AGENDA

✓ Power Outages
✓ PNM Action plan to minimize outage impacts
✓ Understand PNM outage planning and restoration
✓ Tips to prepare your business for an outage
✓ Reporting an outage
✓ Useful tools and resources
✓ Questions & Answers
KEY TAKEAWAY FROM TODAY'S WEBINAR

To provide PNM business customers with the following:
• PNM Outage information
• Outage tools & resources to aid in planning and preparation
• Tips to minimize outage impact to business operations
TODAY’S SPEAKERS

Apollonia Gonzales
Sr. Strategic Account Manager

Mike Davis
Manager, PNM Distribution Operations Center
HOUSEKEEPING

• You will receive an email with the presentation from today’s webinar and you can find it on PNM.com/business-events

• Please ask your questions by typing into the chat box during the Q&A session.

• We are committed to answering all submitted questions. If we are unable to get to them today, we will provide a response after the presentation.
ABOUT PNM

PUBLIC SERVICE COMPANY OF NEW MEXICO

- Founded in 1917
- New Mexico based energy company focused on clean energy transformation
- Over 500K retail customers
- 2,811 MW resource portfolio
- Over 15K miles transmission and distribution lines
POLL QUESTIONS

Have you experienced a power outage within the last 12 months at your place of business?

- Yes
- No

Did your company invest in power reliability equipment, such as UPS devices, back up generators, and/or other back up power methods?

- Yes
- No

Image Credit: https://www.123rf.com/clipart-vector/yes.html?sti=mmchdujkqnh1y9v6o
POWER OUTAGES
WHY OUTAGES OCCUR

Why outages may occur:

- Construction work
- Weather
- Vandalism
- Animals in the system
- Fire
- Aging equipment
- Fallen trees
- Vehicle wrecks

TO REPORT AN OUTAGE:
PNM.com/outage
Or call 1-888-DIAL-PNM
(888-342-5766)
PNM STORM AND OUTAGE PREPARATION

At PNM SAFETY is our number one priority

Pre-Storm Preparation

Post Storm Damage Assessments

Manpower and Material Estimates for Restoration

Repair High Voltage Line and Other Essential Facilities

Working Priority Restoration

Greatest Customer Count

Yard-to-Yard Restoration of the Hard-to-Repair
## COMMON POWER DISTURBANCES

<table>
<thead>
<tr>
<th>Disturbance Type</th>
<th>Description</th>
<th>Local Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transient (Surge)</td>
<td>A sub-cycle disturbance in the AC waveform, resulting in a sharp but brief voltage increase</td>
<td>- Computer lock-up, processing errors, data loss</td>
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<tr>
<td></td>
<td></td>
<td>- Burned Circuit boards, electrical insulation damage, equipment damage</td>
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<tr>
<td>Sag/Swell</td>
<td>Any short term (1/2 cycle to 3 seconds) decrease (sag) or increase (swell) in voltage</td>
<td>- Memory loss and data errors</td>
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<tr>
<td></td>
<td></td>
<td>- Equipment shutdown; motors stopping or stalling and decreased motor life</td>
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<tr>
<td></td>
<td></td>
<td>- Flickering lights</td>
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<tr>
<td>Noise</td>
<td>An unwanted high frequency electrical signal that alters the normal voltage pattern (sine wave)</td>
<td>- Lock-up of sensitive equipment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Data loss and processing errors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Distorted audio and video reception</td>
</tr>
<tr>
<td>Harmonic Distortion</td>
<td>The alteration of the normal voltage pattern due to equipment generating frequencies other than the standard 60 cycles per second</td>
<td>- Electrical equipment/wiring overheating</td>
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<tr>
<td></td>
<td></td>
<td>- Decreased motor performance</td>
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<tr>
<td></td>
<td></td>
<td>- Improper operation of breakers, relays, or fuses</td>
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<tr>
<td>Under/Overvoltage</td>
<td>Any long-term change (more than 1 minute) below or above normal voltage levels</td>
<td>- Dim or bight lights</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Equipment shutdown, overheating of motors or lights</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Reduced efficiency or life of equipment</td>
</tr>
</tbody>
</table>

**References:** Power Quality Considerations – Bill Brown, P.E., Square D Engineering Services,  
http://www.goodielelectric.com/electrical-contractor-services-2/commercial-electrical-services/power-quality-testing/
# PNM Safety & Tips During an Outage

[WWW.PNM.COM/SAFETY](http://WWW.PNM.COM/SAFETY)

<table>
<thead>
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<td>STORM SAFETY</td>
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<td>WILDFIRE SAFETY</td>
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<td>KID SAFETY</td>
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<td>FIRST RESPONDER SAFETY</td>
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<td>PNM EMPLOYEE SAFETY</td>
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<tr>
<td>HOT AIR BALLOON SAFETY</td>
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<td>ENERGY AND COPPER THEFT</td>
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<tr>
<td>TREE TRIMMING</td>
</tr>
<tr>
<td>CALL BEFORE YOU DIG</td>
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<tr>
<td>SCAM CALLS</td>
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</tbody>
</table>
HOW PNM MAINTAINS POWER RELIABILITY

