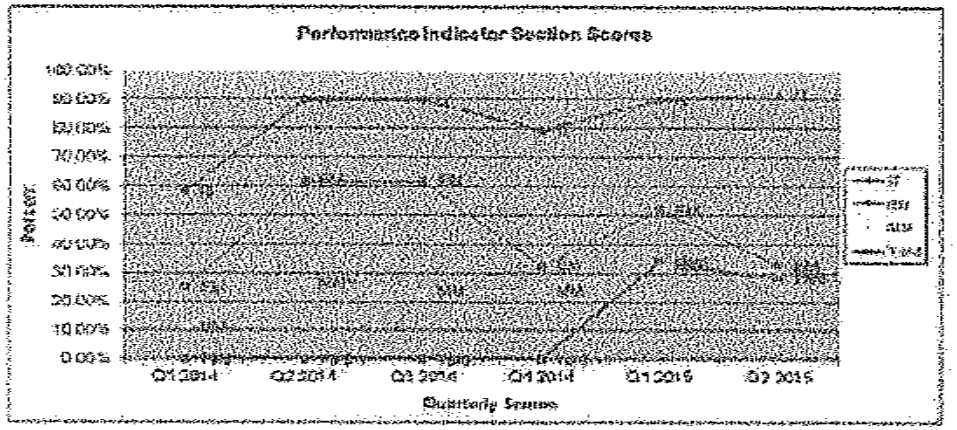
Risks
Environmental (CCB spill during transport to LBR)
Delays in the cleaning activities

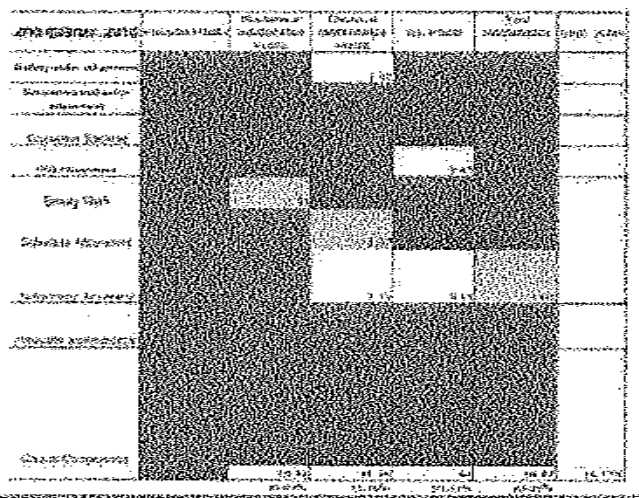
Opportunities
Currently reviewing the options to reduce the pumping/drain the thickener

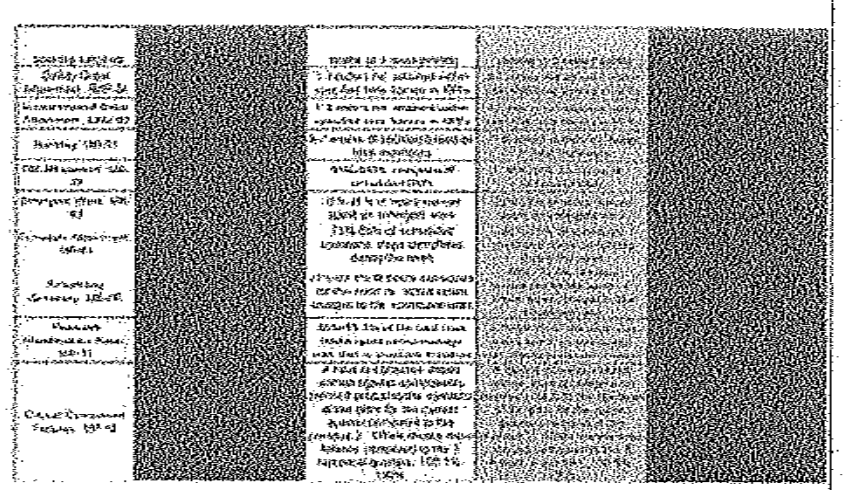
Mitigation Actions
Planning Stages


Performance Indicators – Jim Mendenhall
BMP 2014 Communication Presentation
Area Summary
FirstEnergy

Performance Indicators Review







FirstEnergy

BMP 2014 Communication Presentation
Area Summary

2nd quarter, 2015	Possible Points	Mechanical Maintenance Points	Electrical Maintenance Points	I&C Points	Yard Maintenance	Dept. Score
Safety order attainment			3.33			
Environmental order attainment						
Corrective Backlog						
PM Attainment				6.67		
Emerg Work		3.33				
Schedule Attainment			2.67			
Scheduling Accuracy			3.33	3.33	1.67	
Proactive Maintenance						
Critical Components						
		18.33	19.33	54	16.67	55.27%
		31.07%	32.76%	91.53%	28.25%	

FirstEnergy BMP 2014 Communication Presentation
Area Summary

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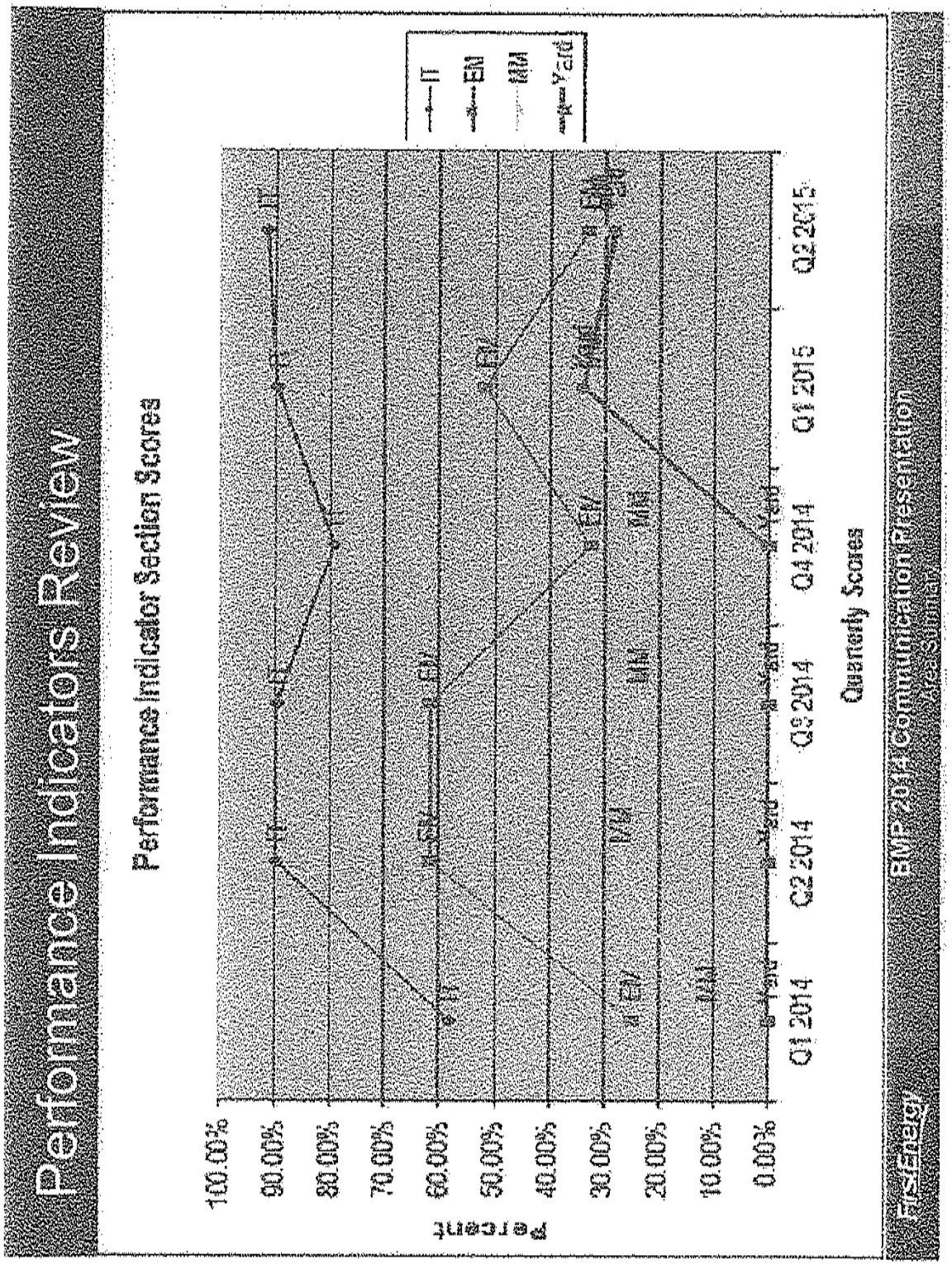

Performance Indicators Review
Performance Indicator Section Scores
IT
EN
MM
Yard
Percent
100.00%
90.00%
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
Q1 2014
Q2 2014
Q3 2014
Q4 2014
Q1 2015
Q2 2015
Quarterly Scores
FirstEnergy
BMP 2014 Communication Presentation
Area Summary

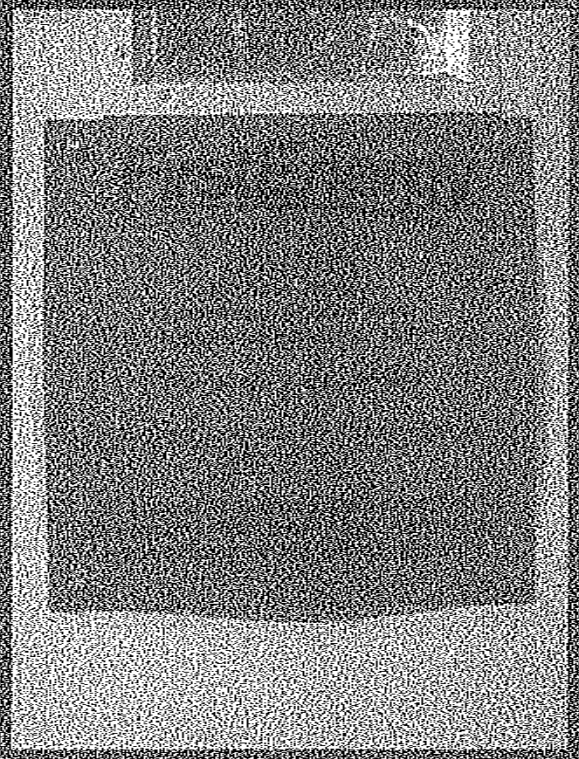
Electrical/IT Maintenance – Mike Curran

BMP 2014 Communication Presentation

Area Summary

FirstEnergy

Fossil Generation Switchgear & Motor Control Center Rooms Safety and Access Control Standards



FirstEnergy

BMP 2014 Communication Presentation
Area Summary

Electrical Arc Flash Hazard Awareness

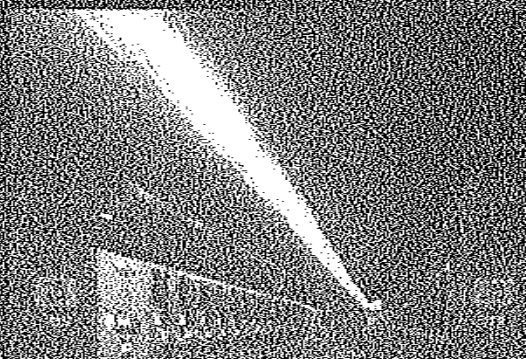
As power plant workers, we work near or pass by energized equipment everyday

An electrical arc flash event is a type of electrical explosion that can cause a fire, injure personnel, and damage equipment

There were 2 significant arc flash events relating to equipment failure within FE Generation in 2013 & 2014, and a significant arc flash event related to human performance in 2011.

Although no one was injured in these events, the potential for injury existed and equipment was damaged.

Purpose: To limit work performed and time spent in switch gear rooms.



- Personnel may not pass through switchgear rooms for travel convenience.
- No loitering allowed in switchgear rooms.
- Personnel shall contact the appropriate control room to obtain permission to enter any switchgear room.

Personnel requesting entry are to provide the following information to the Control Room:

i. Names of primary requestor

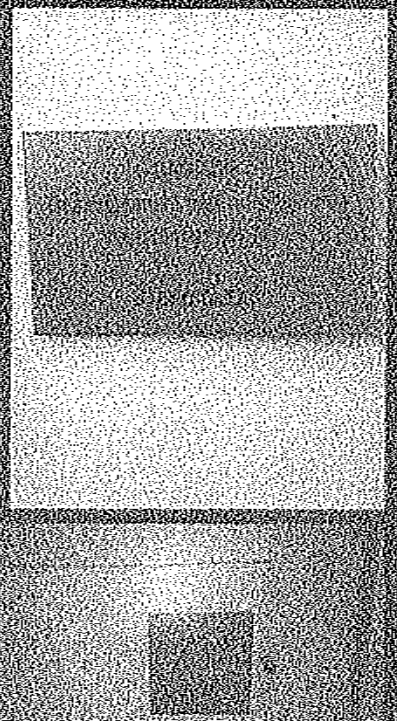
ii. Number of personnel needing entry

iii. Purpose of entry

iv. Expected duration of entry

Note: If entrant will be in and out of the room multiple times during this duration, the entrant need only contact the Control Room on the initial entry and final exit.

SWITCHGEAR ACCESS CONTROL



Once permission is granted to enter the room, entrant must be aware that some equipment may automatically start/stop and shall not stand in front of the breakers unnecessarily.

Sliding doors or access points for switching tools must be kept closed when not in use.

Plant Lighting Improvements

U1&2 basement areas:

Around Joy Air Compressors

North Side U1 from Swgr 1 to Condensate pumps

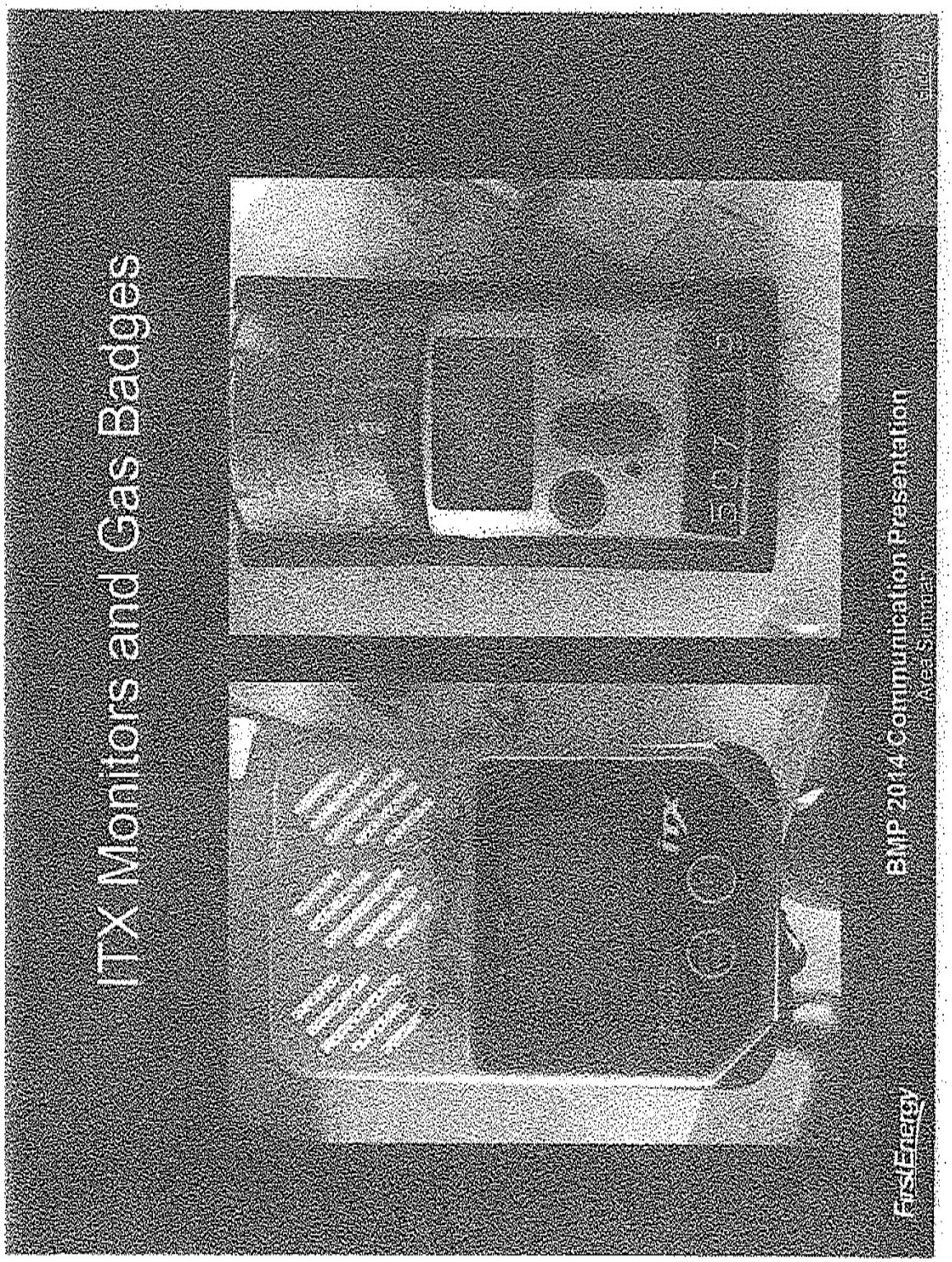
North Side U2 from Swgr 4 to Condensate pumps

Around U1 Stator water pumps and H2 seal oil pmps

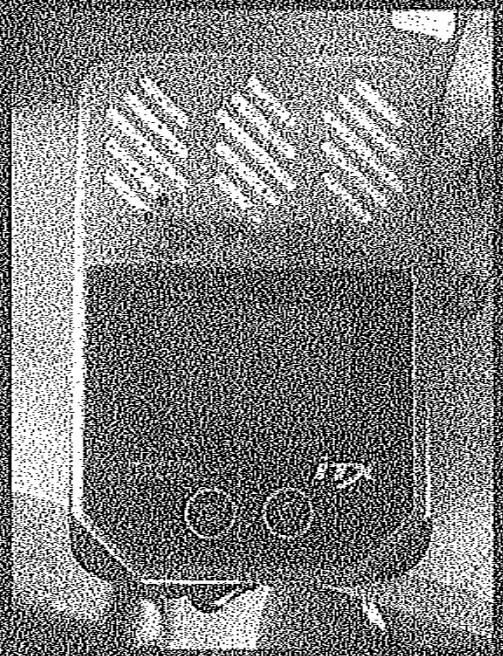
Around U1 "B" man shanty area

Around #1 elevator to 1B primary sumps

Above Fog I belt filter


ITX Monitors and Gas Badges
BMP 2014 Communication Presentation
Area Summary
FirstEnergy

ITX Monitors



- ITX monitors are located in the I&T shop.
- They can be signed out for use.
- The meters need to be returned for calibration and bump testing after usage.

ITX Pump

- The pump is used for pulling in air from areas that are inaccessible by the monitor itself
- When using the pump attachment, a dust or moisture filter must be used to protect the meter from damage
- The filter can be installed at the end of the sample tubing, or at the pump
- The meter must be returned for calibration and pump testing after each job

Gas Badges

There are 3 types of gas badges. Each monitors for a different gas:

- H2S
- Ammonia
- CO

The gas badges can be clipped onto clothing to monitor the area while working.

There is an H2S badge at the top of each thicker to use when down in the tunnel.

There is a CO badge mounted in the elevators.

Badges are available in the I&T shop, Yard area, and WDA.

