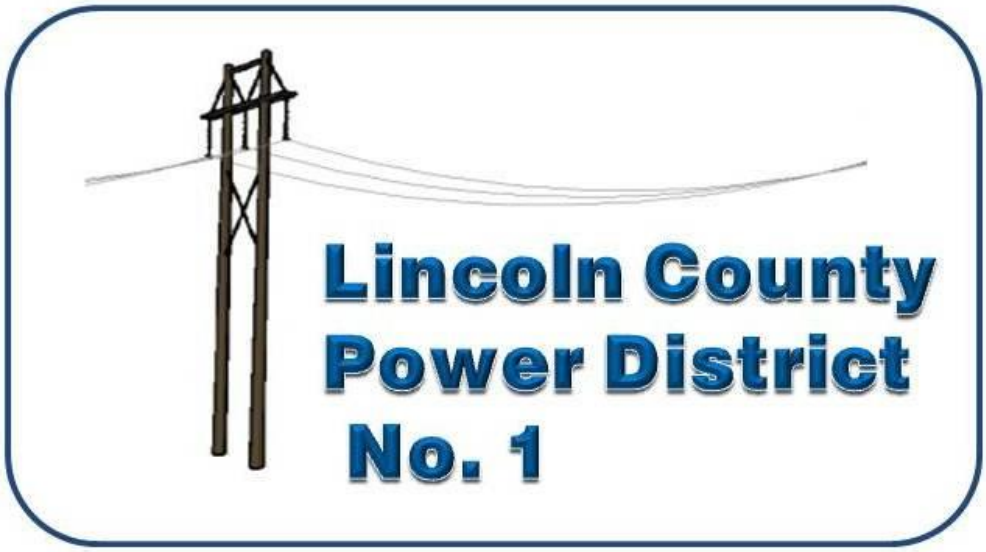

INTEGRATED RESOURCE PLAN
CALENDAR YEARS
2025 TO 2029

LINCOLN COUNTY POWER DISTRICT NO. 1
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Adopted
July , 2024

LINCOLN COUNTY POWER DISTRICT NO. 1
INTEGRATED RESOURCE PLAN
CALENDAR YEARS
2025 TO 2029

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SECTION 1
SUMMARY

1. General

The Lincoln County Power District No. 1 (Lincoln) has prepared this integrated resource plan (IRP) in conformance with the Energy Planning and Management Program developed by the Western Area Power Administration as set forth in 10 CFR 905. The IRP prepared by Lincoln covers the period including calendar years 2025 through the end of 2029. A significant amount of research, analysis, public input and management thought has gone into development of LCPD's IRP. This report provides a summary of Lincoln's IRP.

2. Loads and Resources

As presented in the following sections of this report, Lincoln's base system energy requirement and system peak demand are expected to increase at an average annual rate of 0.7% over the next several years. Lincoln's allocation of Boulder Canyon Project power would be sufficient to meet these expected loads through the term of this IRP. However, since the onset of the drought in the Colorado River drainage basin, generation from Hoover Dam has been reduced. Lincoln has not received its full allocation of Hoover Dam power since 2005. This hydrologic situation is not expected to improve during this IRP planning period. During these low water release periods, Lincoln has and will continue to have to purchase electric energy from the wholesale energy markets.

3. Goals and Programs

Lincoln has established the following goals relating to this IRP:

<u>Supply Side Goals</u>

- Resource Diversification. It is the goal of Lincoln to continue to diversify its resource portfolio to make it less susceptible to curtailments in the supply chain, such as those caused by the drought within the Colorado River drainage basin.

- Cost Stabilization. It is the goal of Lincoln to identify and incorporate non-natural gas fueled generation resources into its power supply mix in order to minimize the impact of increases in natural gas prices on Lincoln's rates.

Resource Delivery Goals

- Loss Mitigation. It is the goal of Lincoln to continue to rehabilitate and upgrade its aged electric infrastructure to improve the reliability and to reduce energy losses from the current level of 11.6%.
- Distributed Generation. It is the goal of Lincoln to continue to look for opportunities to install distributed generation within Lincoln's electric system to assist with losses minimization.

Demand Side Goals

- Beneficial Electrification. It is the goal of Lincoln to offer programs and services to facilitate the development of energy uses that provide benefit to Lincoln's customers, while utilizing energy at off-peak periods.
- Energy Conservation. It is the goal of Lincoln to offer means by which Lincoln's customers can lower energy use during peak periods and thereby lower their monthly cost of electric power.
- Low Income Assistance. It is the goal of Lincoln to develop programs and offer services specifically targeted to low income and elderly residents of Lincoln County to help them reduce their energy consumption and electric bills.