PROACTIVE APPROACH TO IMPROVE/MAINTAIN SYSTEM RELIABILITY

- Track outage occurrence
- Perform root cause analysis
- Perform routine maintenance on critical grid infrastructure
- Capital system improvements/upgrades
- Improved customer notification system
- 24/7 on call outage team
COMMON STEPS BUSINESSES TAKE TO STRENGTHEN RELIABILITY AND MINIMIZE OUTAGE IMPACTS

BE PREPARED WITH THESE TIPS TO MINIMIZE THE IMPACT

- Business Continuity Plan
- Emergency Response Training
- Prepare Outage Kit
- Install UPS Device
- Backup Generation
- Emergency Backup Fuel
REPORTING AN OUTAGE
IN THE EVENT OF AN OUTAGE

PNM CONTACT INFORMATION

• **Emergencies: Dial 911**
• Have your PNM account number and/or phone number associated with account when calling to report an outage
• Report outages by
  ✓ Calling **888-DIAL-PNM (888-342-5766)**
  ✓ Texting Option
    - Register your device by texting #REG to 78766
    - Report outage by texting #OUT to 78766
  ✓ or ONLINE at PNM.com/outage
BECOME FAMILIAR WITH PNM.COM

Click on OUTAGE CENTER LINK
PNM WEBSITE: OUTAGE CENTER LINK

www.pnm.com/outage

Provides the following:

- LIVE OUTAGE MAP
- OPTION TO REPORT OUTAGE
- OPTION TO REPORT A STREETLIGHT OUT
- SAFETY & TIPS
- SIGN UP FOR OUTAGE ALERTS
LIVE OUTAGE MAP – SNAP SHOT

Map

Customers affected
- 1-49
- 50 - 250
- More than 250

Report an Outage
Report your outage online or call us 24 hour a day.

Call 1-888-DIAL-PNM (888-342-5766). Say "outage" to get started,

Or

Report Your Outage Online
LIVE OUTAGE MAP – SNAP SHOT – ZOOMED IN
TOOLS AND RESOURCES - SAFETY

ELECTRIC SAFETY FOUNDATION INTERNATIONAL: WWW.EFSI.ORG

PREPARE YOUR BUSINESS AND RECOVER FROM A NATURAL DISASTER

While we can't prevent natural disasters, we can ensure our businesses are electrically safe before and after the storm. Practicing electrical safety and being prepared can lead to a smooth recovery and an opportunity to renovate the electrical efficiency of your business.

IN THE EVENT OF A NATURAL DISASTER

Create emergency shutdown and start up procedures.
Turn off power source if requested by utility.
Charge all electronic communication devices.
Unplug and elevate electronics.

Use Precaution

Downed power lines can be deadly. Always assume a downed power line is live and avoid approaching them or anything near them.

Stay Away and Call 911

If a vehicle contacts a power line, it is safer to stay away.

Stay in place or inside your vehicle unless you see fire or smoke.

Call 911.

In the Event of a Fire or Smoke

Do not touch the ground and vehicle at the same time.

Jump from the vehicle with your feet together.

Avoid lifting your feet.

If you see a downed power line, call 911.

Never drive over downed power lines or anything in contact with them.

Never try to move a downed power line.

ELECTRIC SAFETY FOUNDATION INTERNATIONAL: WWW.EFSI.ORG

PREPARE FOR FUTURE STORMS

Microgrids: Microgrids can prevent long term power outages by providing localized generation and storage.
Smart Grids: Smart grids provide smart distribution along with self-healing and autonomous restoration of power.

Relocate Energy Sources

Having energy sources and major equipment on higher floors may prevent water damage during future storms.

FOLLOW US ON FACEBOOK | TWITTER | YOUTUBE
TOOLS AND RESOURCES - PREPAREDNESS

PREPAREDNESS IS ESSENTIAL FOR IN CASE OF AN ELECTRICAL OUTAGE

FEMA: Ready Business Power Outage Tool Kit

- [https://www.fema.gov/media-library-data/1510690314175-1e6c4874b251c3022ac4b57b0369e2da/Power_Outage_Ready_Business_Toolkit_Interactive_Final_508.pdf](https://www.fema.gov/media-library-data/1510690314175-1e6c4874b251c3022ac4b57b0369e2da/Power_Outage_Ready_Business_Toolkit_Interactive_Final_508.pdf)

Department of Homeland Security: Ready.gov (Power Outages)

- [https://www.ready.gov/power-outages](https://www.ready.gov/power-outages)

Department of Homeland Security: Ready.gov (Business)

- [https://www.ready.gov/business](https://www.ready.gov/business)

Red Cross: Power Outage Safety

QUESTIONS?
UPCOMING WEBINARS

2020 PNM ENERGY SOLUTIONS WEBINAR SERIES

• Energy Efficiency Programs – Find the right fit for your business
  Thurs., August 20 at 2:00 pm

• Electric Vehicles – An introduction to transportation electrification
  Thurs., September 17 at 2:00 pm

• Understanding Your PNM Bill
  Thurs., October 22 at 2:00 pm

• Copper Theft Awareness – What you need to know to protect your business
  Thurs., November 13 at 2:00 pm

PNM.com/business-events
Thank you for attending!

PNM Business Customers
Phone: (888) 245-3659
Hours: Weekdays, 7:30 a.m. to 6 p.m.