

FEBRUARY 20
24

MOHAVE ENERGY PARK



Arizona
G&T
Cooperatives

Touchstone Energy® Cooperatives 

MOHAVE

electric cooperative
A Touchstone Energy® Cooperative 

67% SMALLER
than South Point Energy Center
on Courtwright Road

MOHAVE ENERGY PARK

SOUTH POINT ENERGY CENTER
OWNED BY CALPINE

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RELIABILITY AND AFFORDABILITY

These aren't just words to electric cooperatives, they are Mohave Electric's mission.

Members said, "Keep the lights on and my bills low." And we listened.

Arizona and the nation are at a critical moment where demand for electricity is soaring while power supply is decreasing.

To address this alarming concern about grid reliability and keep rates low for members, Mohave Electric Cooperative (MEC), along with its main generation and transmission provider, Arizona Electric Power Cooperative (AEPCO), are planning two quick start, flexible natural gas electric power generation units in Fort Mohave to prepare for growth, and ensure reliability and affordability. AEPCO, like MEC, is a not-for-profit cooperative. AEPCO provides power to five electric cooperatives in Arizona, including Mohave Electric as a co-owner, and one in California that is not part of this project. AEPCO is also referred to as Arizona Generation and Transmission Cooperatives (AzGT).

Several agencies have also recognized the urgency in addressing the need for more electricity. In December 2023, the North American Electric Reliability Corporation (NERC) categorized Arizona with an "Elevated Risk" status, specifically having "insufficient dispatchable resources." NERC, the organization charged by the Federal Energy Regulatory Commission (FERC) with protecting the reliability of the grid, further projects that slow or stalled development of new generation can lead to capacity issues (blackout outages). NERC has been warning for years that soaring demand for electricity combined with generation shortfalls put reliable energy in jeopardy, and the latest 2023 - 2024 Reliability Assessment shows this threat has worsened.

MEC and AEPCO are proactively taking action to avoid these circumstances by planning two flexible, natural gas units and future solar with battery storage.

AEPCO studied options to determine a least-cost solution for meeting near and midterm load growth and peaking needs. The results found the best cost-effective option is a combination of solar and batteries combined with natural gas turbines to provide the most value to the Cooperatives' members.

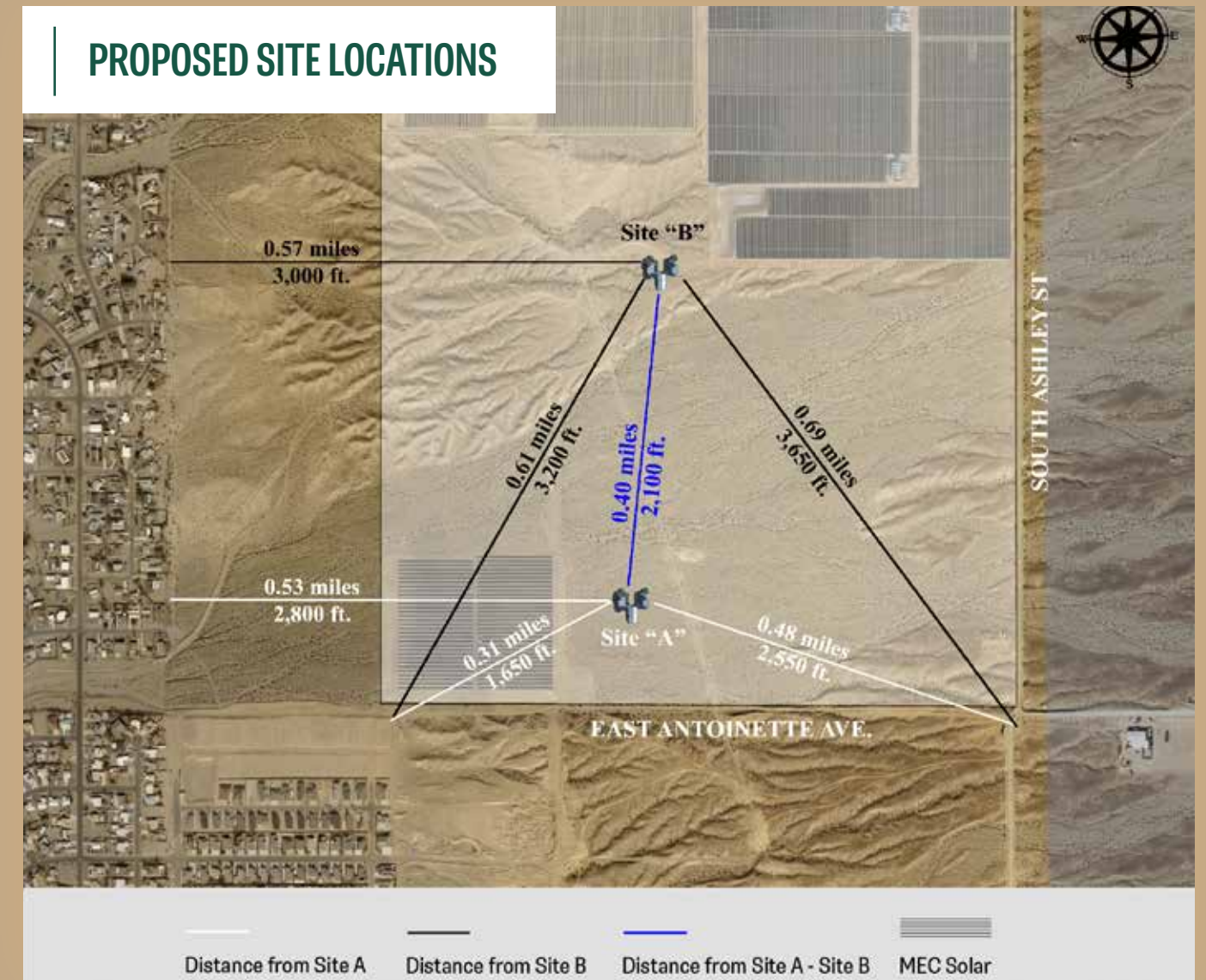
Additionally, the Arizona Corporation Commission (ACC), which regulates utilities across the state, recognized the need for new power generation sources and unanimously approved the financing for the two natural gas units in October 2023. In November, the Mohave County Planning and Zoning Commission unanimously approved an extension of time on a location in Fort Mohave for these two units, followed by the approval of the Mohave County Board of Supervisors on December 4, 2023.