Mechanical Maintenance – Devin Miller

Safety

Reheat Duct Blanks
- $100,000 O&M

Reheat platform grating evaluation

Scrubber Flooded Tray Platforms
- $70,000 Capital

ID Fan Scroll Drain Platforms
- $60,000 Capital

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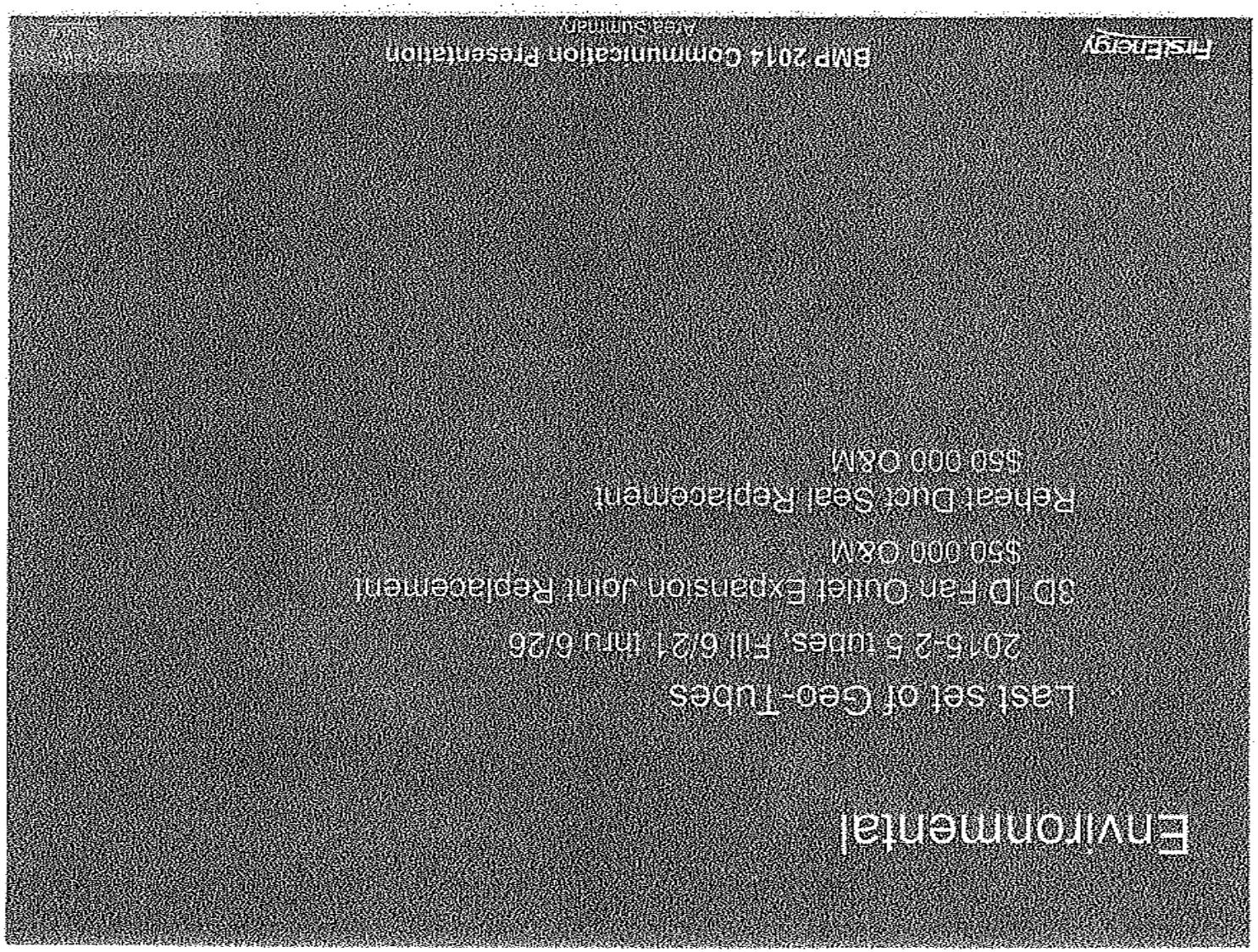

Environmental

- Last set of Geo-Tubes
  - 2015-2.5 tubes, Fill 6/21 thru 6/26
- 3D ID Fan Outlet Expansion Joint Replacement
  - $50,000 O&M
- Reheat Duct Seal Replacement
  - $50,000 O&M

Reliability

FOG Recovery Plan

Fly Ash Slurry Pump Replacements
$60,000 Capital

"B" Underflow Header Replacement
$750,000 Capital

Plant Reliability Team
5 Mechanics
2 Electricians
1 I&T
Foreman – Jason Roberts

BMP 2014 Communication Presentation
Area Summary

FirstEnergy

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FirstEnergy

Bruce Mansfield Plant Maintenance Department Communication Meeting

EXHIBIT
R-16

Meeting Agenda

- Daily Safety and HU Message
- Safety, Generation Leadership Recap, Recognition – AJ
- M116 Outage – Jim Rhodes
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- Mechanical Maintenance – Devin Miller
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- DWF 3D model – Najewicz
- Q&A

EXHIBIT NO. R-16 RECEIVED ✓ REJECTED ___

CASE NO. 6-CA-163303 6-CA-170101 CASE NAME FirstEnergy

NO. OF PAGES 90 DATE 12/2/16 REPORTER JAO

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WEDNESDAY - Daily Safety and Human Performance Message

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Human Performance GEN-SAF 2009 R00

- Pg. 27-28

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Recognition

Stacker Bucket Wheel Motor Safe Completion

- Bob McClune
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- Jeff Charles
- Mike Turbish
- Roger Gallo
- Dave Goodman
- Jeff Mowrey
- Carl Congo
- Dan Collwell
- Mark Hutton
- Bill Hopkins
- Marc Cicone
- Randy Brown

Recognition

SO2 crew for 3D ID fan expansion joint schedule change and safe turn around

Bruce McIntosh	Gerald Anderson
Jay Costello	Mark Meadows
Mike McCoy	Jason Trillow
Colby Parkinson	Robert Lewis
Gerald McCann	Max Hutchison
Bill Sosack	Jack Allison
Greg McDevitt	Graham Shaddick
Bill Barker	Frank Reilly
Lenny Miller	Jason Roberts
Paul Thompson	

Recognition

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- Joe Becher
- Bob Greco
- Grimmy
- Dale Kronk
- Keith Mason
- Tim McConaughy
- Mike Molnar
- Jim Clark
- Mark Earl
- Darryl Michael
- Colby Parkinson
- Jason Trillow
- Dave Simmons
- Tim Shaffer
- Gary Arbogast
- Graham Shaddick

Recognition

IT Safety Performance – Over 8 years

Gene Carothers
Ed Miller
Bill Cassidy
Dennis Mitchell
Frank Clyde
Randy Reese
Rick Conrad
Dave Sorell
Dave Evans
Mike Schmelick
Rion Flowers
Doug Skeens
Ken Goddard
Guy Taylor
Chuck Joy
Mark Varian
Skip Johnson
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Recognition

THANK YOU

- Dave Goodman
- Mike Carson
- Brandon Barr
- Jeff Mowrey

Outage Team Update – Jim Rhodes

FirstEnergy

BMP 2014 Communication Presentation
Area Summary

June 2015
Slide #

Outage Communications Plan

- Meetings
  - Daily
    - Status Updates
      - 10:00hrs (approx. 30 mins in length)
- Daily Outage Update Report
- Weekly Budget Review
- Weekly Contractor Forecast Review
- Weekly Safety and Environmental Walkdowns

Capital Project List

Project Description
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Replace Generator Bushing Box

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Thickener Rake (MATS)

O&M Worklist

Area Description
Boiler Internal
External Boiler
Turbine
Electrical
SO2
General

Major Component Integrity Assurance

- MCIA Related Scope
  - FD / PA fan inspection
  - ID fan inspection
- HEP / FAC Related Scope
  - FAC (14 Locations)
  - HEP (40 Locations) Main Steam & Hot Reheat
- Protective Device Scope
  - Turbine valve inspection
  - Extraction Check Valve inspection and repair
  - Boiler Safety valve inspection and repair
- Health Study Projects
  - Generator Bushing Inspection

Critical Path

Scope Description
- Boiler Internal

Interferences
- Internal Boiler Inspections
- Waterwall
- Lower Economizer
- LPA Screen

Risks
- Schedule Interferences
- Logistics Interferences

Opportunities
- Planning Stages

Mitigation Actions
- Schedule Completed by September

Critical Path

Scope Description
- Turbine Work

Interferences
- HP Work Scope
- IP Work Scope
- LP Work Scope
- Turbine Valves

Risks
- Schedule Interferences
- Logistics Interferences

Opportunities
- Planning Stages

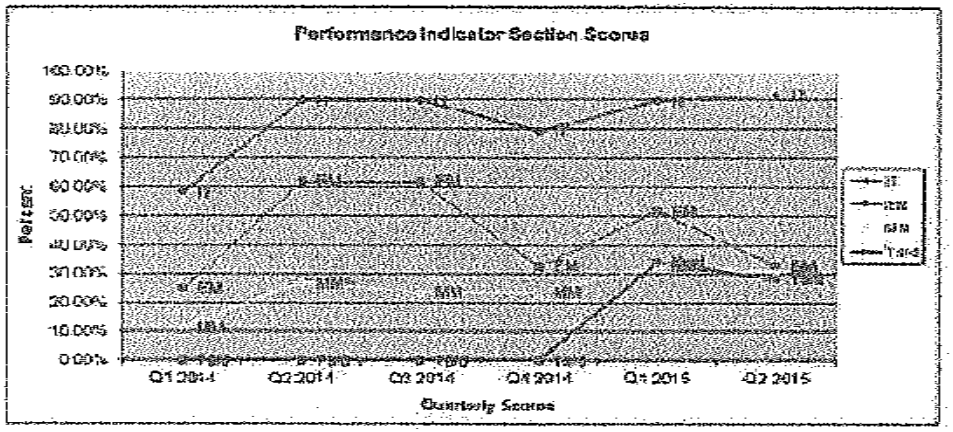
Mitigation Actions
- Schedule Completed by September

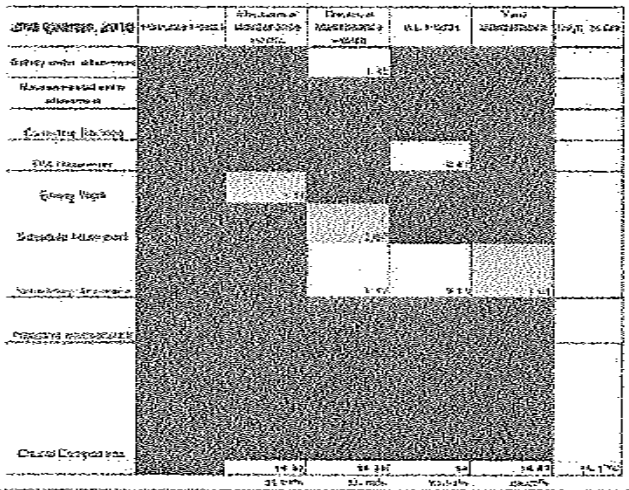
Near Critical Path

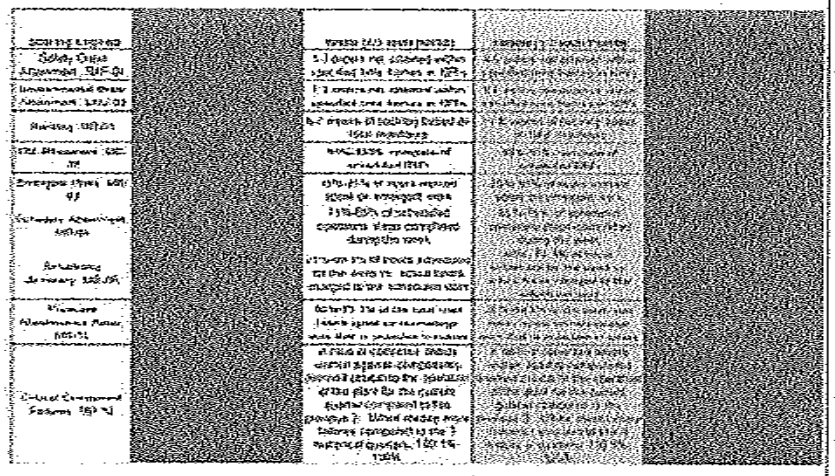
- Scope Description
  - MN1 Thickener Rake Replacement
- Interferences with Other Work
  - Cleaning the Thickener
    - ~5.1 million gallons of liquid need to be pumped to LBR
    - 3100 tons of CCB material will need to be trucked to LBR
- Risks
  - Environmental (CCB spill during transport to LBR)
  - Delays in the cleaning activities
- Opportunities
  - Currently reviewing the options to reduce the pumping/drain the thickener
- Mitigation Actions
  - Planning Stages

Performance Indicators – Jim Mendenhall

Performance Indicators Review







2nd quarter, 2016	Possible Points	Mechanical Maintenance Points	Electrical Maintenance Points	I&C Points	Yard Maintenance	Dept. Score
Safety order attainment			3.33			
Environmental order attainment						
Corrective Backlog						
PM Attainment				6.67		
Emerg Work		3.33				
Schedule Attainment			2.67			
Scheduling Accuracy			3.33	3.33	1.67	
Proactive Maintenance						
Critical Components						
		18.33	19.33	54	16.67	55.27%
		31.07%	32.76%	91.53%	28.25%	

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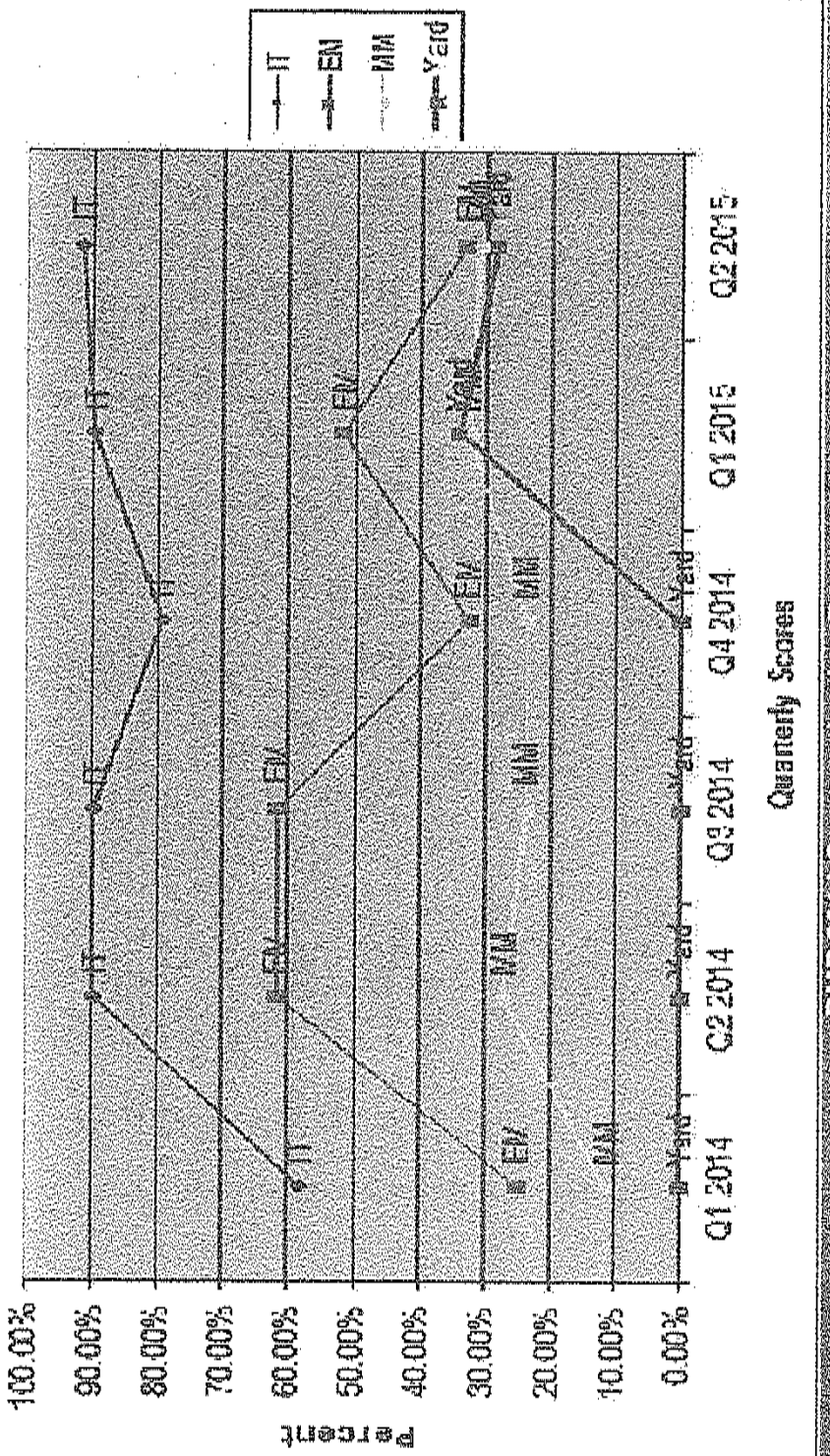
Performance Indicators Review

Performance Indicator Section Scores



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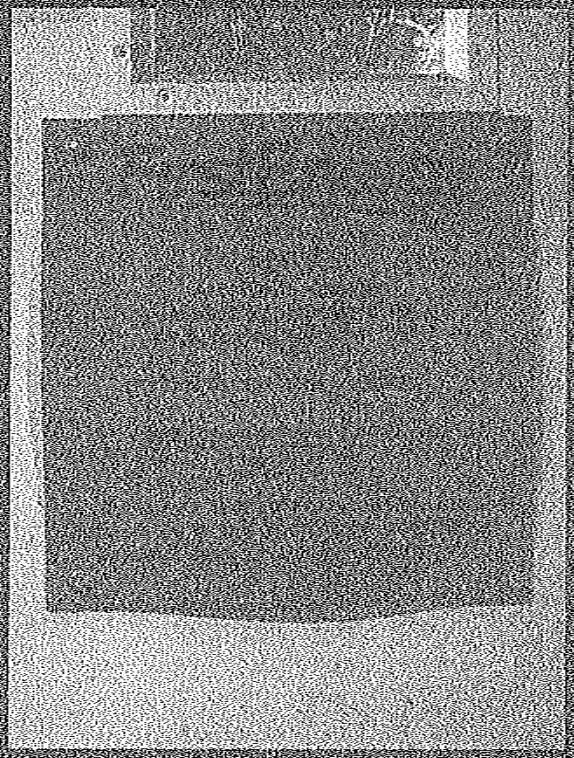
Area Summary

Electrical/IT Maintenance – Mike Curran

Fossil Generation Switchgear & Motor Control Center Rooms Safety and Access Control Standards



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Electrical Arc Flash Hazard Awareness

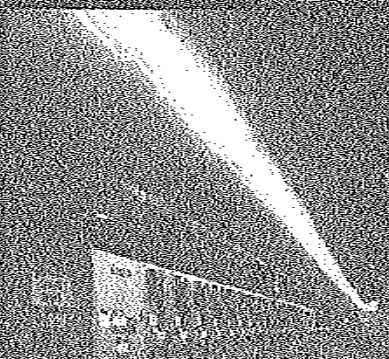
As power plant workers, we work near or pass by energized equipment everyday

An electrical arc flash event is a type of electrical explosion that can cause a fire, injure personnel, and damage equipment

There were 2 significant arc flash events relating to equipment failure within FE Generation in 2013 & 2014, and a significant arc flash event related to human performance in 2011.