4. Programs

As presented in this report, Lincoln plans to ensure the continued efficient use of its resources, including federal hydroelectric power, through a series of programs designed to achieve the above goals. These programs include:

Small Scale Utility Owned Solar Development

- During the IRP planning period, Lincoln intends to construct approximately 2 MWof renewable solar photovoltaic generation.

Distribution Line Upgrades

- During the term of this IRP, Lincoln shall replace and reconductor approximately 12 miles of 25-KV class distribution from 1/0 copper conductor to 336 ACR conductor.

Electric Vehicle Advancement

- .
- During the term of this IRP, Lincoln shall offer a rebate program for the installation of residential electric vehicle chargers.

Residential and Commercial High Efficiency Air Conditioning and Heating

During the term of this IRP, Lincoln shall offer a rebate program for the installation of high efficiency air conditioners and air source heat pumps. Weatherization

- During the term of this IRP, Lincoln shall partner with the Rural Nevada Development Corporation to offer a weatherization program to assist low-income households in weatherizing their homes in Lincoln County.

Irrigation Efficiency

- During the term of this IRP, Lincoln shall offer a rebate program for the installation of irrigation system parts and components to reduce water and energy use by agriculture producers served by Lincoln.

Table 1-1 summarizes Lincoln's planned budget and expected energy savings by year under this IRP for the period 2025 through 2029.

Table 1-1 Program Summary					
Program	2025	2026	2027	2028	2029
1.a Small Scale Utility Owned Solar	$0	$1,750,000	$1,200	$1,200	$1,200
1.b Utility Scale Renewable PPA	$0	$316,043	$316,043	$316,043	$316,043
2.a Gold Springs Reconductoring	$261,000	$87,000	$435,000	$0	$0
2.b Power Factor Correction	$50,000	$0	$0	$0	$0
3.a HVAC Rebate	$5,000	$5,000	$5,000	$5,000	$5,000
3.b Weatherization	$15,000	$15,000	$15,000	$15,000	$15,000
3.c Irrigation Efficiency	$4,000	$4,000	$4,000	$4,000	$4,000
3.d Electric Vehicle Advancement	$15,000	$15,000	$15,000	$15,000	$15,000
Total Budget Cost	$350,000	$2,192,043	$791,243	$356,243	$356,243
Expected Annual Energy Savings (KWH)	243451	237931	248971	260008	260008
Cumulative Energy Savings (KWH)	243451	481382	730353	990361	1250369

SECTION 2
BACKGROUND

1. Lincoln County Power District No. 1

The Lincoln County Power District No. 1 (Lincoln) is a political subdivision of the State of Nevada, created on June 24, 1935 by Order and Opinion of the Public Service Commission of the State of Nevada as a Power District under Chapter 72 of the laws of Nevada. These laws were subsequently revised and Lincoln is now considered a General Improvement District governed by Chapter 318 of the Nevada Revised Statutes. As a General Improvement District, Lincoln is governed by a five member board elected by citizens residing within Lincoln's boundaries.

The function of Lincoln is to provide electric service throughout Lincoln County, Nevada and adjoining areas. The map on the following page identifies Lincoln's service territory and the communities served. As a General Improvement District, Lincoln does not profit from the sale of electric energy and its primary purpose is to provide a public good by serving the electric energy needs of its customers.

Lincoln, headquartered in Panaca, Nevada, does not own any electric generation facilities and purchases all of the electric power necessary for its customers from two sources. The primary source of electric power used in Lincoln County is from the Boulder Canyon Project (Hoover Dam), a hydroelectric generation station operated by the U.S. Bureau of Reclamation. This power allocated to Lincoln through a long-term contract with the Colorado River Commission of Nevada, a state agency. To meet needs above and beyond that which can be served from Lincoln's allocation of hydroelectric power, Lincoln purchases electric power from the Arizona Electric Power Cooperative, a generation and transmission cooperative, from wholesale power supply markets.

In 2015 Lincoln constructed a 90 KW solar photovoltaic generating plant. The generating station was placed into service on July 1, 2015. In 2016 Lincoln added an additional 60 KW of capacity to the plant. The solar project is expected to generate approximately 275,000 KWHs of