OCTOBER 2023

The Arizona Corporation Commission unanimously approved the financing for the two natural gas units at Mohave Energy Park.



PROPOSED SITE LOCATIONS



SEEKING YOUR INPUT

Several factors contributed to the site locations for the natural gas units.

- Locations near MEC infrastructure to ensure power for MEC's electric load and allow for MEC to provide emergency backup power to the community
- Close proximity to MEC's existing solar and battery sites
- Adequate access to natural gas
- MEC owns the land

We looked at multiple potential locations to see if they meet the criteria on the right. Today, based on preliminary studies, we have two viable sites and would like your input on the proposed site location.

BOTH LOCATIONS HAVE NUMEROUS BENEFITS

CAPACITY

AEPCO, like all generation owners, is being forced to phase out existing coal generation. AEPCO is in the process of adding renewable facilities, battery storage, and new clean and efficient natural gas generation. The two gas units can be used to help provide generation during that transition. Also, the two new, more energy efficient units emit fewer greenhouse gas and other emissions, compared to older resources.

AFFORDABILITY

MEC and AEPCO believe in affordability and seek the most affordable power available among all sources of energy to keep costs low for our members.

DIVERSITY OF RESOURCES

Solar and renewable energy sources are intermittent. We need the flexible units to scale up or scale down when solar isn't available during periods of weather and nighttime hours.

RELIABILITY

Growth is inevitable. Every electric cooperative across the state, including investor-owned utilities, all surpassed their highest electric load peaks with excessive temperatures during recent summers. In order to keep meeting this growing demand, we must provide resources like these flexible units to guarantee supply, especially in times of excessive heat.

OUTAGES

The two gas units in Fort Mohave will be directly within MEC's distribution network, isolating MEC from potential remote generation and transmission outages. Increasing MEC's local generation resources can allow us to provide power to emergency locations such as key county and city centers, fire departments, cooling centers, and hospitals in the event of a massive outage such as 2022 Labor Day.

BALANCE

To counter an intermittent renewable energy system, a reliable unit is needed to balance reliability for the overall system and provide consistent power both day and night.

POTENTIAL EMERGENCY SUPPORT FOR LOCAL UTILITIES

There is also the opportunity for emergency support for other local utilities, including UniSource and their customers. While other utilities' systems have differences, engineering modifications can be made to make the support possible for outage situations.

The energy produced will be used within our service territory and community. It will not be contracted for sale to other states.

PLANNING FOR THE FUTURE

AEPCO and MEC are being proactive – planning solutions to renewable energy needs, reliability needs, and overall electrical system support – even in the extreme heat.

Increasing MEC's local generation resources can allow us to provide power to emergency locations such as key county and city centers, fire departments, cooling centers, and hospitals in the event of a massive outage such as Labor Day 2022.



IMAGE LOCATION

LOCATION 1: EAST ALTERNA DR.



SITE A VIEW



SITE A DISTANCE: 3,040 FT.

SITE B VIEW



SITE B DISTANCE: 4,050 FT.

IMAGE LOCATION

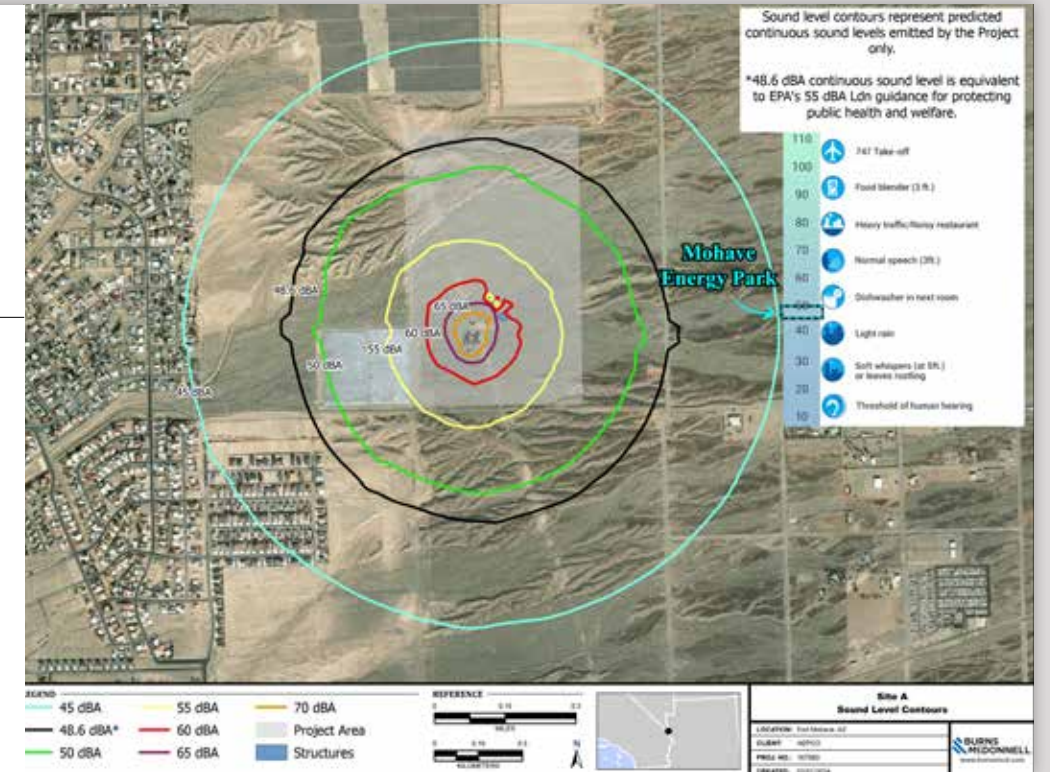
LOCATION 2: EAST ANTOINETTE AVE.