Although no one was injured in these events, the potential for injury existed and equipment was damaged.

Purpose: To limit work performed and time spent in switch gear rooms.



Personnel may not pass through switchgear rooms for travel convenience.

No loitering allowed in switchgear rooms.

Personnel shall contact the appropriate control room to obtain permission to enter any switchgear room.

Personnel requesting entry are to provide the following information to the Control Room:

i. Names of primary requestor

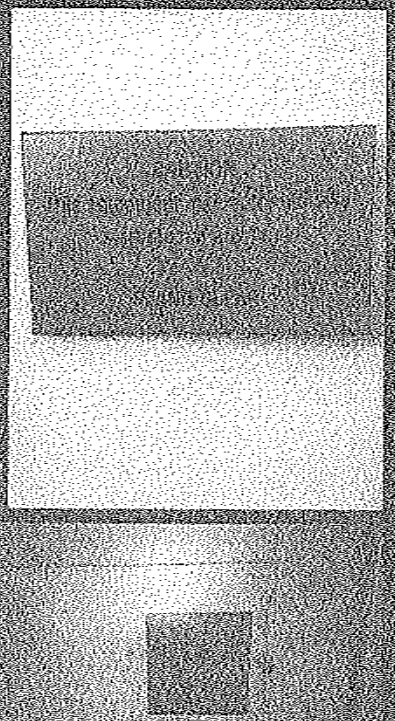
ii. Number of personnel needing entry

iii. Purpose of entry

iv. Expected duration of entry

Note: If entrant will be in and out of the room multiple times during this duration, the entrant need only contact the Control Room on the initial entry and final exit.

SWITCHGEAR ACCESS CONTROL



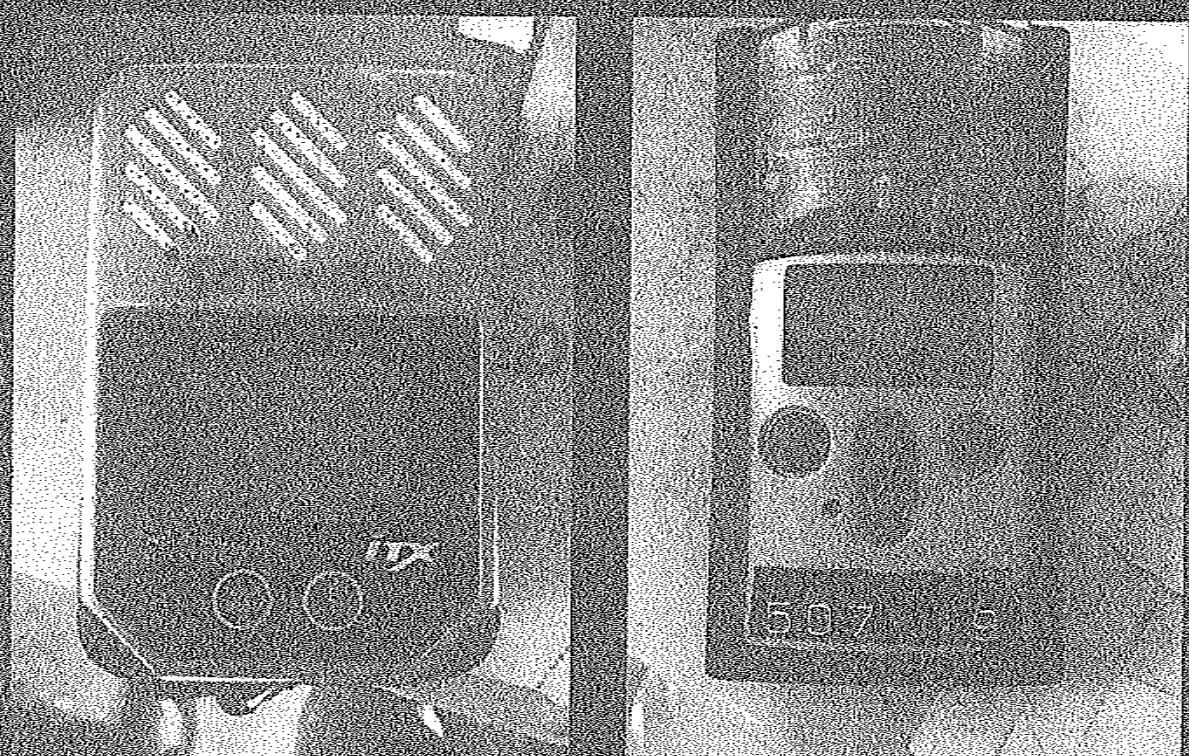
Once permission is granted to enter the room, entrant must be aware that some equipment may automatically start/stop and shall not stand in front of the breakers unnecessarily.

Sliding doors or access points for switching tools must be kept closed when not in use.

Plant Lighting Improvements

- U1&2 basement areas:
  - Around Joy Air Compressors
  - North Side U1 from Swgr 1 to Condensate pumps
  - North Side U2 from Swgr 4 to Condensate pumps
  - Around U1 Stator water pumps and H2 seal oil pmps
  - Around U1 "B" man shanty area
  - Around #1 elevator to 1B primary sumps
  - Above Fog I belt filter

ITX Monitors and Gas Badges



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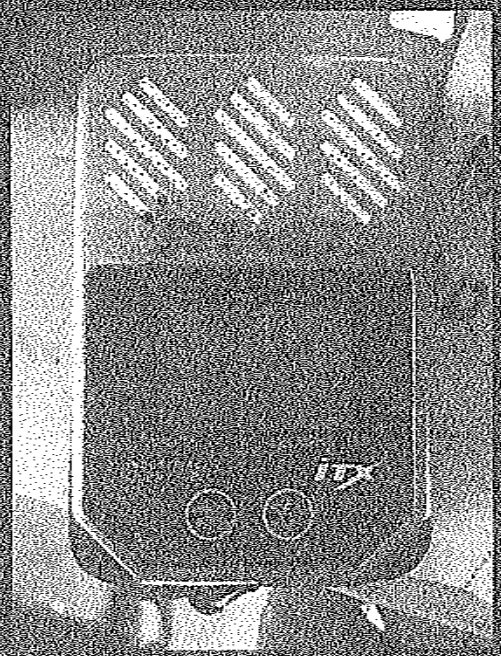
ITX Monitors



- ITX monitors are located in the I&T shop.
- They can be signed out for use.
- The meters need to be returned for calibration and bump testing after usage.

ITX Pump

- The pump is used for pulling in air from areas that are inaccessible by the monitor itself.
- When using the pump attachment, a dust or moisture filter must be used to protect the meter from damage.
- The filter can be installed at the end of the sample tubing, or at the pump.
- The meter must be returned for calibration and bump testing after each job.

Gas Badges

There are 3 types of gas badges. Each monitors for a different gas:

- H2S
- Ammonia
- CO

The gas badges can be clipped onto clothing to monitor the area while working.

There is an H2S badge at the top of each thicker to use when down in the tunnel.

There is a CO badge mounted in the elevators.

Badges are available in the I&T shop, Yard area, and WDA.

Mechanical Maintenance – Devin Miller

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Area Summary

Safety

Reheat Duct Blanks
- $100,000 O&M

Reheat platform grating evaluation

Scrubber Flooded Tray Platforms
- $70,000 Capital

ID Fan Scroll Drain Platforms
- $60,000 Capital

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Environmental

- Last set of Geo-Tubes
  - 2015-2 5 tubes, Fill 6/21 thru 6/26
- 3D ID Fan Outlet Expansion Joint Replacement
  - $50,000 O&M
- Reheat Duct Seal Replacement
  - $50,000 O&M

Reliabilty

FOG Recovery Plan

Fly Ash Slurry Pump Replacements
- $50,000 Capital

"B" Underflow Header Replacement
- $750,000 Capital

Plant Reliability Team
- 5 Mechanics
- 2 Electricians
- 1 I&T
- Foreman – Jason Roberts

Major Projects

3D Mill
Budget $800,000 Capital
Projected start dates
3D mill 9/21/2015

1A & 2A Lime Header Replacement
Budget $1 100,000 Capital
Projected start date 6/8/2015

#2 Joy Air Compressor Overhaul
$350,000 Capital

2B Boiler Feed Pump Overhaul
$300,000 Capital

Staffing Changes

Four mechanics transferred to Beaver Valley

- Joe Becher
- Mark Zook
- John Cheslar
- Mike Mellington

Four mechanics transferred to Mobile Maintenance

- John Kiger
- Darryl Michael
- Dave Torreyson
- Colby Parkinson

Four mechanics Retiring

- Harry Rogers
- Dave Simmons
- Keith Grimm
- Lou Riggs (Tool Repair Mechanic)

Training

- FRP Piping
  - ICE training scheduled Fall 2014
- Mobile Crane
  - Stevenson Co. training completed in June
  - Testing to be completed in July
- Laser Alignment

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Construction Team Update – Bob Kish

Projects

- Refined Coal
- Dewatering
- Little Blue Run Closure
- HDS Pond Cleaning

Section 45 Qualified Refined Coal Facility Utilizing the Chem-Mod Process at the Mansfield Plant

FirstEnergy

Mansfield Refined Coal Project Overview

- Arthur J. Gallagher (AJG) will own the Mansfield Refined Coal LLC, a Section 45 refined coal production facility, the facility will be operated by DTE Energy Services.

- AJG will provide FE with a host fee per ton of refined coal produced that will reduce the Mansfield Plant fuel and dispatch cost.

- Section 45 production tax credits for refined coal were authorized by the federal government in the late 2000's in order to promote the development of clean coal technologies.

- In order to qualify for the credits, the refined coal production facilities must demonstrate a 40% Hg and 20% NOx reduction in a lab test environment and have been "placed-in-service" by December 31, 2011.

- The credits are valid for 10 years from each facility's placed-in-service date, the Mansfield facility will operate through 2021.

- The Mansfield facility is targeted to be in-service late May, 2015.

Slide #

Benefits of Refined Coal to the Mansfield Plant and FirstEnergy

- AJG will pay for 100% of the installation and operating costs of the proposed refined coal production facility at Mansfield during the 7 year term of the agreement (2015 - 2021).
- FirstEnergy will receive a host fee per ton of refined coal produced and consumed at Mansfield during the 6.5 year term.
- Based on coal consumption of 7.0 million tons/year at the station, the fees will total $9.0 million/year during the term of the agreement.
- Reduced coal costs will improve unit dispatch and increase the Mansfield Plant margin.
- Potential additional benefits are expected due to reductions in Mercury and NOx that will help meet MATS compliance requirements.
- A test burn was conducted in May, 2014 on U2 & U3 to help evaluate potential operational and environmental risks.
- Additional particulate loading from S-Sorb addition was identified as a manageable concern.

Refined Coal Technology – The Process

- The Chem-Mod Process uses proprietary chemical sorbent additives to reduce the emission of NOx and for the oxidation and capture of Hg.
- Two separate sorbents are thoroughly mixed with the feedstock coal to produce Refined Coal.
- MerSorb (calcium bromide) is the primary sorbent for control of mercury emission.
- MerSorb is supplied to the facility as an aqueous solution. The MerSorb reacts with elemental mercury when the coal is burned to produce oxidized mercuric compounds which can be captured as particulates in the flue gas stream.
- S-Sorb (cement kiln dust) acts to limit NOx emission and also provides a capture medium for the oxidized mercury.
- S-Sorb is a dry powder product. The S-Sorb sorbent acts in two ways to reduce NOx emission. NOx is reduced by a combination of adsorption and a catalytic effect which supports reduction of nitrogen oxides.

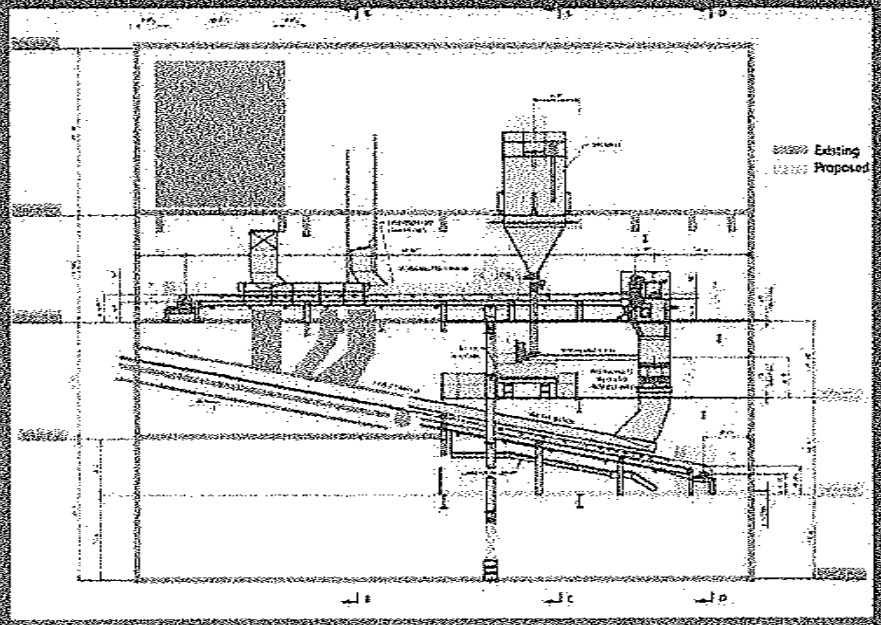
The Facility

- A typical RC facility consists of a pugmill mixer, an S-Sorb storage silo, a MerSorb storage tank and containment, metering equipment, a motor control center, and an office trailer/shower facility.
- S-Sorb is delivered to the facility in pneumatic tank trucks or rail cars. MerSorb is provided as an aqueous solution delivered in tank trucks.
- The sorbents are pneumatically conveyed or pumped to appropriate on site storage facilities, tanks for the liquid MerSorb and silos for the powder S-Sorb.
- Coal is diverted from the existing host plant feed system to the Refined Coal facility for the purpose of adding the sorbents to produce a Refined Coal.
- Plate work, conveyors, mixers, etc. are designed with sufficient capacity to process all coal used by the host facility at the maximum rate the host facility reclaims the coal from its storage yard.
- The coal is sent to the mixer where it is combined with the S-Sorb and MerSorb sorbents.
- The MerSorb is pumped from the storage tank(s) to the mixer using a metering pump which can be controlled to provide the proper mass of sorbent to the coal stream.

The Facility (Cont)

- The S-Sorb is conveyed to the mixer using a proportional feeder which can be controlled to provide the correct mass of sorbent to the coal stream
- The coal and sorbents are then thoroughly mixed in a mechanical device (pugmill) sized to provide even distribution of the sorbents with the coal
- The Refined Coal is then returned to conveyors 19 & 20 for use in the boilers.
- Scales, flow meters, volumetric controls, pressure, temperature, and other instrumentation are provided as necessary to properly control the process
- Inputs from the measuring devices are fed to a process control system which controls all components to properly proportion and blend the components to produce a consistent product.
- The facility is designed such that all coal flow can bypass the facility at any time so as not to adversely impact operation of the host facility in the unlikely event that the Refined Coal facility is inoperable
- FE has control over when the Refined Coal facility is bypassed

Crusher House Installation



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Chem-Mod
Making Power Cleaner

S-SORB III
SAFETY DATA SHEET

Revision Date: 05/11/2015 Supersedes: 11/15/2012 Version 5

SECTION 1: IDENTIFICATION OF SUBSTANCE/MIXTURE AND COMPANY

Product Identifier

Product Form:	Mixture
Product Name:	S-Sorb III
CAS No.	7789-41-5
Chemical Family:	A mineral composite of calcium aluminosilicate compounds and other calcium compounds containing iron, magnesium, and sulfur
Synonyms:	Calcium Aluminosilicate, Cement Kiln Dust

Intended Use of Product

Coal additive for Mercury Emission Reduction

Name, Address, and Telephone Number of Responsible Party

Chem-Mod LLC
2 Pierce Place
20th Floor
Itasca, IL 44224
Telephone: 866-546-4789

Emergency Telephone Number

1-412-889-7710

SECTION 2: HAZARDS IDENTIFICATION

Classification of Substance (GHS-US)

Serious Eye Irritant, Category 2A
Skin Irritant, Category 2

Label Elements (GHS-US)

Hazard Pictogram(s)

Signal Word
Warning

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Chem•Mod
Making Power Cleaner

MERSORB
SAFETY DATA SHEET

Revision Date: [illegible] Supersedes: [illegible] Version 5

SECTION 1: IDENTIFICATION OF SUBSTANCE/MIXTURE AND COMPANY

Product Identifier

Product Forms	Mixture
Product Names	MerSorb
CAS No.	7789-41-9
Formula	$CaBr_2 + H_2O$
Chemical Family	Halide Salt Solution
Synonyms	Calcium Bromide Solution, Brine Solution

Intended Use of Product

Coal additive for Mercury Emission Reduction

Name, Address, and Telephone Number of Responsible Party

Chem-Mod LLC
2 Pierce Place
20th Floor
Itasca, IL 44224
Telephone: 866-846-4789

Emergency Telephone Number:
1-412-889-7718

SECTION 2: HAZARDS IDENTIFICATION

Classification of Substance (GHS-US)

Serious Eye Irritant, Category 2A
Skin Irritant, Category 3

Label Elements (GHS-US)

Hazard Pictogram(s)