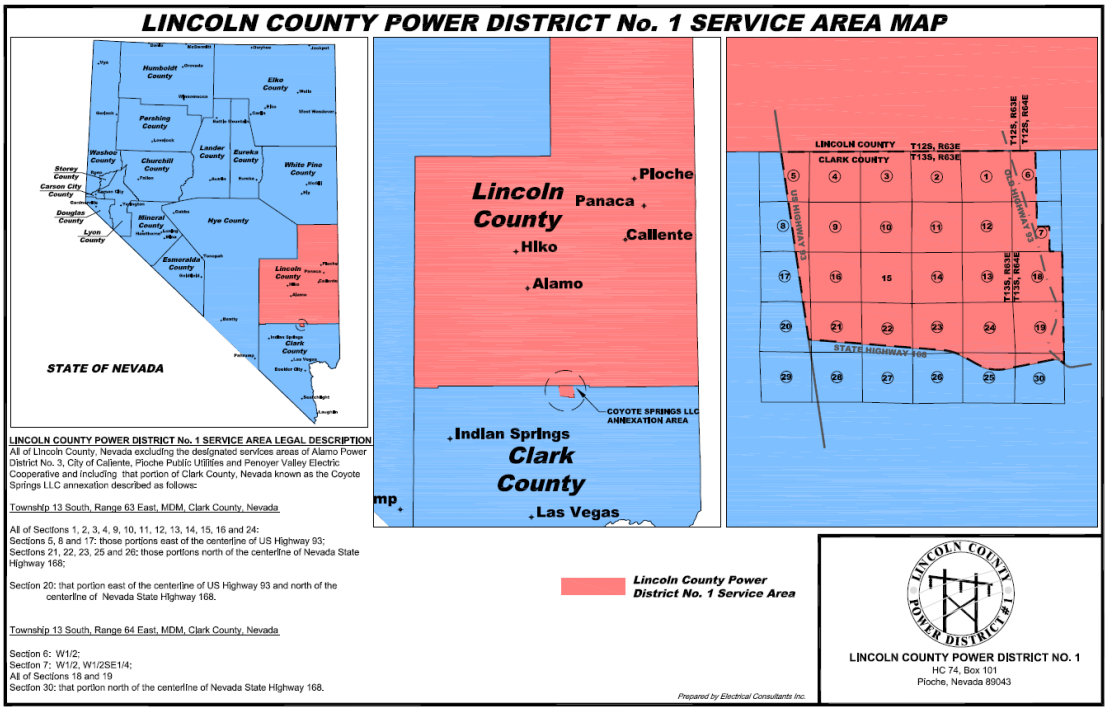
energy annually. A portion of this project was offered by Lincoln to its customers for direct participation, making the project the first community solar project in the state of Nevada.

Lincoln owns and operates, or has long-term contractual arrangements for, all of the necessary transmission facilities to import hydroelectric and supplemental power into Lincoln County, and Lincoln owns all of the necessary transmission and distribution facilities to distribute electric power to Lincoln's customers within Lincoln County.

2. Service Area

The service area of Lincoln encompasses all of Lincoln County, Nevada, and a small portion of Clark County, Nevada. This service area includes approximately 10,635 square miles in Lincoln County and 20 square miles in Clark County.

The elevation of Lincoln's service area changes drastically from low areas of 2,000 feet above sea level in the southern portion of the service area to high mountain peaks of nearly 9,000 feet above sea level in the northern portion of Lincoln's service area. These elevation differences create significant residential energy usage differences between homes located in the south of Lincoln's service area and homes located in the north of Lincoln's service area.



3. Residential Sector Changes

Although the southern end of Lincoln's service area is located approximately 50 miles north of the out skirts of the Las Vegas metropolitan area (Clark County), Lincoln's service area did not significantly benefit from the rapid growth in the metropolitan area during the period prior to 2007 as shown by Table 2-1. The table does reveal that as with many of the areas of the country, the economic slow-down from 2008 through 2013 did result in a loss of jobs in Lincoln County and an overall decline in Lincoln County population.

Table 2-1
Historical Population

	1990		2000		2010		2020	
County	Population	Avg. Annual Growth	Population	Avg. Annual Growth	Population	Avg. Annual Growth	Population	Avg. Annual Growth
Lincoln	3,775	0.11%	4,165	0.99%	5,345	2.53%	4,499	-1.71%
Clark	741,459	4.82%	1,375,765	6.38%	1,951,267	3.56%	2,265,461	1.50%

Source: U.S. Census Bureau, On-line databases from 1990 census to present.

The table indicates a decline in overall population in Lincoln County during the past decade. U.S. Census Bureau data for interim years reveals the lowest population level during the past decade occurred in 2020, with the population noted as 4,499 that year. The population has continued to decline in recent years and data from the State of Nevada, Office of Demographer projects continued population decreases in future years as indicated in Table 2-2.

Table 2-2 Population Projections		
Year	Population Change From Pior Year	Percent Change
2024	-27	-0.60%
2025	-29	-0.65%
2026	-27	-0.61%
2027	-29	-0.66%
2028	-27	-0.62%

Source: Office of the State Demographer.

Low population levels within Lincoln County coupled with the large expanse of the County result in a population density of less than 0.4 persons per square mile which is the lowest of all counties in Nevada. In comparison, Clark County has a population density of 287.1 persons per square mile.