PREDICTIVE SOUND MODELING

Maps are based upon computer modeling. If actual future levels are different, we will make adjustments and provide additional sound mitigation measures.*

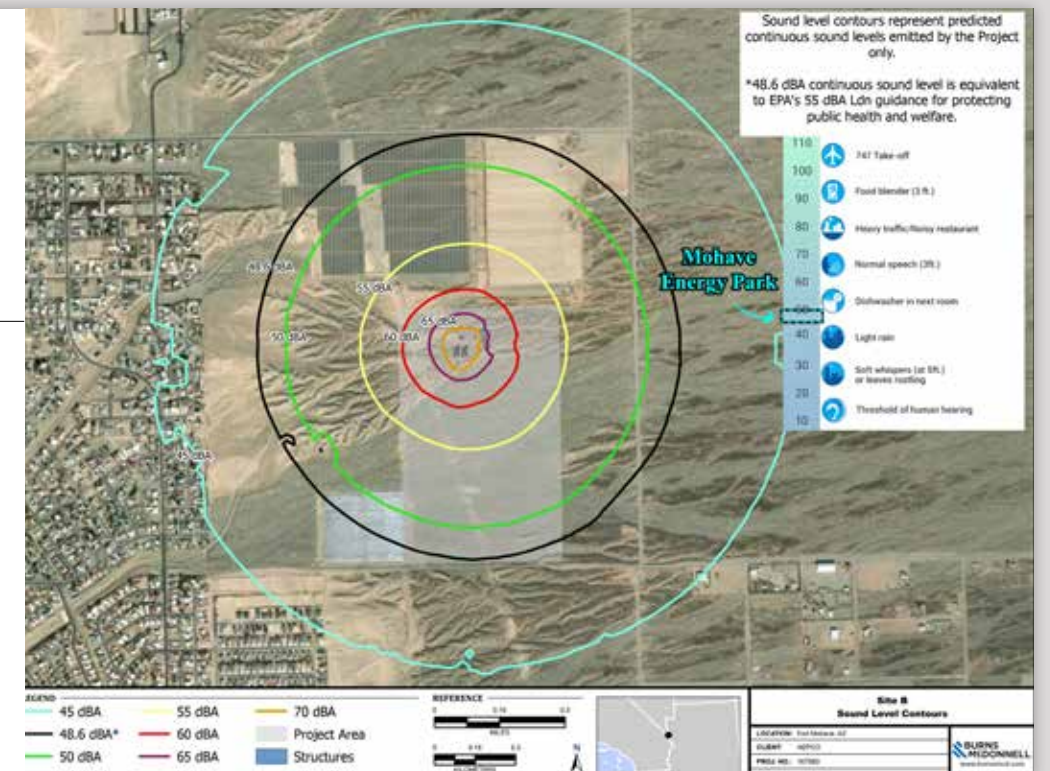
SITE A

No outside residential exposure above EPA guidelines. That is equivalent to the sound of light rain or a dishwasher in the next room.



SITE B

No outside residential exposure above EPA guidelines. That is equivalent to the sound of light rain or a dishwasher in the next room.



*Maps are computer modeling predictions based on ISO base 9613-2 methodology using manufacturer specifications and site-specific data such as terrain and ground cover inputs.

AIR QUALITY

The health and wellbeing of our members, community, and even our employees, of whom the majority live locally, are of the utmost importance to us. Mohave Energy Park will comply with all local, state, and federal air quality regulations.

That is why MEC and AEPCO are utilizing Best in Class turbine technology and are going the extra mile to incorporate air emission controls to ensure the health and safety of all.

The clean, flexible natural gas units are not your grandpa's power plant. The units are compact, efficient, and come standardly equipped with technology that was not available 50 years ago.

AIR EMISSIONS CONTROLS: reduces NO_x emissions by 90% and CO emissions by 95%. These controls achieve maximum ground level concentrations to be less than 2% of the EPA's standards for health for CO and less than 17% of the EPA's standards for health for NO_x emissions.

AIR INLET FILTRATION: removes a majority of the ambient particulate matter before ever passing through the natural gas turbine.