Signal Word
Warning

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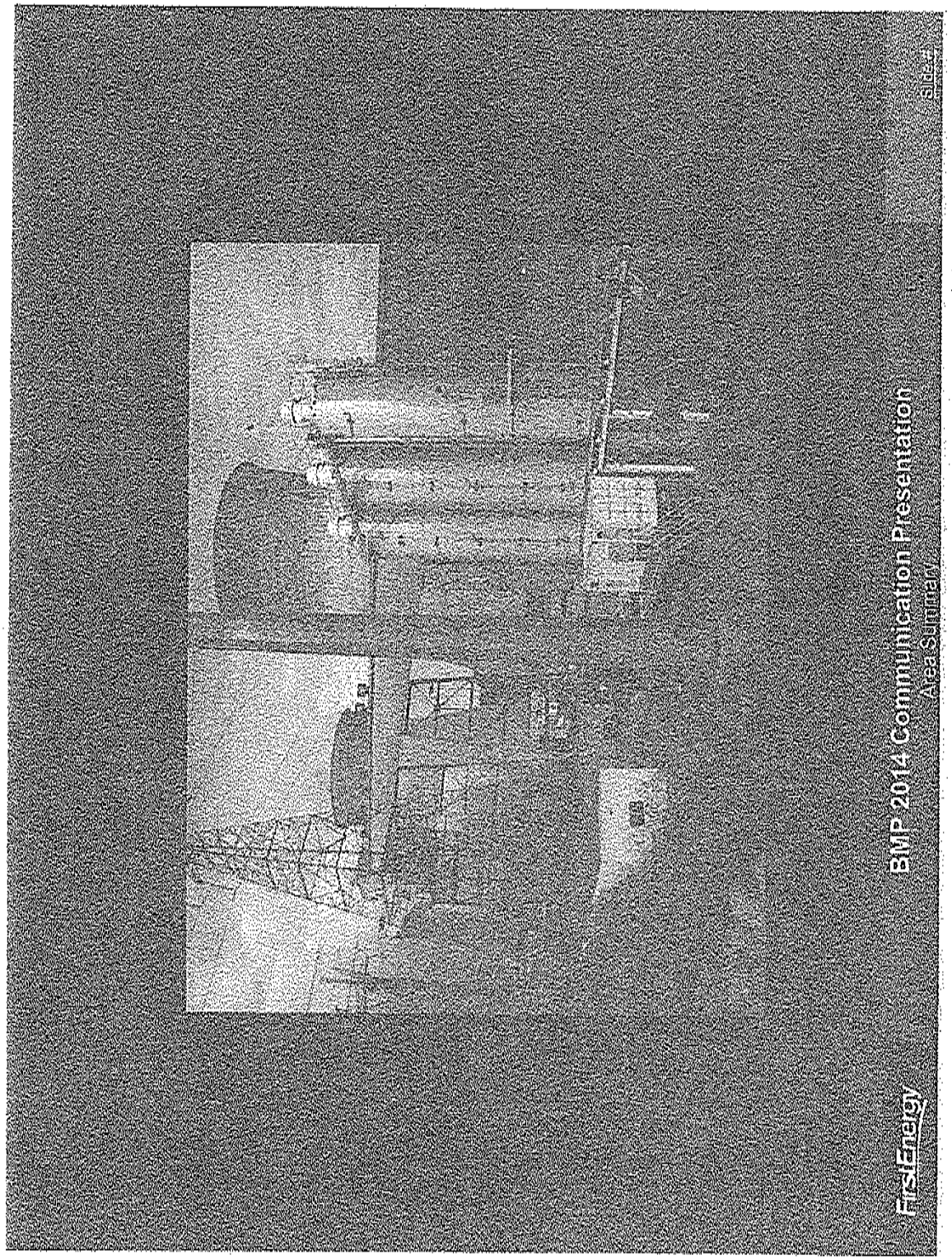
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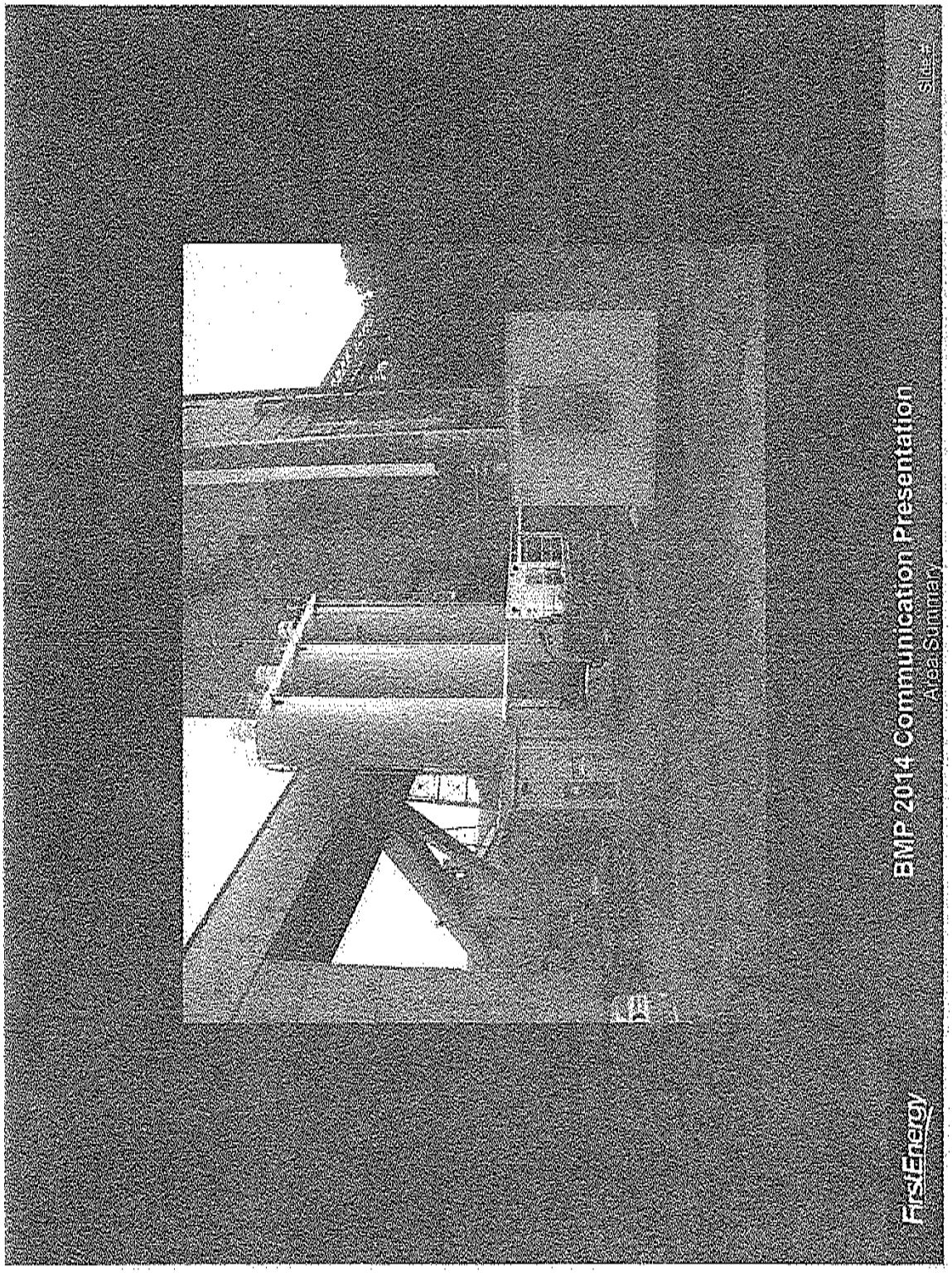
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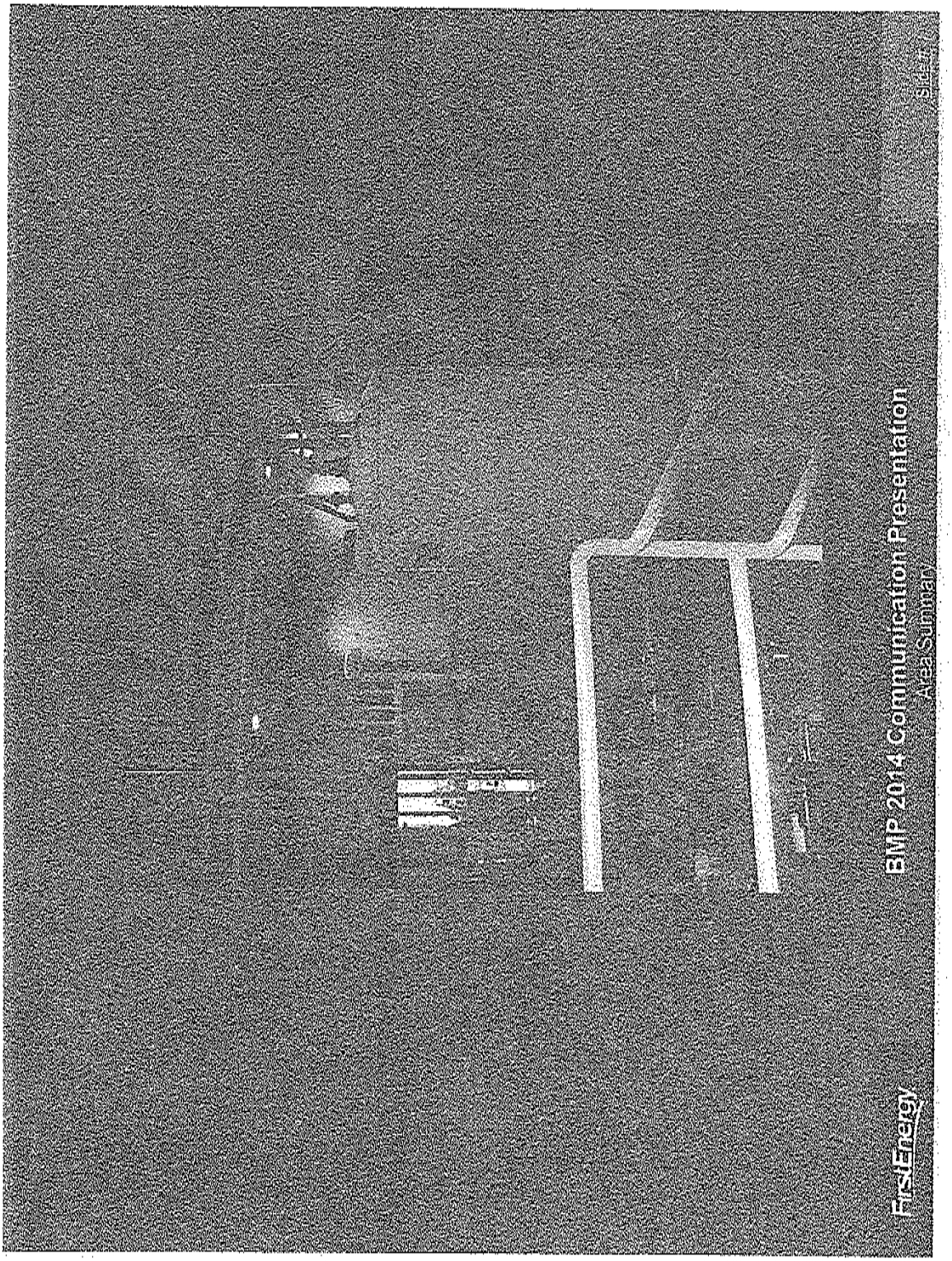
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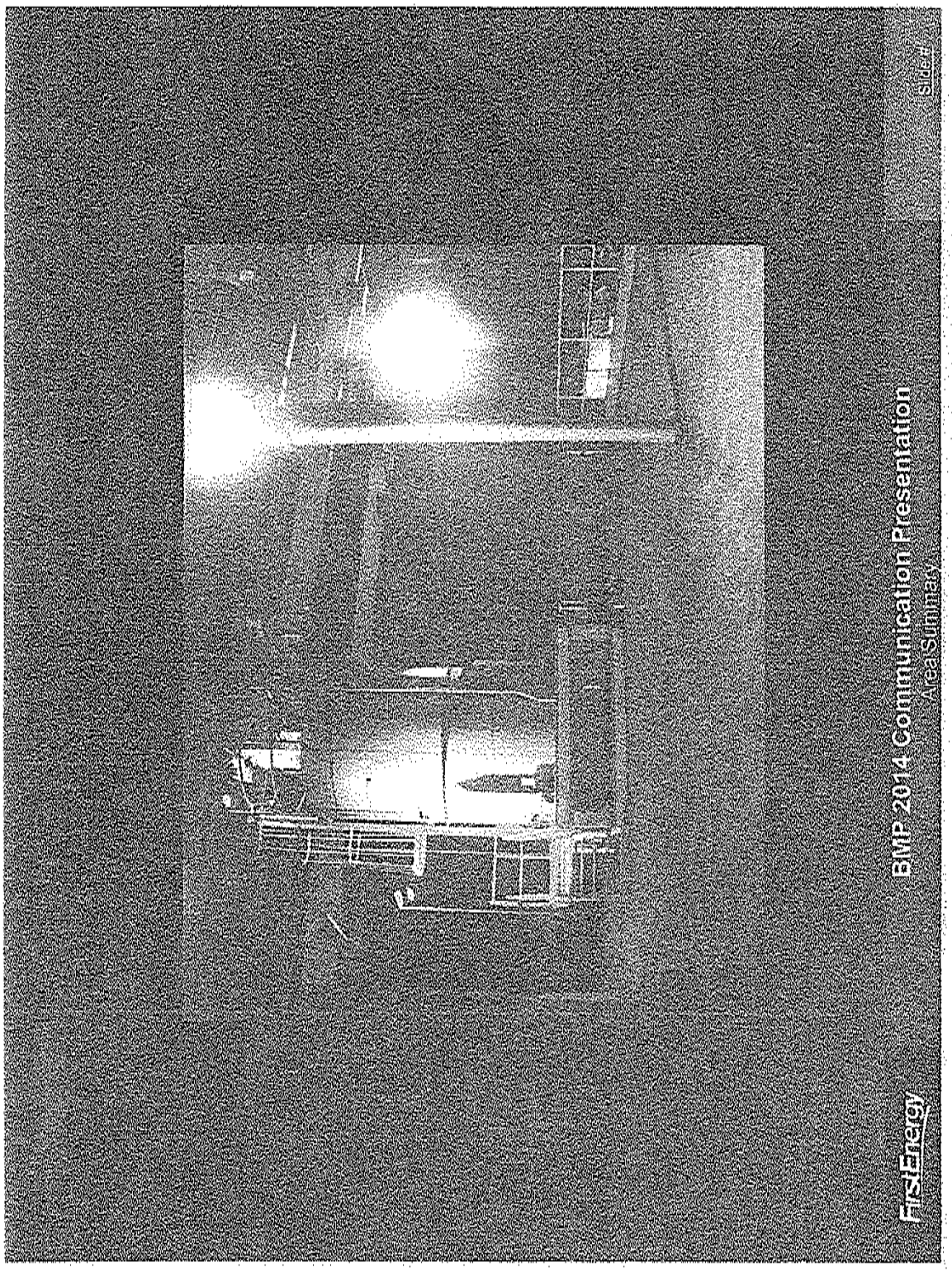
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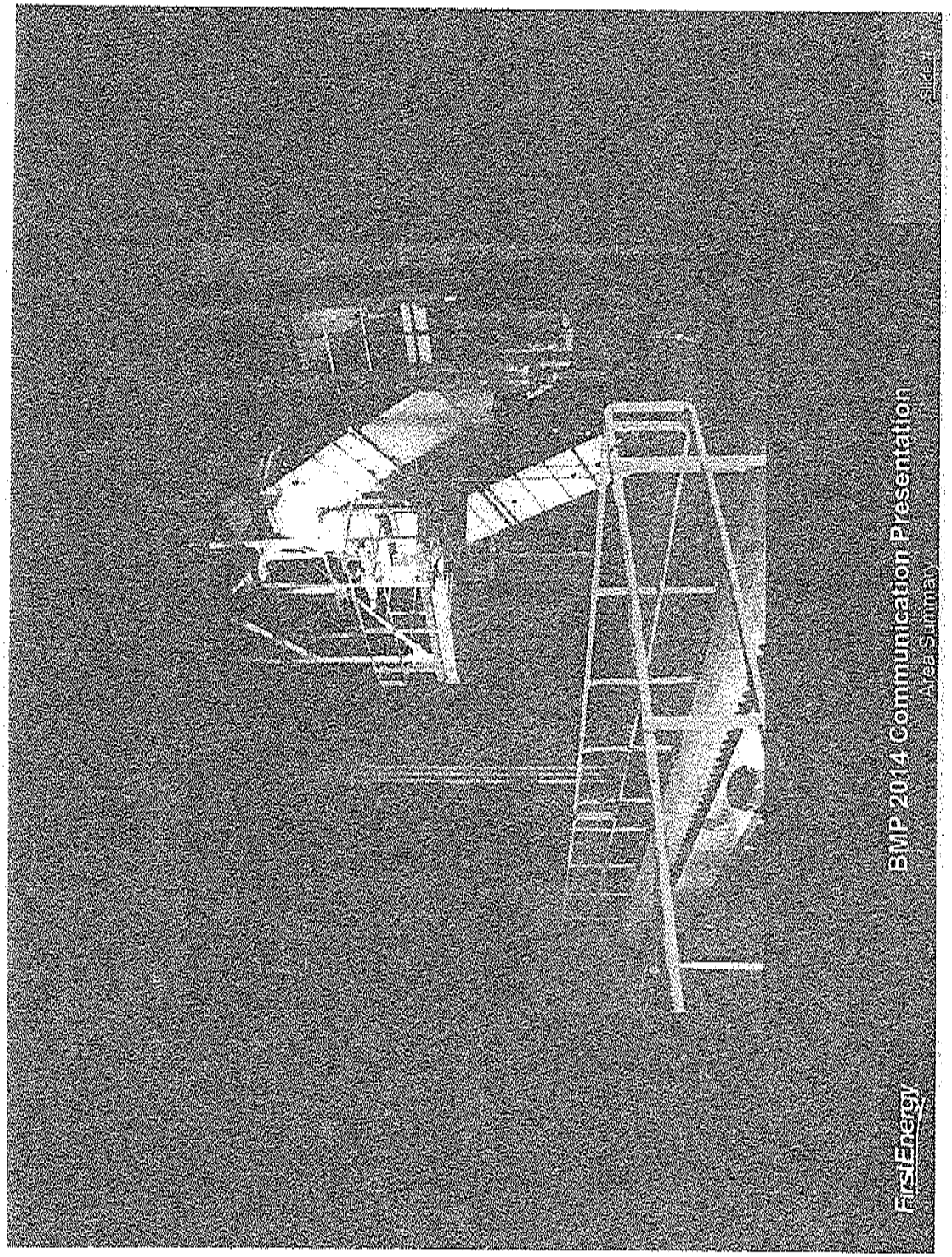
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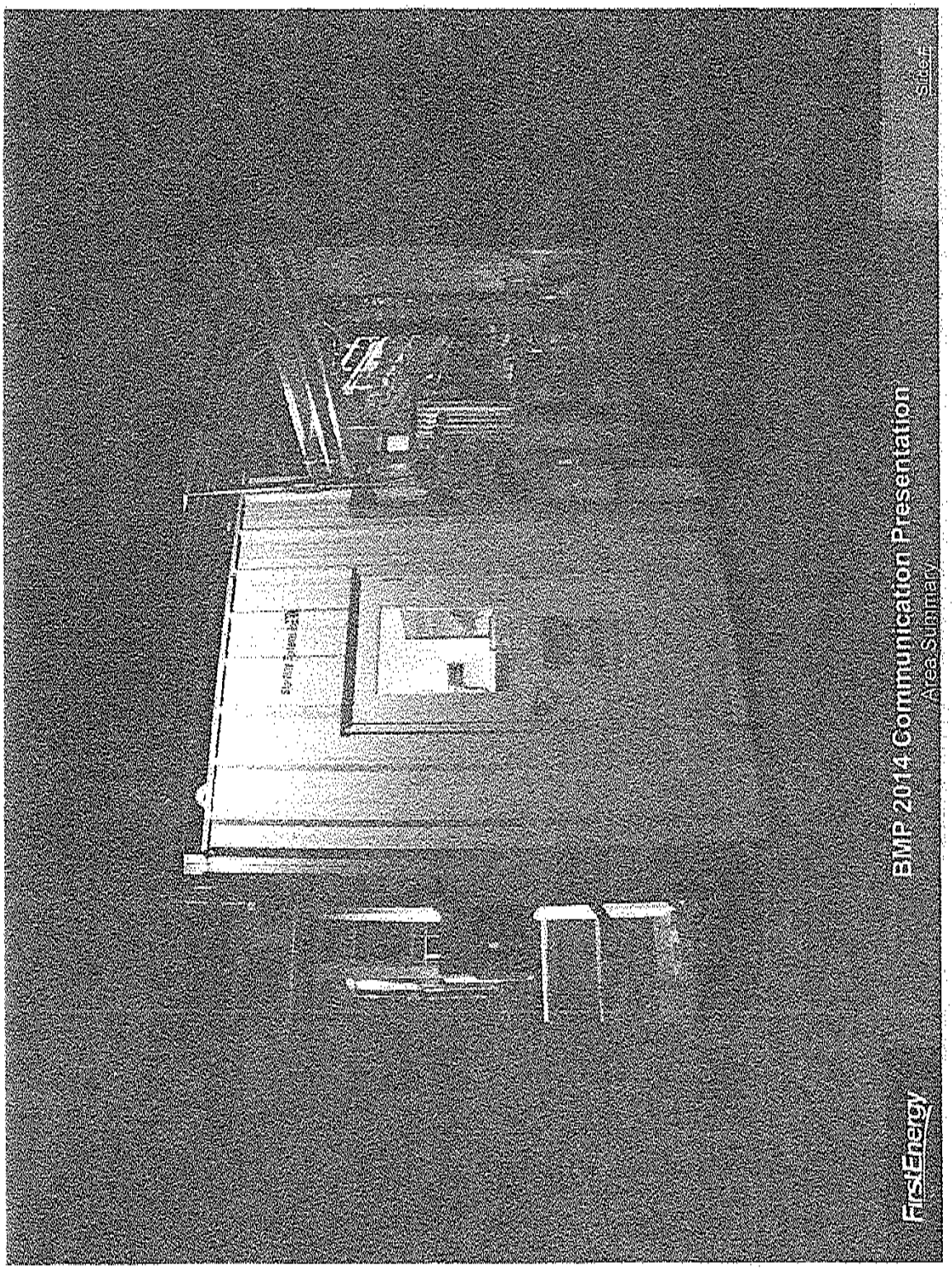
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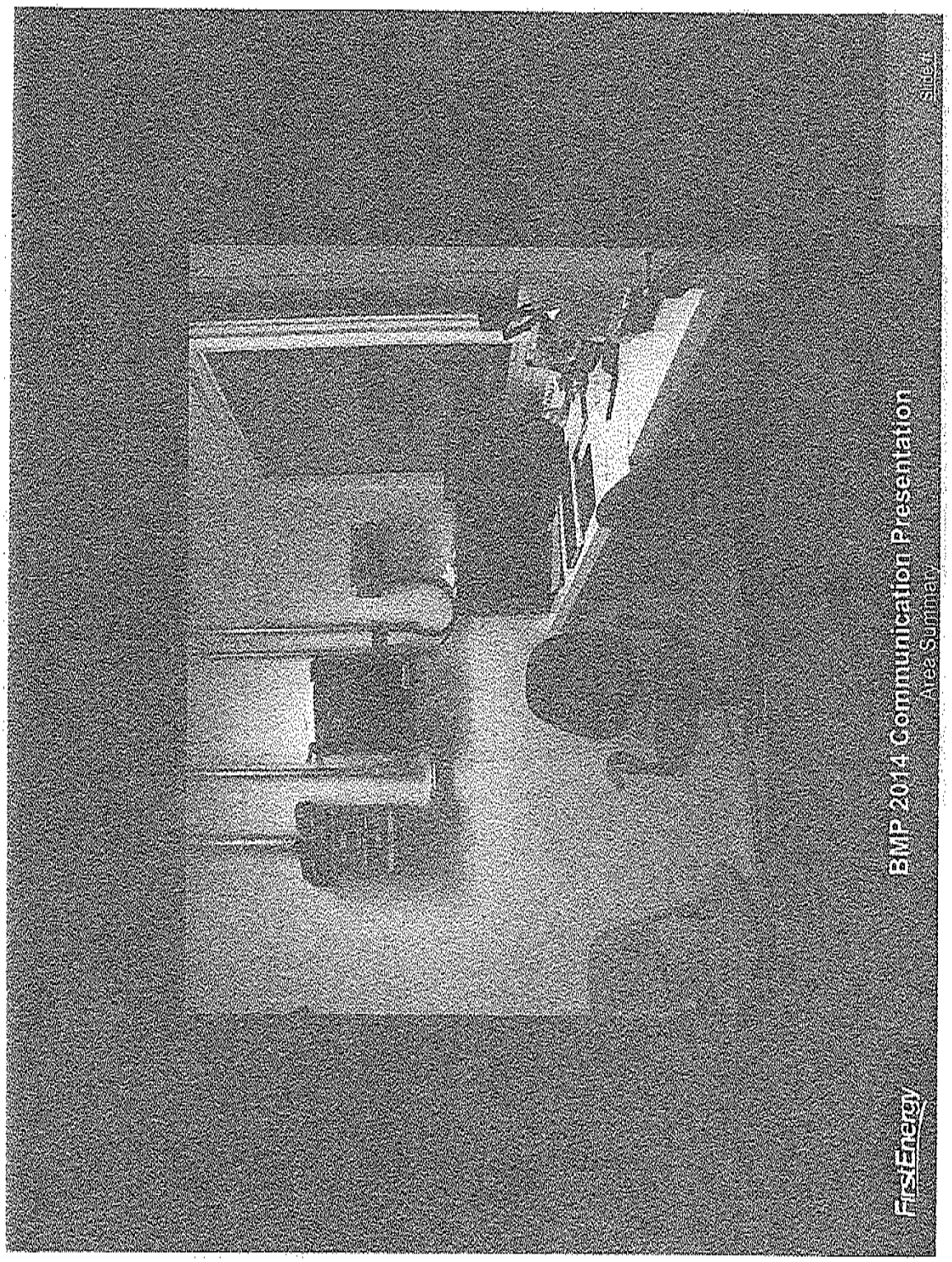