MOHAVE ENERGY PARK:

DECREASES CO EMISSIONS BY

95%

REDUCES NO_x EMISSIONS BY

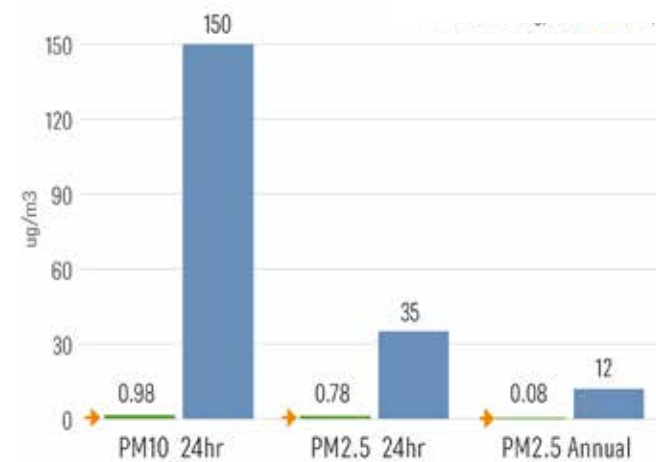
90%

Compared to existing natural gas facilities without control technology.

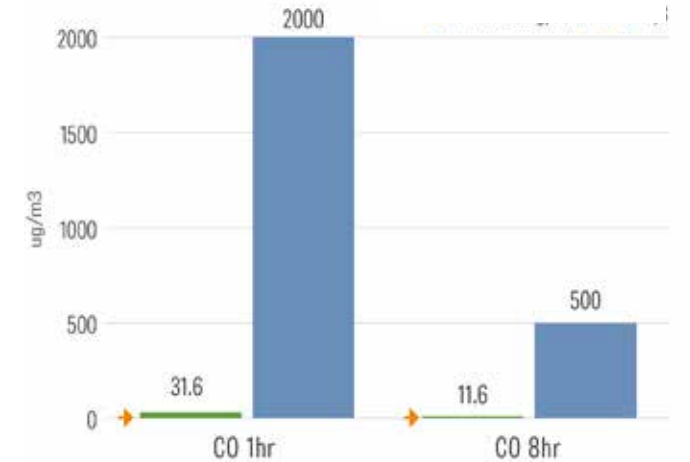
NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS) AND MOHAVE ENERGY PARK

Emissions will meet air quality standards

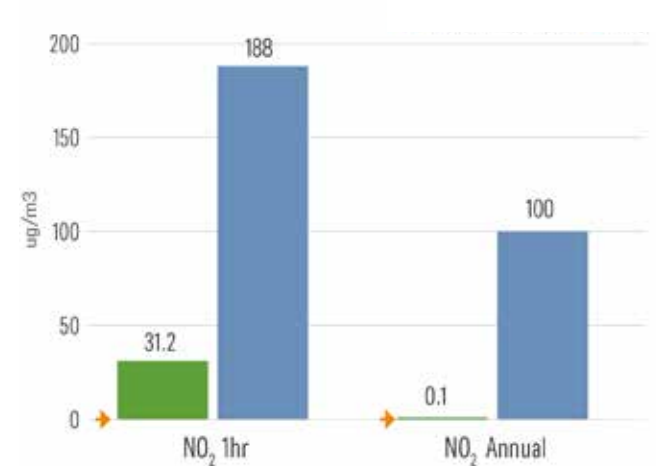
COMPARISON - PARTICULATE MATTER



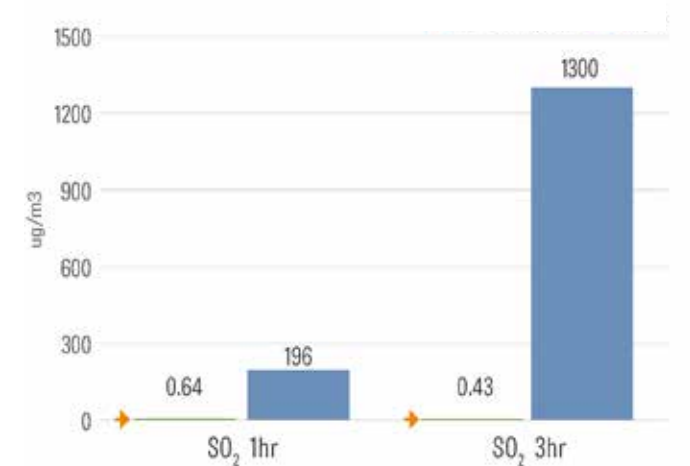
COMPARISON - CARBON MONOXIDE



COMPARISON - NITROGEN DIOXIDE



COMPARISON - SULFUR DIOXIDE



■ NAAQS ■ MOHAVE ENERGY PARK

MOHAVE ENERGY PARK IS...

99.4%

LESS THAN
the NAAQS for
PM10 24hr Average

98.5%

LESS THAN
the NAAQS for
CO 1hr Average

99.9%

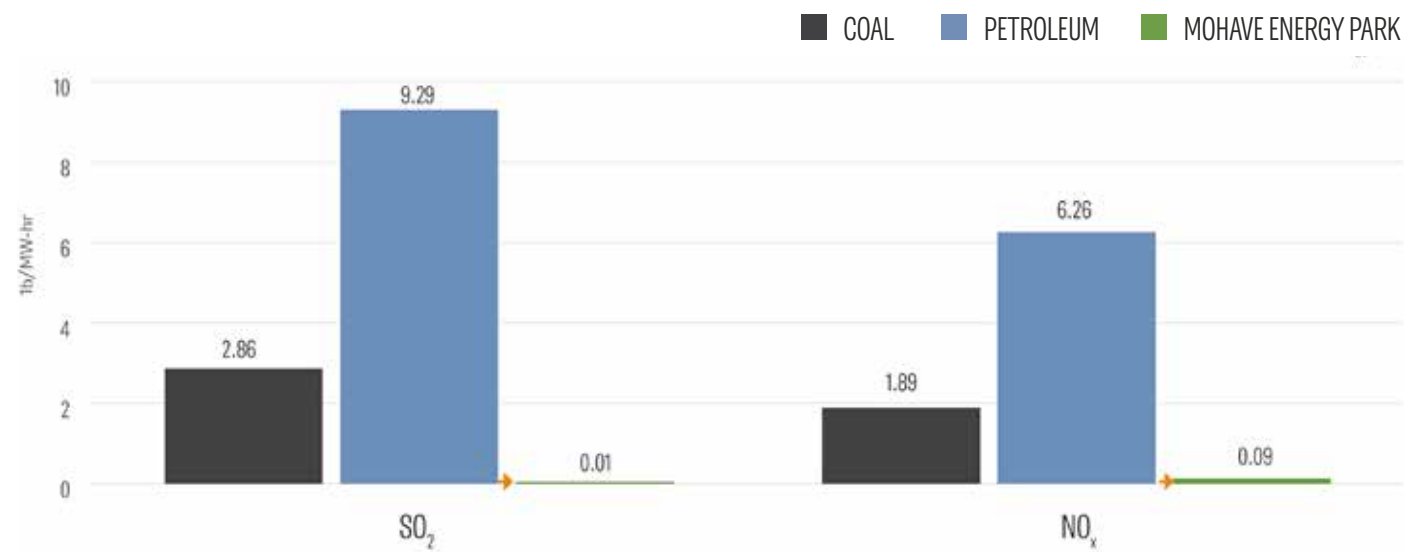
LESS THAN
the NAAQS for
1hr NO₂ Annual Average

99.68%

LESS THAN
the NAAQS for
1hr SO₂ Average

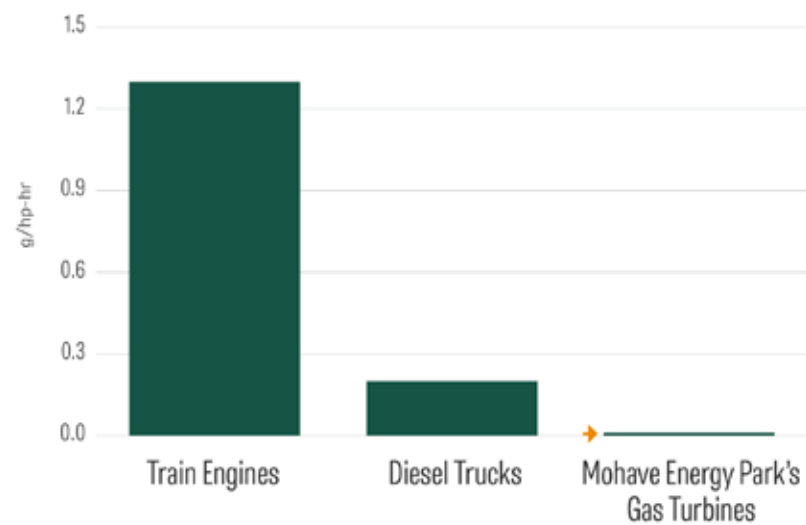


COAL, PETROLEUM, AND THE MOHAVE ENERGY PARK EMISSIONS PER MWH



By producing energy with natural gas at Mohave Energy Park, we will be emitting significantly less sulfur dioxide and nitrogen oxide than other fuel sources.

MOHAVE ENERGY PARK NO_x EMISSIONS COMPARED TO COMMON SOURCES



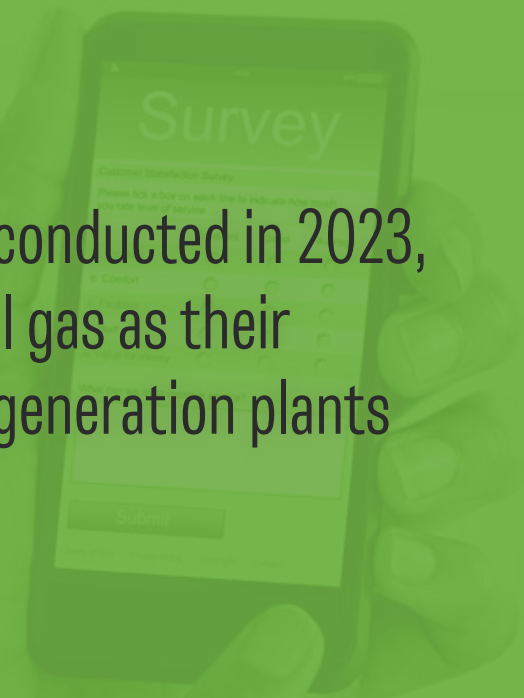
CHOOSING NATURAL GAS

The Superior Fuel Source for Electricity

MEC members use large amounts of electricity during key periods of the day versus using the same amount of electricity throughout the day. For example, members who work a standard 9a.m. – 5p.m. schedule return home around the same time, start dinner utilizing lights and the stove, adjust air conditioning or heating, turn on the TV, and start a load of laundry. This electricity usage shows as a spike or peak period. Also, rooftop solar on members' homes only provides electricity when the sun is out, so anyone using electricity at nighttime receives power from Mohave Electric. To cover electricity during these spike or peak periods, we need quick-start, flexible power that can ramp up or down based on need.

Electric generation using coal and oil have greater environmental impacts and also are not able to ramp up or down quickly. They slowly ramp up to provide power. Solar only provides power during the day and Mohave Electric's peak period often extends from 5p.m. – 9p.m. Natural gas is cleaner than coal and oil, and unlike renewable energy, natural gas can provide quick-start power making it the superior fuel source for Mohave Electric's needs for its members.

In an MEC member opinion survey conducted in 2023, members responding chose natural gas as their preferred choice for future power generation plants that may need to be built.