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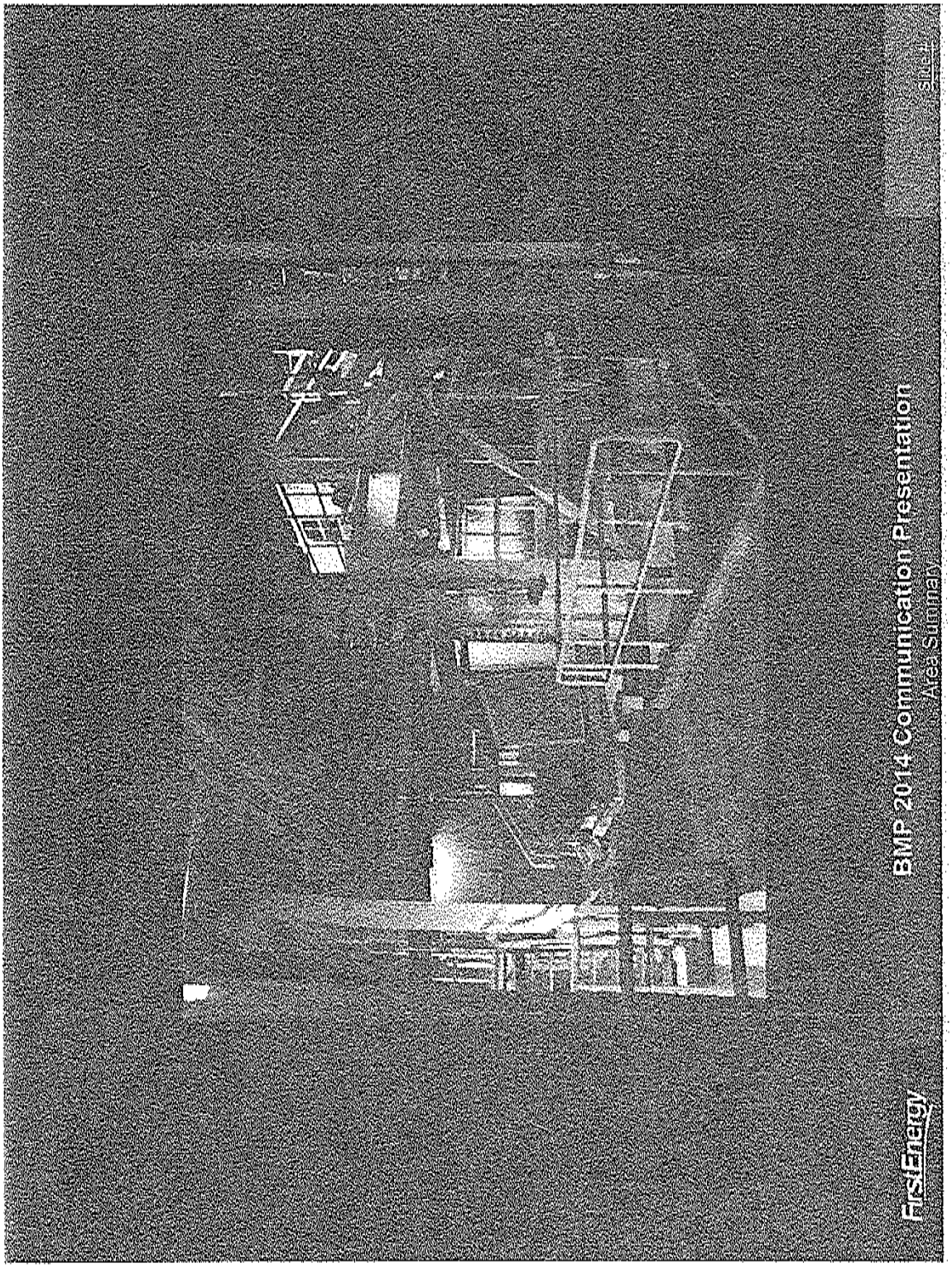
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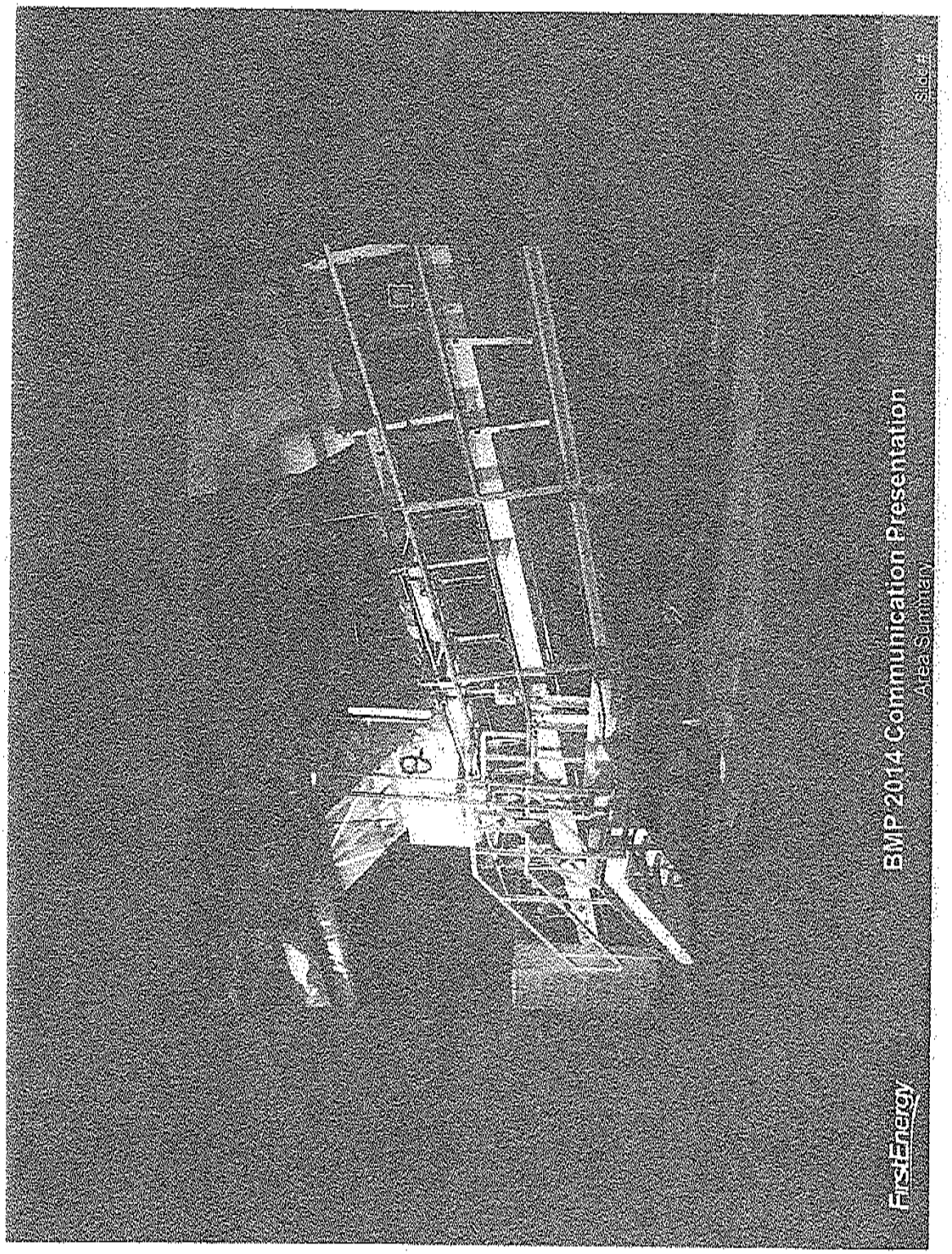
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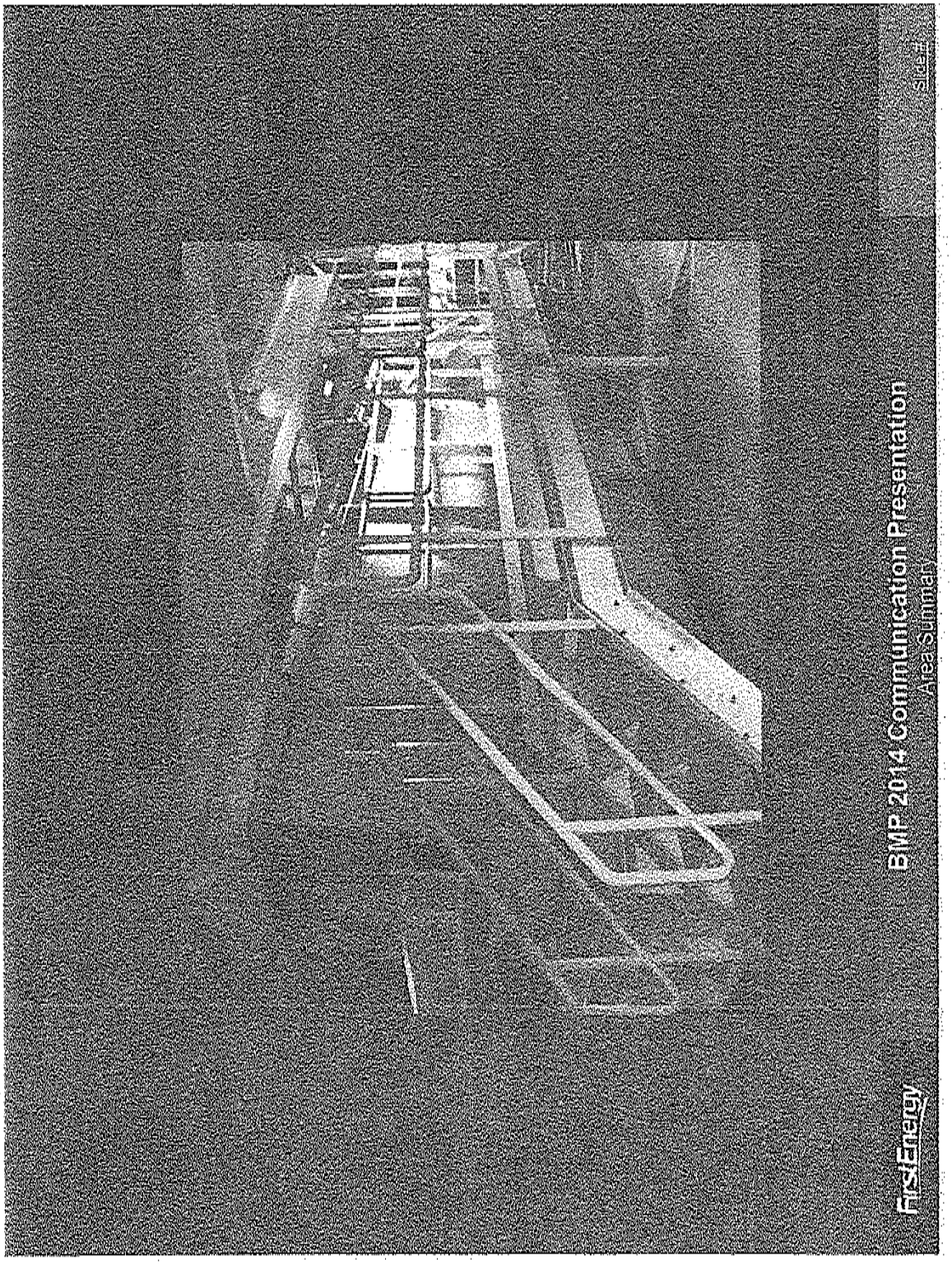
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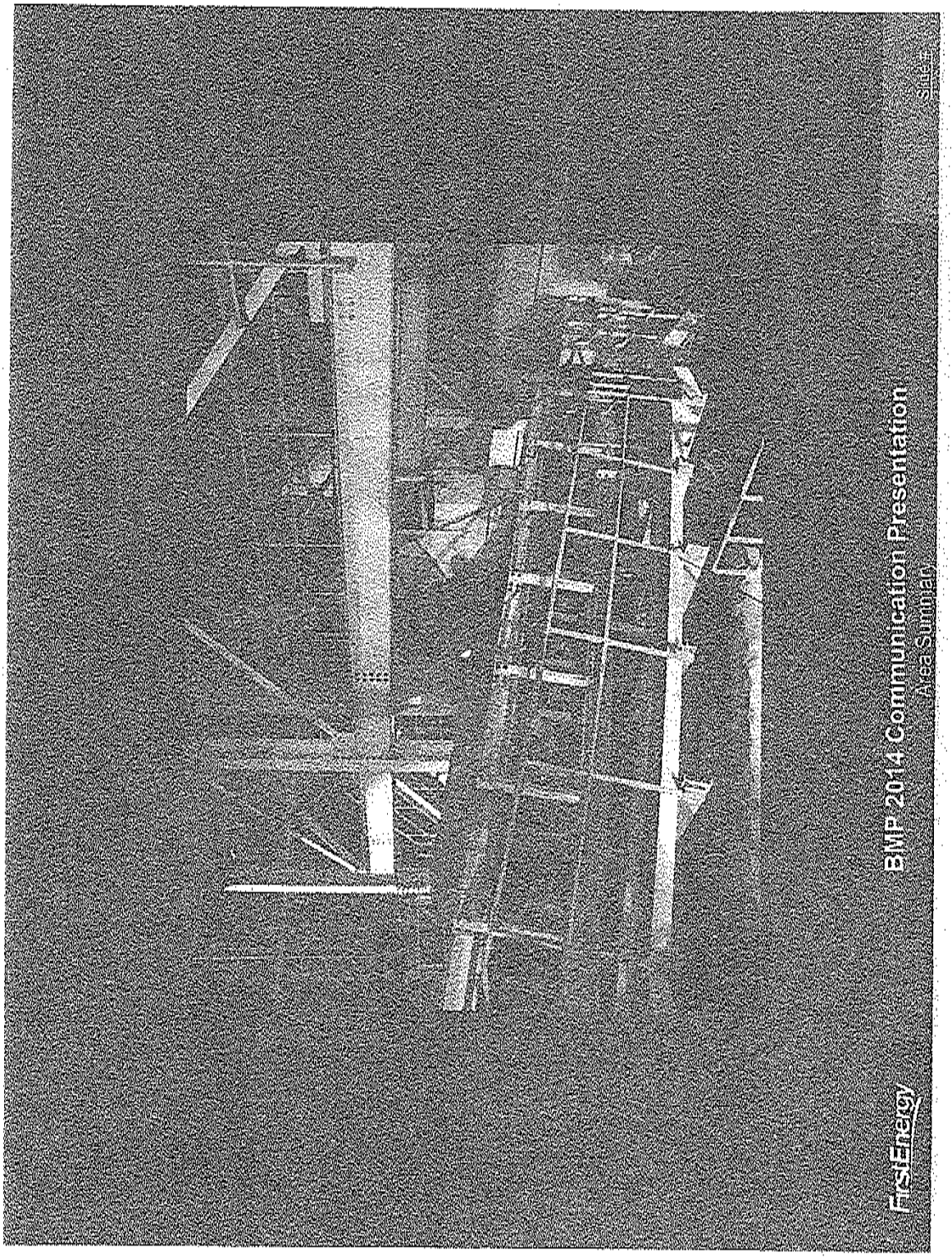
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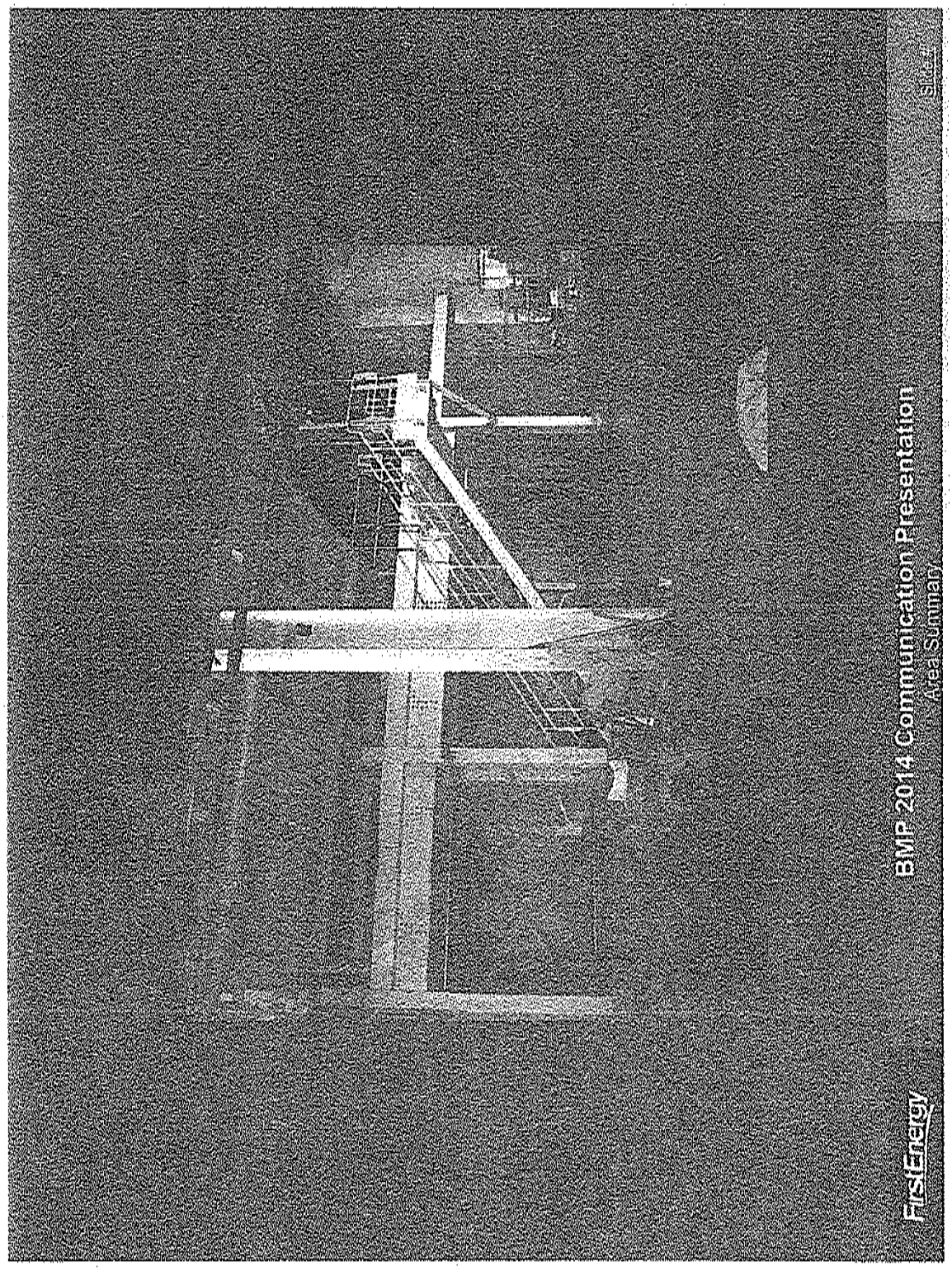
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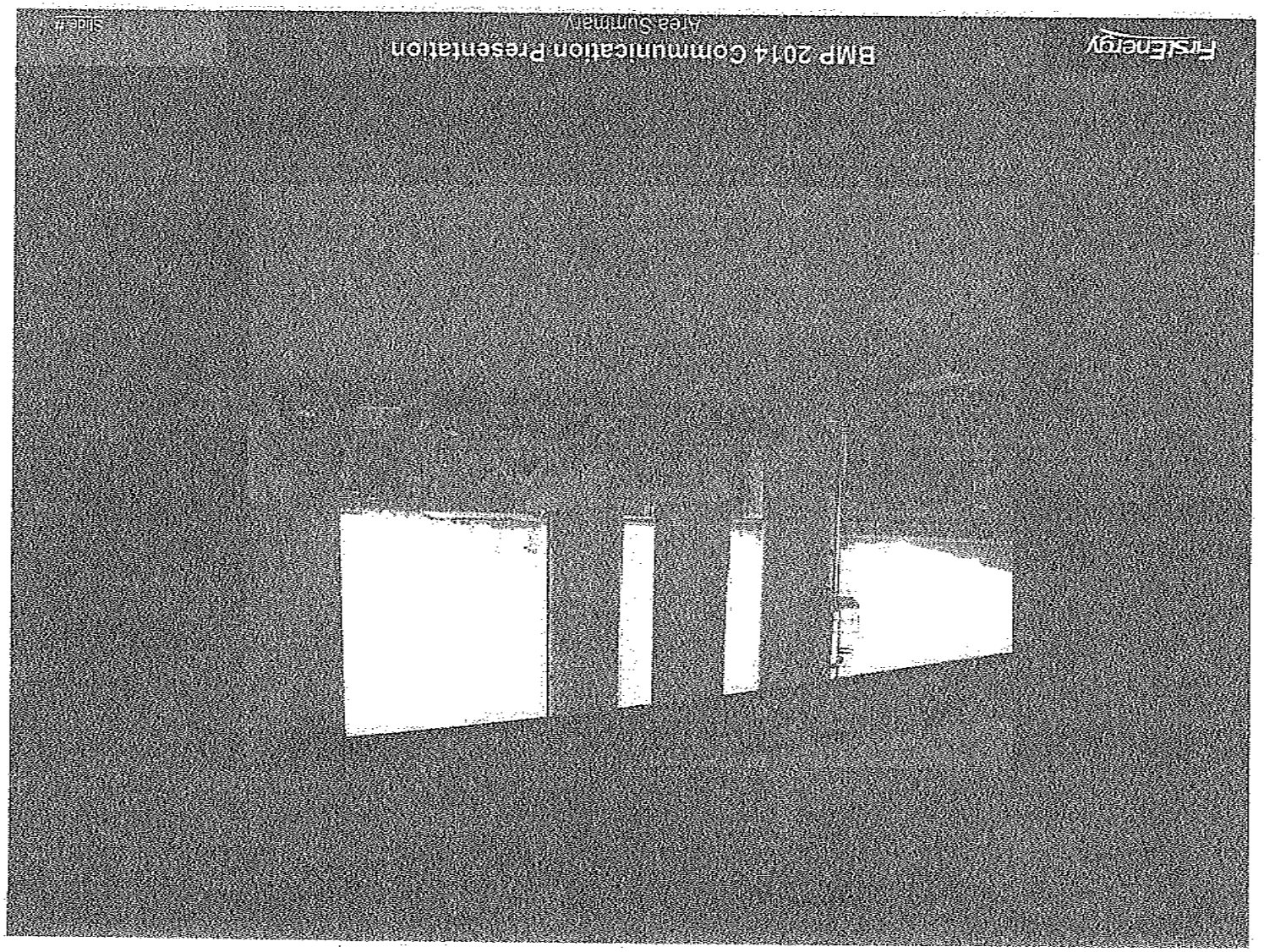
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FirstEnergy