NATURAL GAS SUPPLIER

Our natural gas supplier, in addition to MEC's and AEPCO's natural gas facility, incorporates the best technologies. Sites A and B are essential in that they have adequate access to natural gas, but the supplier must meet rigorous national and state standards for treatment before providing it to MEC. AEPCO will also be adding additional filtering to each unit. The facility will feature real-time continuous emissions monitors to ensure all hours of operation are within the air emissions permit levels.

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MOHAVE ENERGY PARK HOURS OF OPERATION

The Mohave Energy Park units are intended to be used as peaking units to meet electric power demand and support renewable energy resources when the sun isn't shining, such as at night or during periods of cloudy weather.

These units are designed to run 6 to 10 hours at a time, and not to be continuously run 24 hours a day, unlike larger steam generation or nuclear units that are designed to run continuously.

The units will be offline during times of scheduled maintenance.



NEAREST NEIGHBORS

The three-mile reference on the EPA's Power Plants and Neighboring Communities webpage is not a standard relating to the location of power plants. Rather, it concerns the collection of key demographic information for communities within three miles of a power plant site. It is common for small natural gas plants, like the one proposed by AEPCO and MEC, to be located near load centers with a buffer of between a quarter and half mile from residential or commercial areas.

The maps on the following pages show eight different power plant locations in California and Arizona. The green circle indicates distance to nearest residential neighbor. The population within three miles is shown at the top of each map.

FACILITY NAME	GENERATION TYPE	GENERATING CAPACITY <i>MWs</i>	DISTANCE TO NEAREST RESIDENTIAL NEIGHBOR <i>Feet</i>	POPULATION WITHIN 3 MILE RADIUS
Agua Fria Generating Station	Natural Gas	639	1,380	157,121
Coolidge Generating Station	Natural Gas	726	2,260	1,734
DeMoss-Petrie Power Station	Natural Gas	85	1,695	112,373
Kyrene Generating Station	Natural Gas	574	790	133,293
Ocotillo Power Plant	Natural Gas	916	515	151,328
Riverside Energy Resource Center <i>CA</i>	Natural Gas	196	2,720	127,979
Santan Generating Station	Natural Gas	1,326	665	114,915
South Point Energy Center	Natural Gas	708	1,218	964
Sundance Power Station	Natural Gas	605	1,400	1,377
Sundt Generating Station <i>formerly Irvington Generating Station</i>	Natural Gas, Methane	529	1,158	61,594
AVERAGE		630	1,380	86,268
Proposed Mohave Energy Park, Site A <i>Southern Site</i>	Natural Gas	98	1,599	12,103
Proposed Mohave Energy Park, Site B <i>Northern Site</i>	Natural Gas	98	2,879	14,669



NEAREST NEIGHBOR MAPS GLENDALE & TUCSON, AZ

AGUA FRIA GENERATING STATION

Population within 3 Miles: 157,121 people

Nearest Residential Neighbor: 1,380 feet

7302 W. Northern Ave.
Glendale, AZ 85303



DEMOSS - PETRIE POWER STATION

Population within 3 Miles: 112,373 people

Nearest Residential Neighbor: 1,695 feet

2501 N. Flowing Wells Rd.
Tucson, AZ 85705



NEAREST NEIGHBOR MAPS TEMPE, AZ

KYRENE GENERATING STATION

Population within 3 Miles: 133,293 people

Nearest Residential Neighbor: 790 feet

7005 S. Kyrene Rd.
Tempe, AZ 85283



OCOTILLO POWER PLANT

Population within 3 Miles: 151,328 people

Nearest Residential Neighbor: 515 feet

1500 E. University Dr.
Tempe, AZ 85288



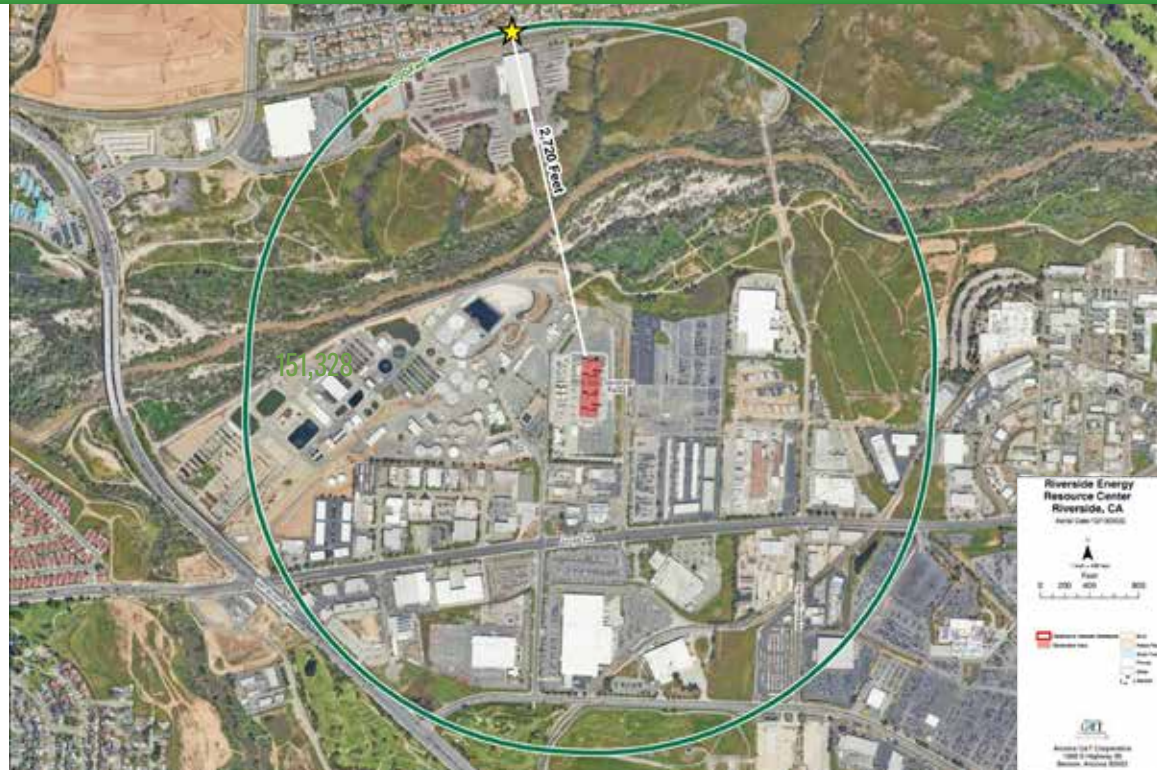
NEAREST NEIGHBOR MAPS RIVERSIDE, CA & GILBERT, AZ