Dewatering

Slide #1

Dewatering Project

Dewatering Project required by Dec. 31, 2016

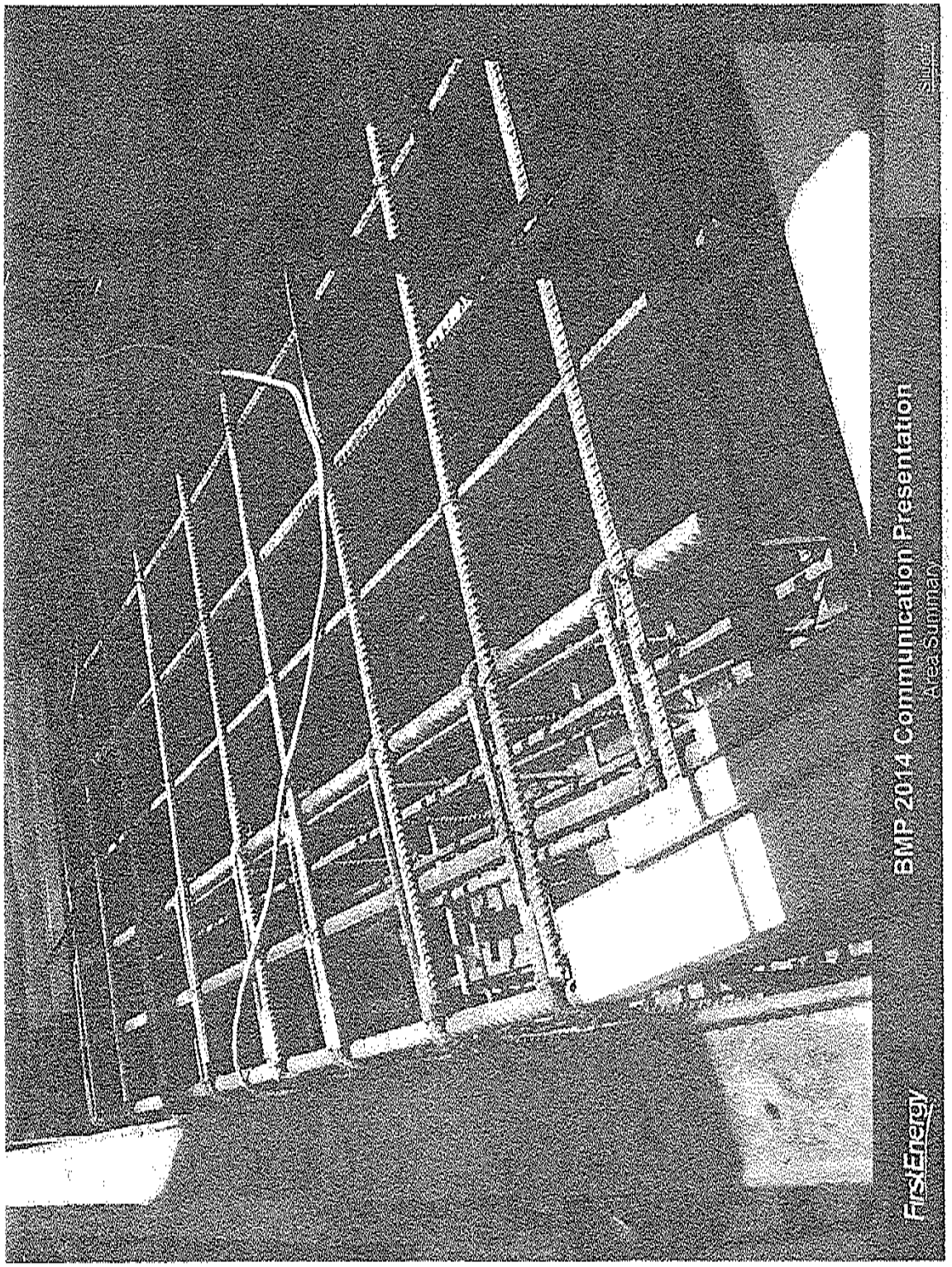
Pipe Rack modification and additions

Dewatering Plant

Conveyor

Barge loading facility

River Cells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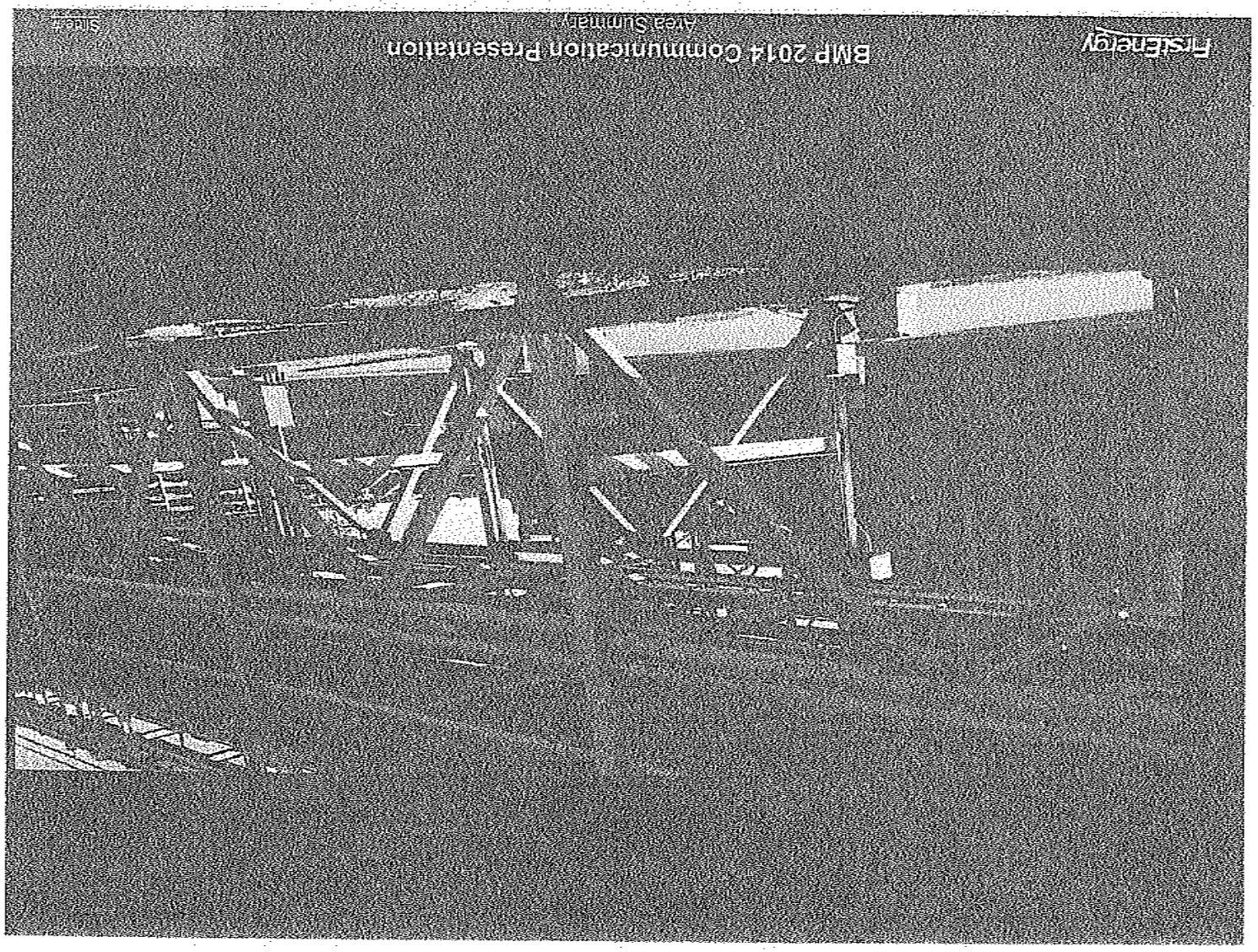
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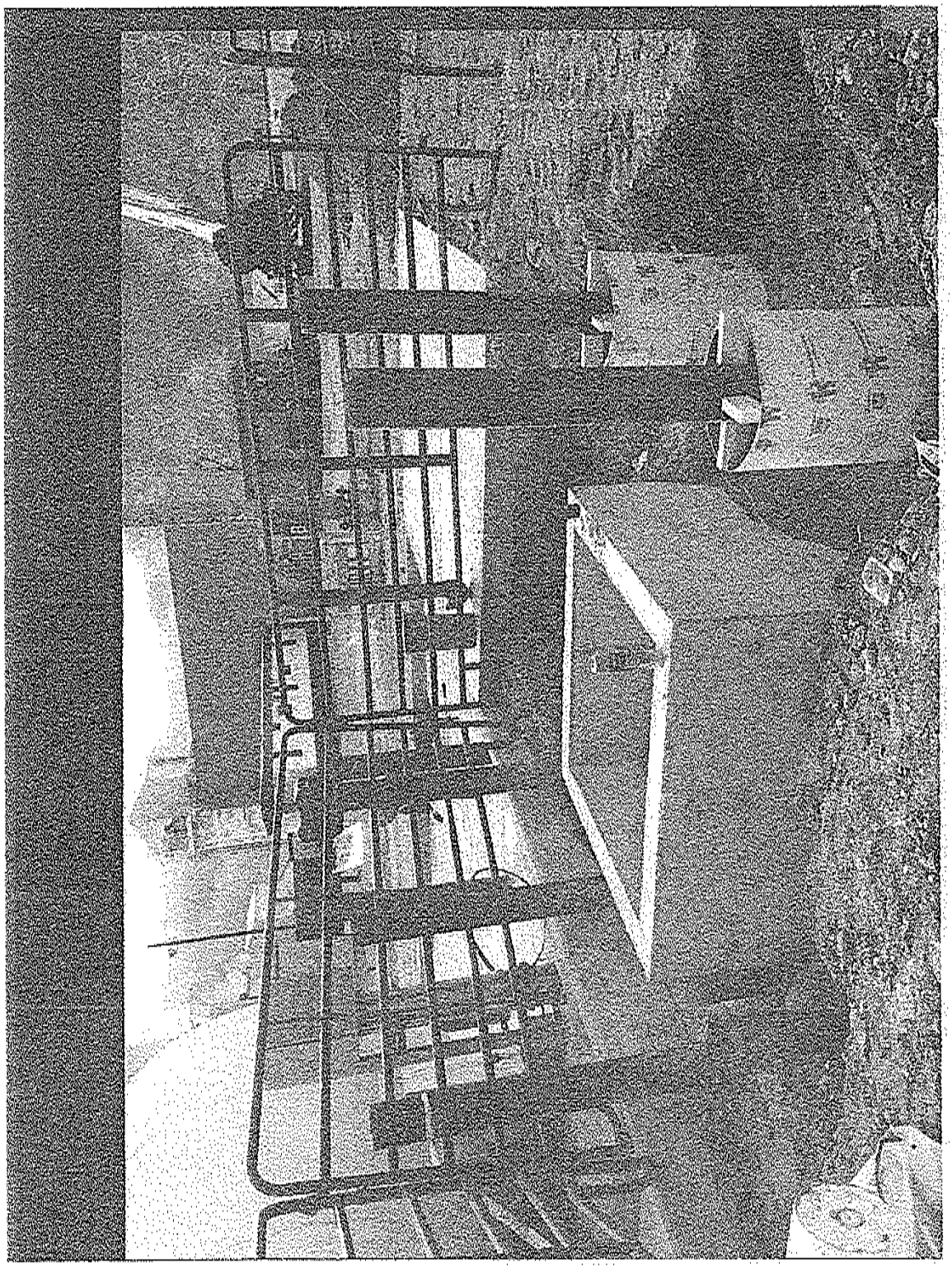