RIVERSIDE ENERGY RESOURCE CENTER

Population within 3 Miles: 127,979 people

Nearest Residential Neighbor: 2,720 feet

5901 Payton St.
Riverside, CA 92504



NEAREST NEIGHBOR MAPS MOHAVE VALLEY & TUCSON, AZ

SOUTH POINT ENERGY CENTER

Population within 3 Miles: 964 people

Nearest Residential Neighbor: 1,218 feet

3779 Courtwright Rd.
Mohave Valley, AZ 86440



SANTAN GENERATING STATION

Population within 3 Miles: 114,915 people

Nearest Residential Neighbor: 665 feet

1005 S. Val Vista Dr.
Gilbert, AZ 85296



SUNDT GENERATING STATION

Population within 3 Miles: 61,594 people

Nearest Residential Neighbor: 1,158 feet

3950 E. Irvington Rd.
Tucson, AZ 85714



WATER

The proposed units for Mohave Energy Park consume substantially less water than the combined-cycle or steam generation units with water-based cooling systems. The majority of the water consumed by the proposed units is used for emission control.

Source water for the natural gas generating units at Mohave Energy Park is still being vetted.

Various options may be available to process waters from the facility. These options include:

- Evaporation ponds
- Beneficial reuse
- Deep subsurface

Any of these options will require permits. The process waters will be required to meet applicable water quality standards.

ECONOMICS

The Mohave Energy Park represents a substantial investment for the area. Mohave County Economic Development and Tourism Department recognizes that low-cost reliable electricity is important for economic growth and quality of life for area residents.

The project is expected to bring approximately \$10 million in local economic benefit during construction.

The construction process will rely on local resources for labor, commodities, and rental equipment when cost competitive. The local economy is also expected to benefit from increased need for housing, food, and services to support the construction workforce.

Mohave Energy Park anticipates five full-time equivalent jobs to operate, secure, and maintain the facility.

The project will contribute a property tax benefit of \$5 million during the first 11 years.