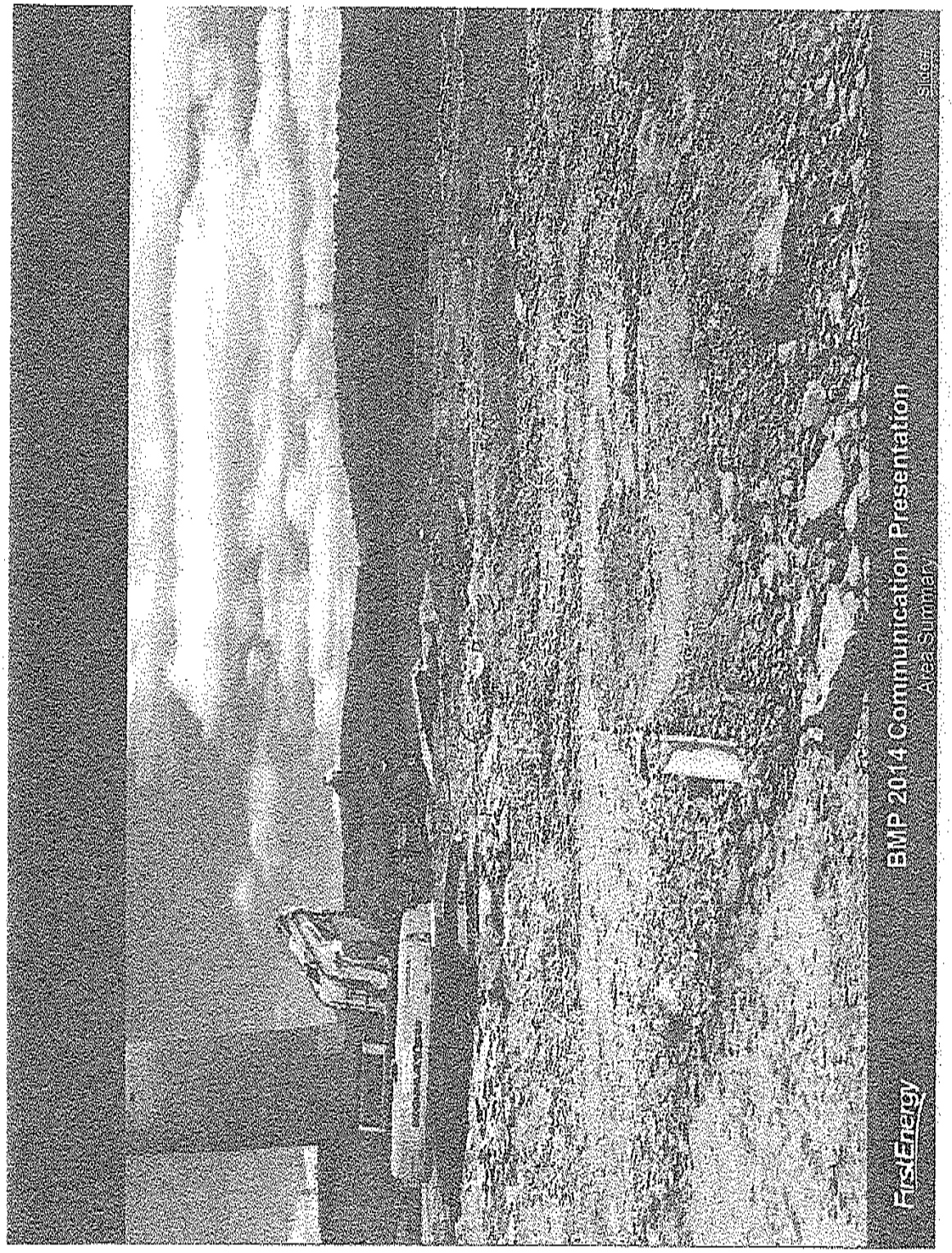
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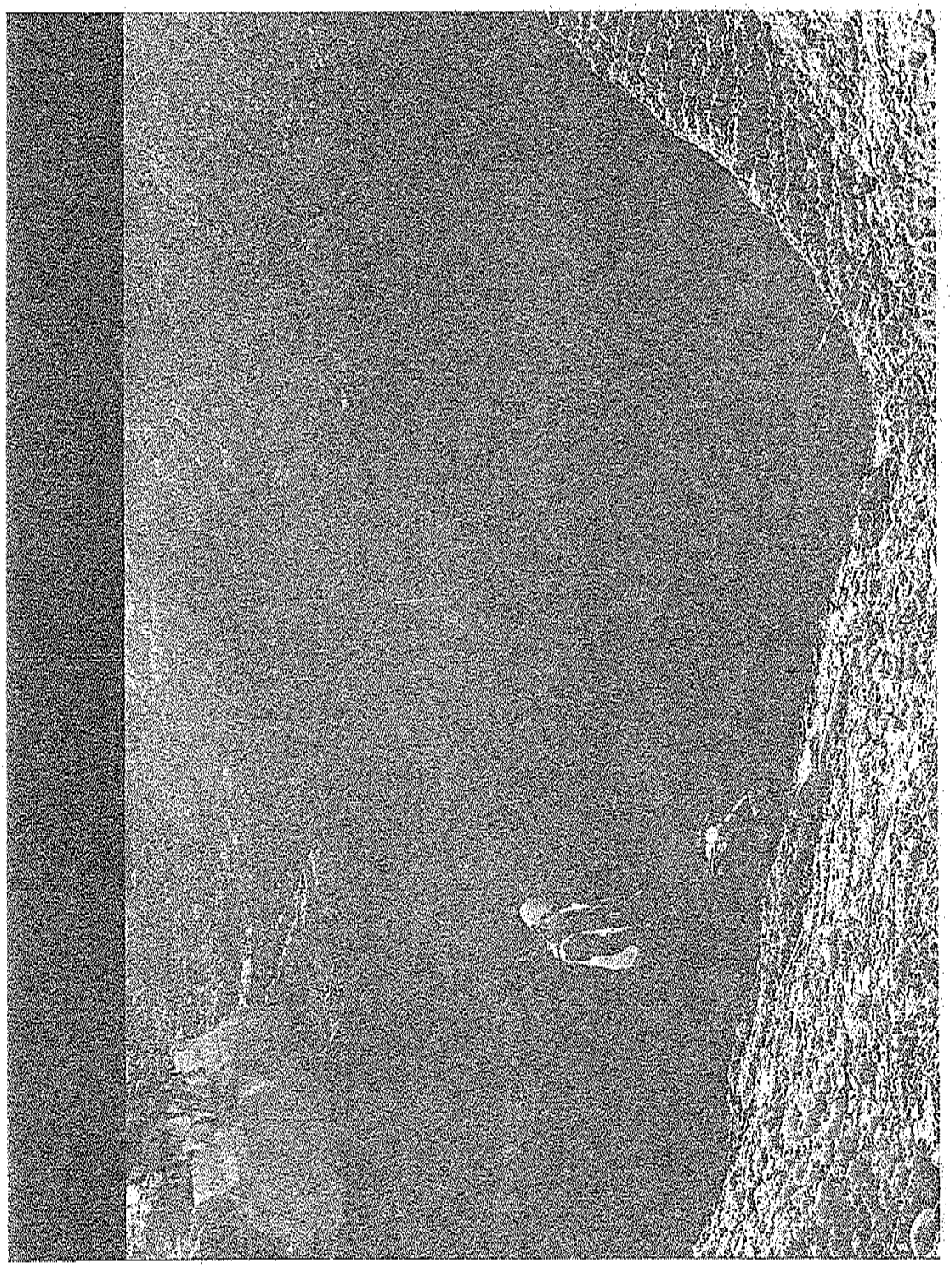

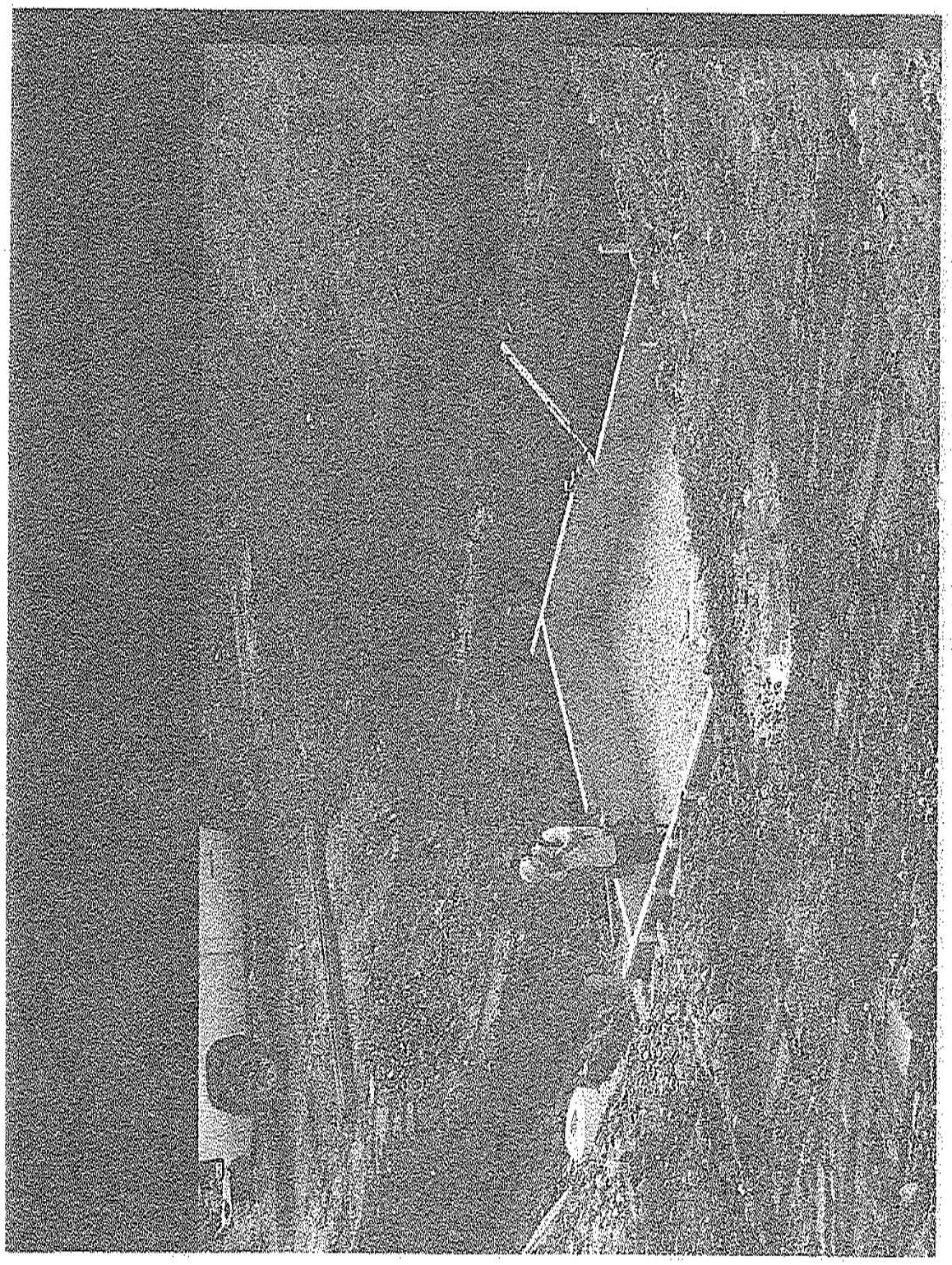

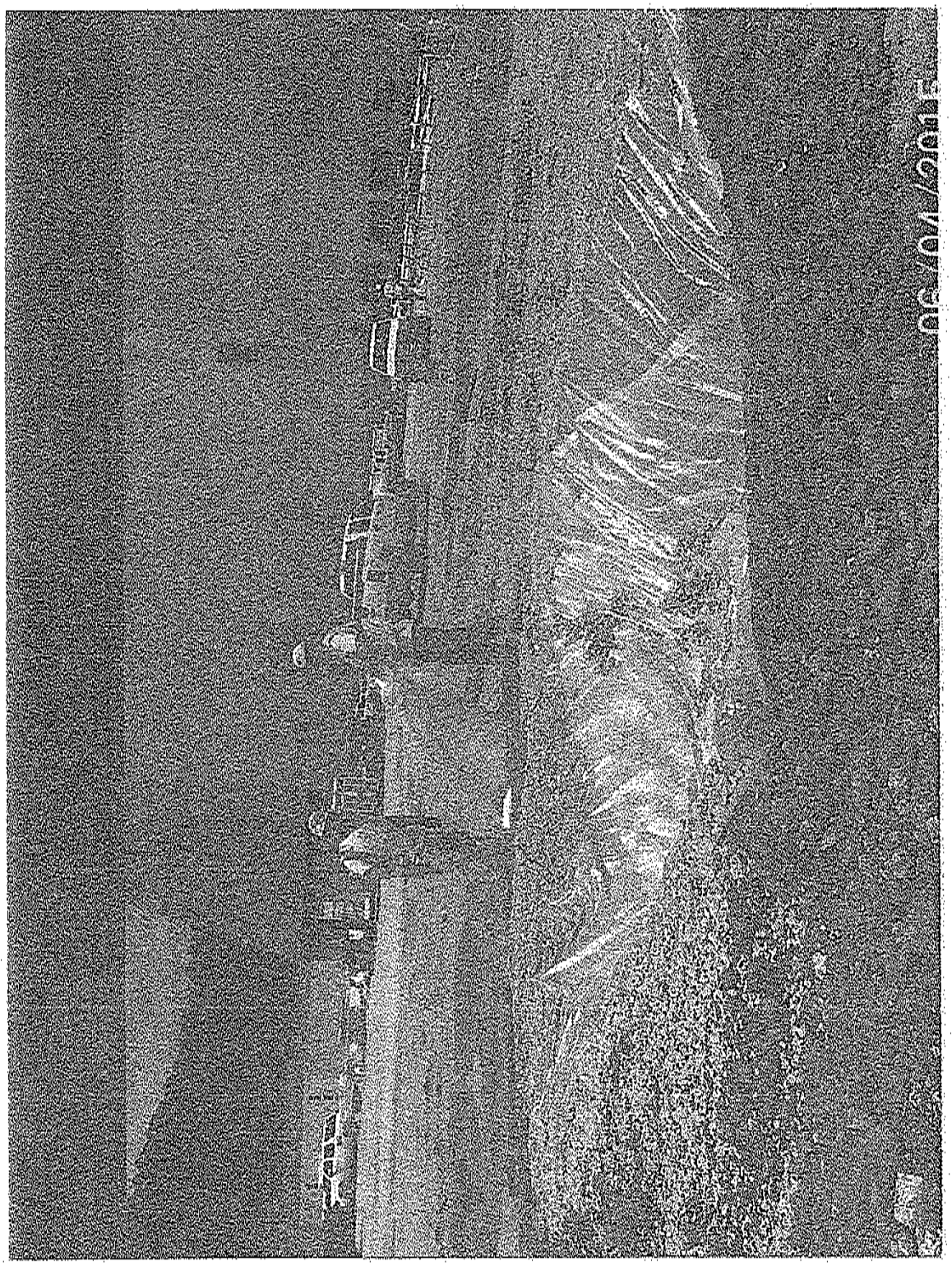

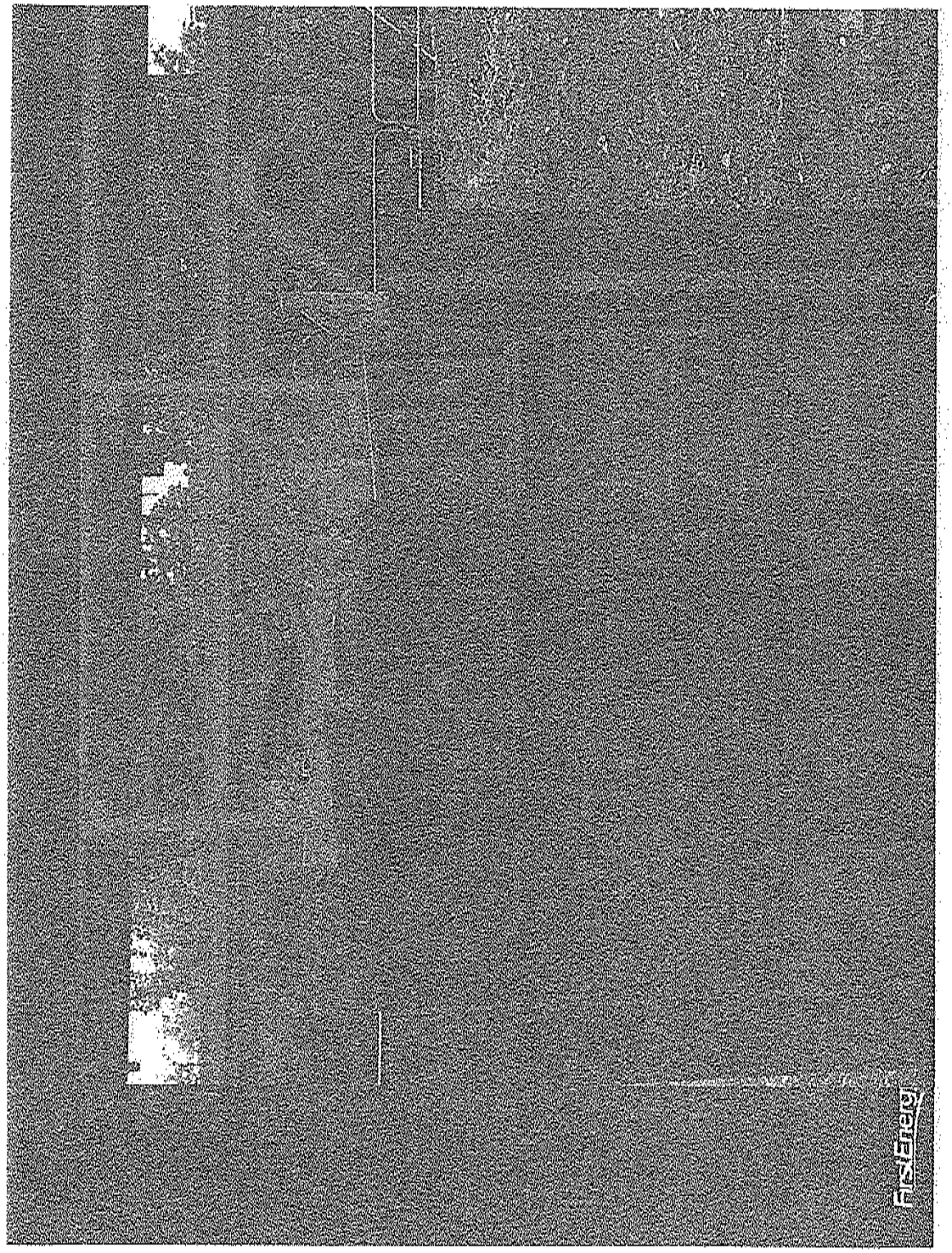
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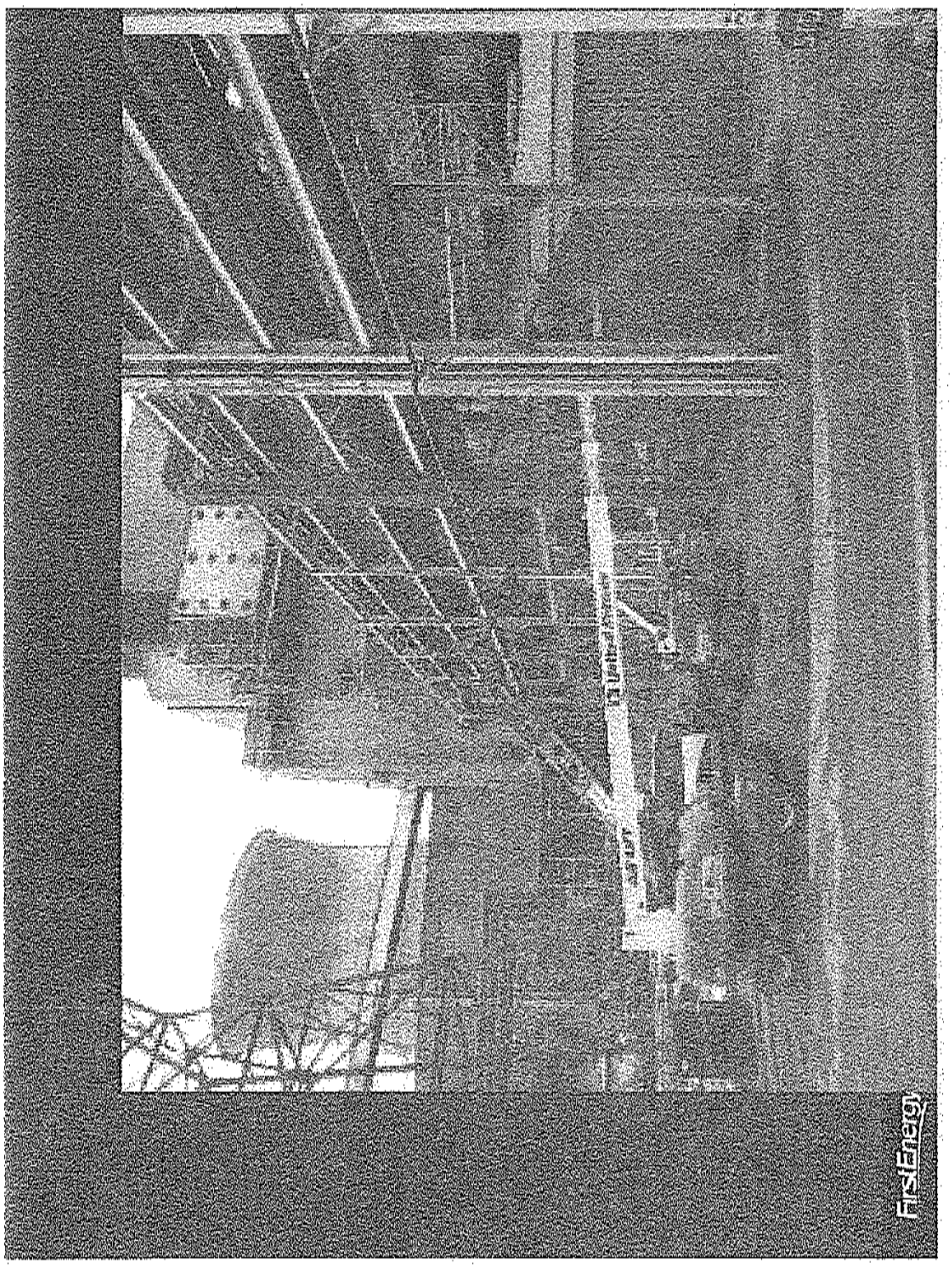
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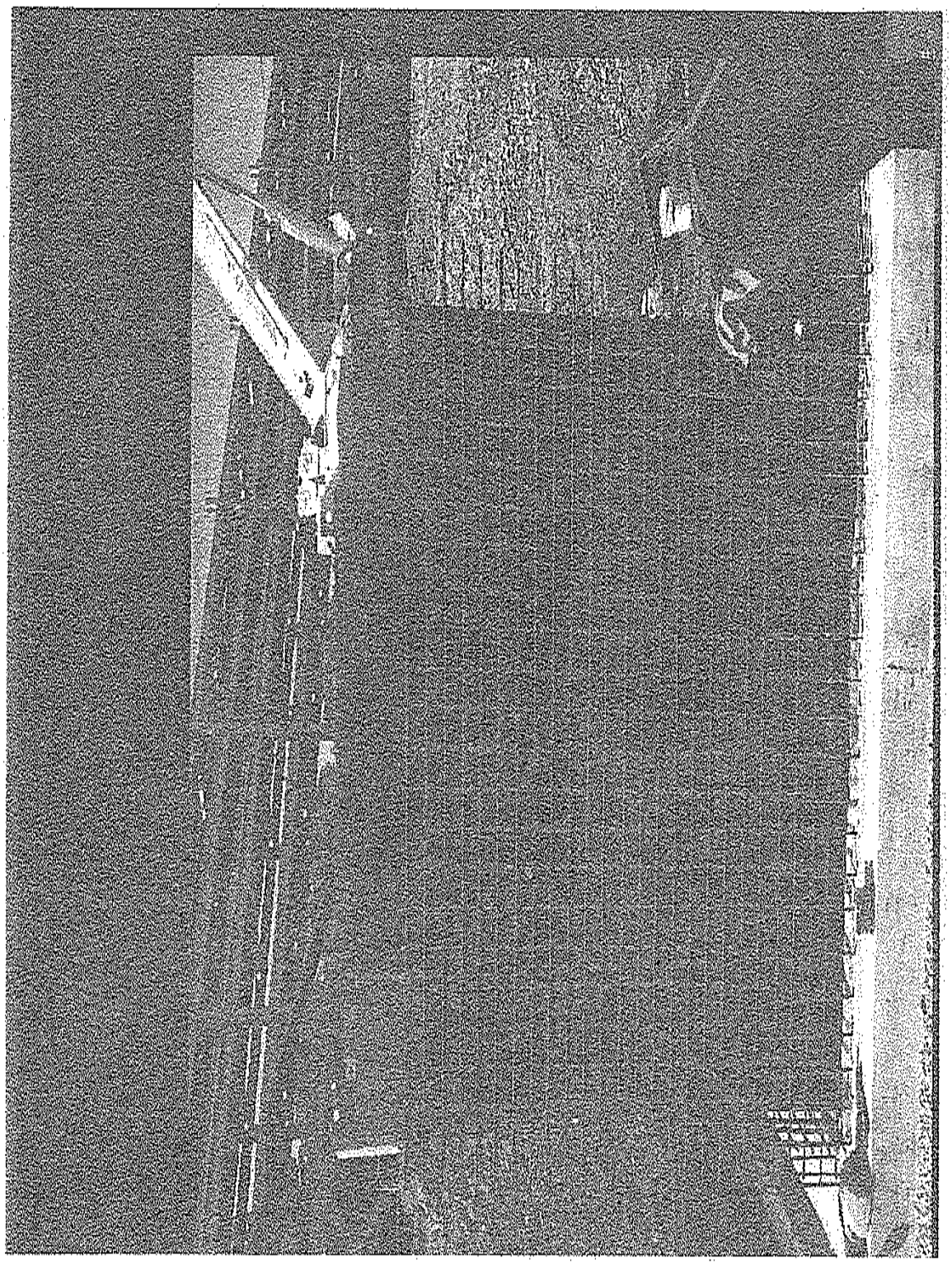

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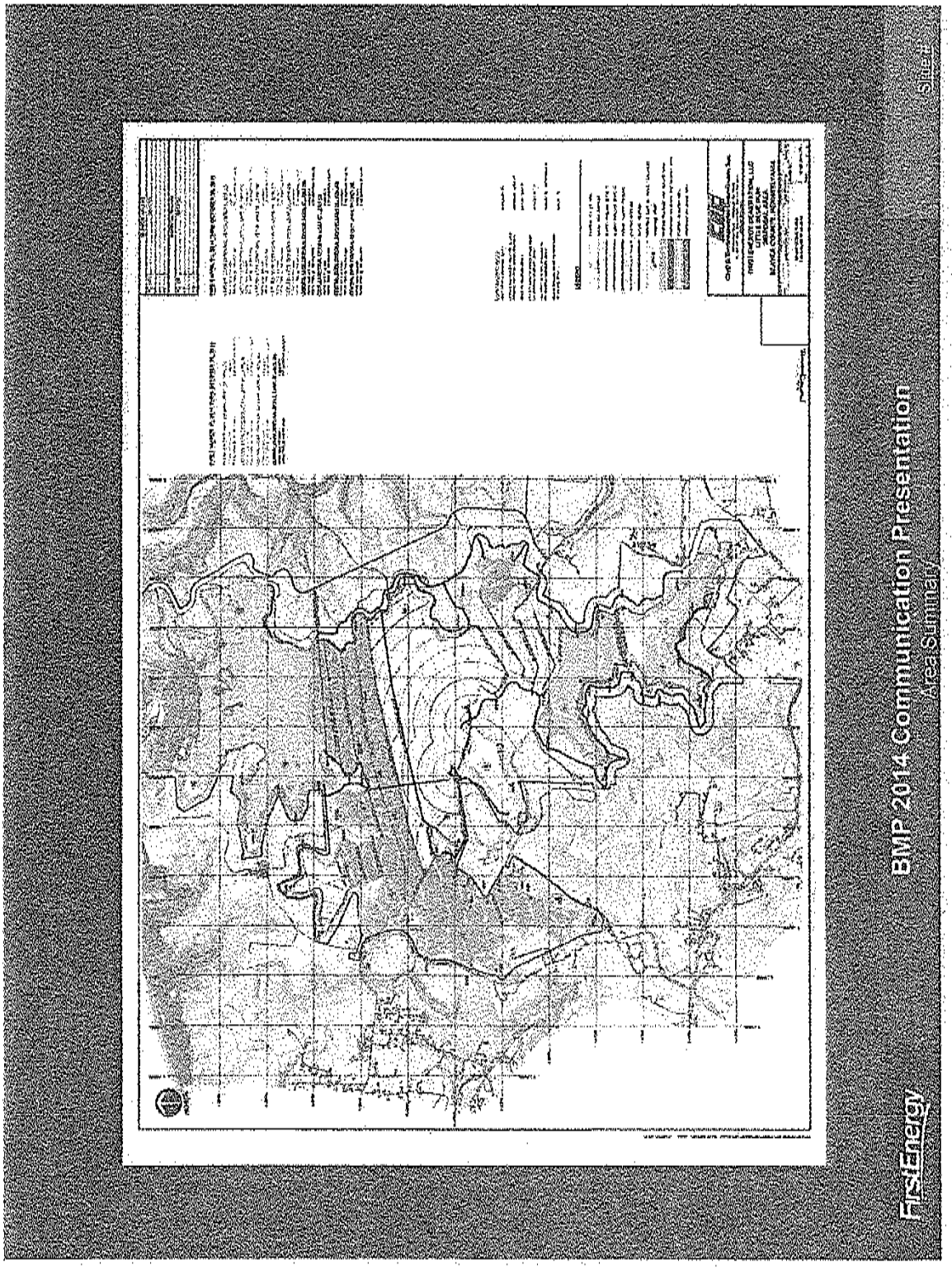
Little Blue Run Closure

Slide #

Little Blue Run Closure

- Final Closure of 12 acres
- Area will be mowed
- Geo mat will be installed
- Geo- membrane installation
- 1 foot of cover soil
- Seeding
- Mulching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BMP 2014 Communication Presentation
Area Summary
Slide #

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Area Summary

Slide #

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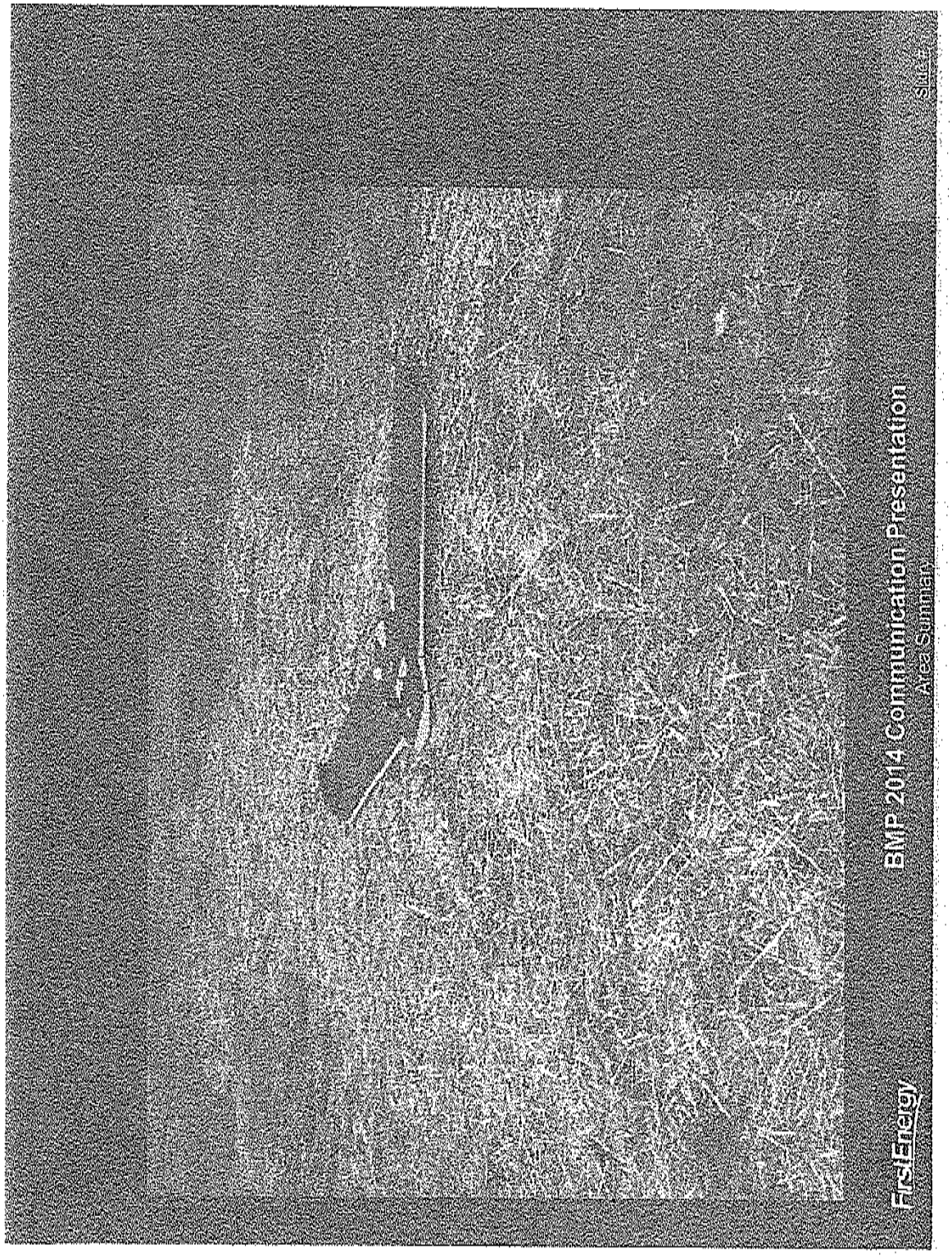
Area Summary

Slide #1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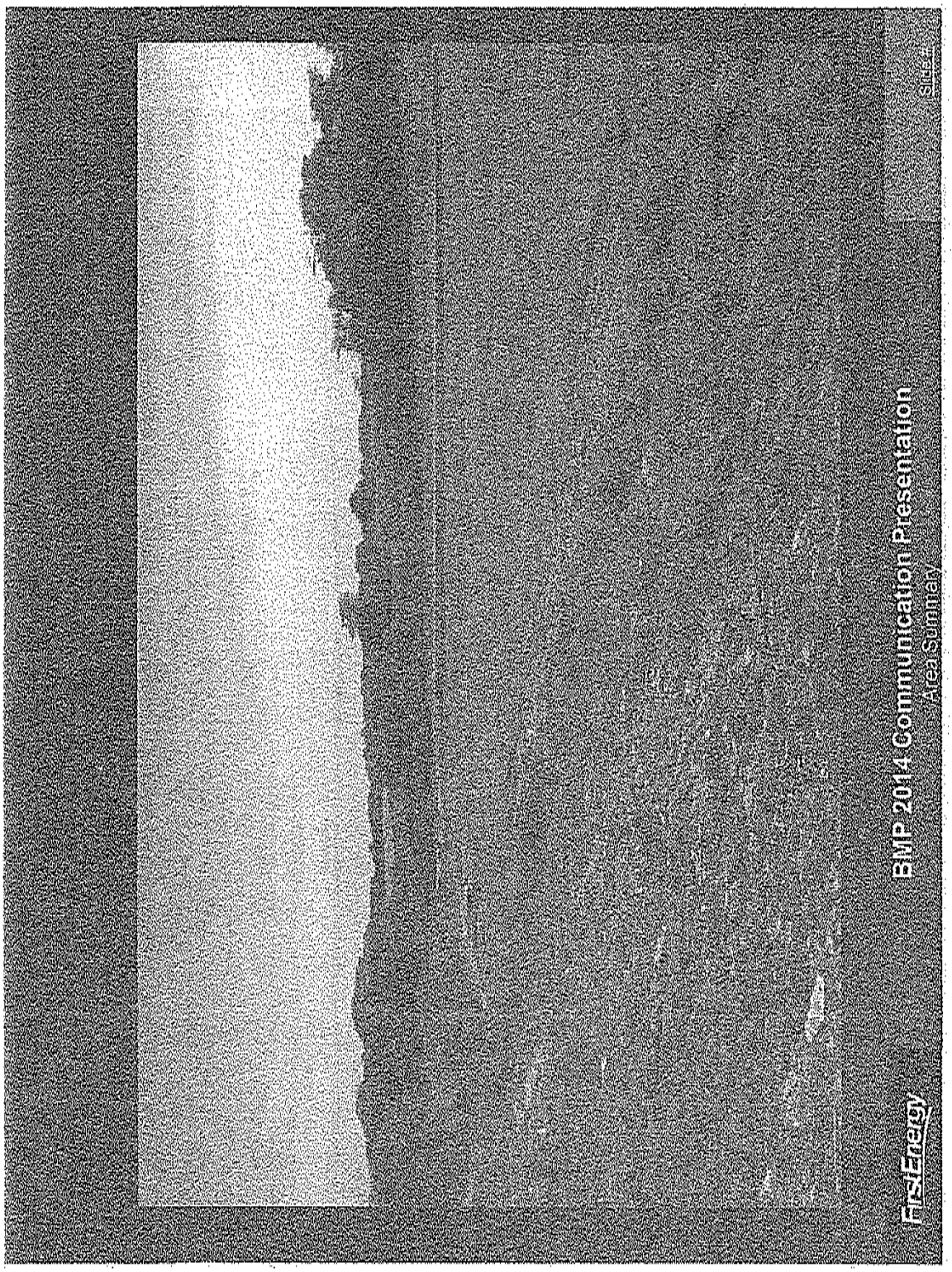
Area Summary
Slide 2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Slide 7

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HDS Pond Cleaning

HDS Pond

- HDS Pond Cleaning
- Dewater HDS Material
- Excavate Material
- Truck Material to Little Blue Run Cove N
- Grade Material
- Seed
- Mulch

Dewatering Facility 3D Model – Derek Najewicz

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Area Summary

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QUESTIONS?