\$10 MILLION
LOCAL ECONOMIC
BENEFITS

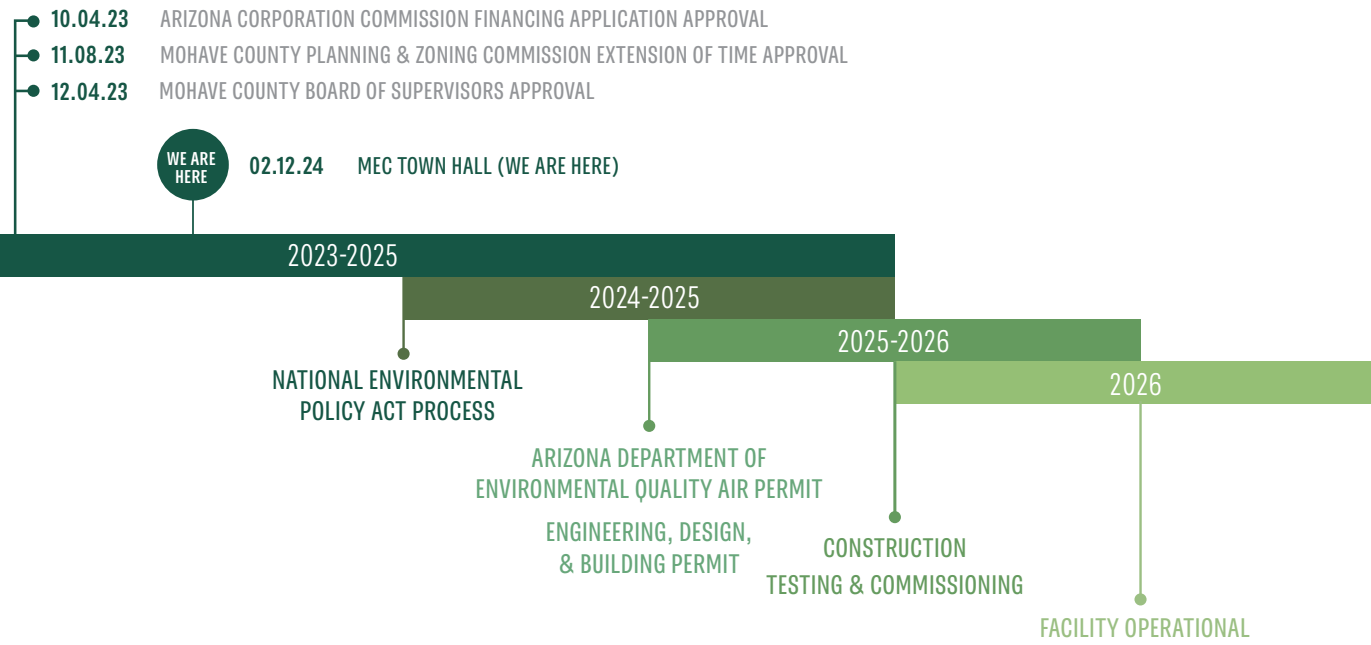
+ NEW JOBS
TO MAINTAIN
FACILITY

\$5 MILLION
IN PROPERTY
TAX BENEFITS

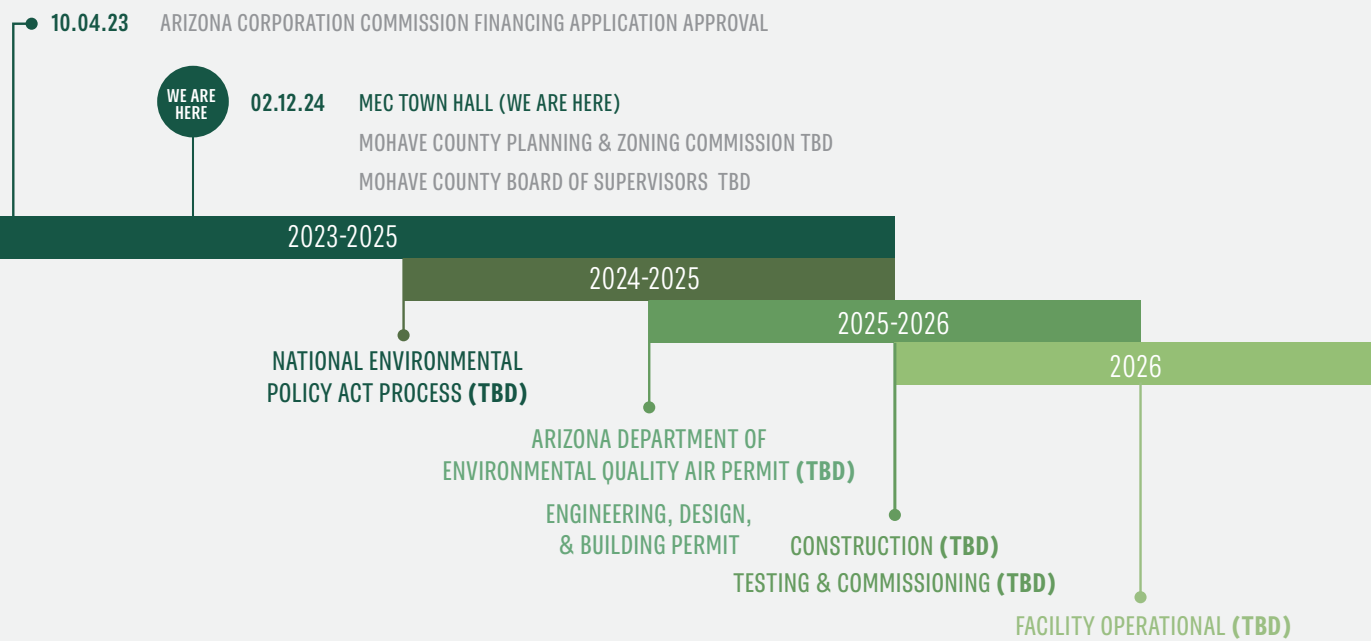
Source: EPC, ProEnergy

ANTICIPATED PROJECT TIMELINES

SITE A



SITE B



LETTER FROM OUR CEO

Greetings All,

As you recall, last July was HOT – MEC surpassed our peak load providing the highest amount of electricity in our 77-year history. We have a growing population in Bullhead City and the surrounding areas, and each household is using more and more electricity, which means MEC needs to provide more and more electricity. These natural gas units will generate more electricity to meet member loads now and in the future.

MEC receives power from three solar fields. As you know, solar only works when the sun is shining, and the sun doesn't shine at night. These units can provide electricity to us at nighttime or during weather events when our solar and renewable energy systems aren't operating.

Being a member-owned, not-for-profit, MEC makes every effort to keep our rates low. In fact, we have the lowest overall electricity costs among all the cooperatives in the state and neighboring electric utilities. One of the ways we keep costs low is to look at power costs among all sources of energy and buy or generate that source to keep rates low. These natural gas units will allow AEPCO to generate more energy, including generation locally in MEC's service territory that we can purchase from AEPCO. And MEC can avoid buying expensive energy on the market.

Also, these two units will help provide power within MEC's network, which would allow us to potentially power emergency locations such as key city and county centers and hospitals in a massive outage. As you can see, there are multiple benefits - reliability; affordability; outage support.

Double thanks to MEC members for first supporting our efforts at the Arizona Corporation Commission who provided unanimous approval in October. And second, thanks to members who supported our efforts at the Mohave County Board of Supervisors. The approval on December 4 confirms the need for the generation, the need for the site to be local within MEC's service territory, and the importance of having emergency backup power to key institutions like hospitals, cooling centers, fire stations, and other government entities during a major outage. The project also has the potential to provide other neighboring utilities with outage support.

There are multiple steps to this project, and we look forward to hearing your preference on Site A and Site B.



J. Tyler Carlson
MEC Chief Executive Officer

Arizona G&T Cooperatives

Touchstone Energy® Cooperatives 

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MOHAVE



electric cooperative

A Touchstone Energy® Cooperative 

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MohaveEnergyPark.com
ReliableEnergyArizona.com