4. Commercial/Industrial Sector Changes

The land area of Lincoln County is generally undeveloped, with 97.9 percent held by various agencies of the United States government, including the Bureau of Land Management and the Department of Defense as shown by Table 2-3.

Table 2-3 Lincoln County Land Use Summary		
Ownership	Land Use	Total Acres
Federal	Range, Forested, Undeveloped Land	6,659,056
State	Park, Range, Undeveloped Land	7,620
Local Government	Park, Commercial, Range, Undeveloped Land	3,169
Private	Residential, Commercial, Cultivated, Range, Undeveloped Land	134,833
Total		6,804,678
Source: Lincoln County Public Land Policy Plan, 2010 and Nevada Legislative Counsel Bureau, Policy and Program Report, Public Lands and Natural Resources Issues, April 2016.		

Of the private land in Lincoln County, a significant portion is used for farming and ranching operations. The U.S. Department of Agriculture 2022 Census of Agriculture reports farms and ranches in Lincoln County accounted for 39,136 acres, of which 17,763 acres are in irrigated farmlands. Hay and cattle production remain the predominant export industry of Lincoln County. Crop and livestock sales totaled approximately $26,409,000 in 2022.[1] This is an increase from $21,980,000 in 2017.[2] During the IRP planning period, the agriculture economy is expected to remain at approximately current levels of production. Additional irrigated fields are not planned or forecast.

Services, retail trade, and local, state and federal governments historically have and are expected to remain the predominant employer in Lincoln County. Although, small commercial enterprises may be developed within Lincoln's service area over the next few years, no new large scale commercial or governmental facilities are forecast in the IRP planning period.

[1] 2022 Census of Agriculture, Lincoln County Profile, United States Department of Agriculture.

[2] 2017 Census of Agriculture, Lincoln County Profile, United States Department of Agriculture.

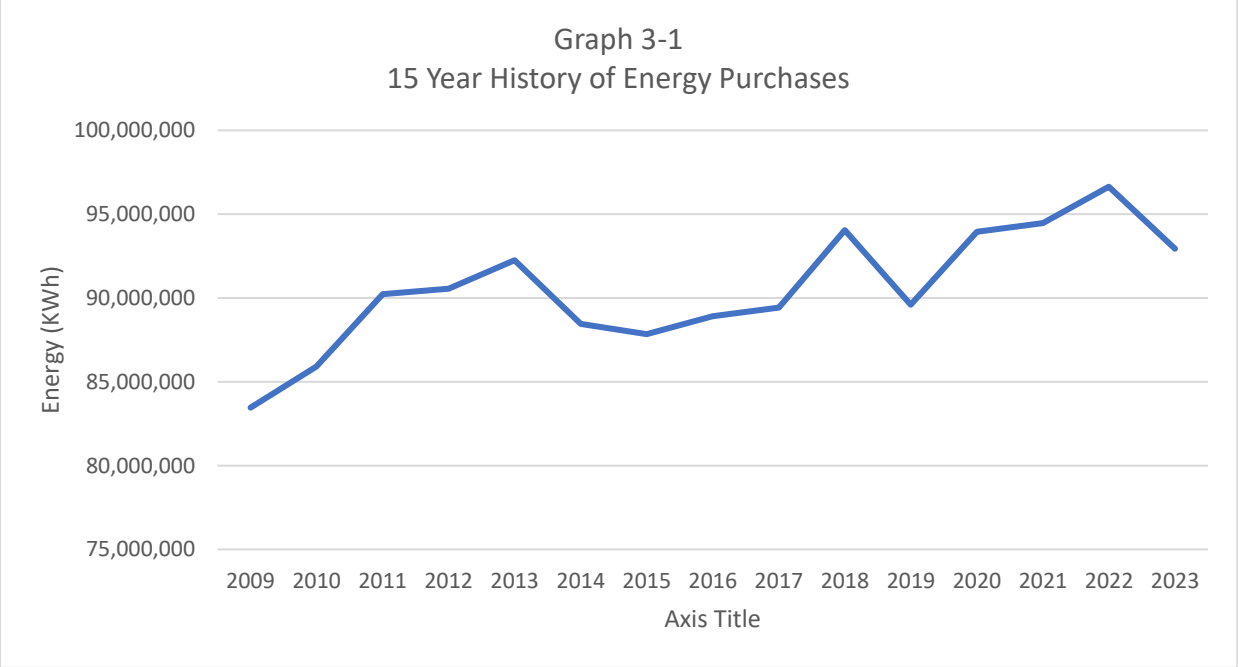
In the past, mining and milling operations constituted a large portion of Lincoln's annual loads and were the largest industry in Lincoln County. However, as rich mineral deposits were depleted, leaving only lower grade ores, the mines and mills ceased production. Currently, only one mining and milling operation is listed as operating as a processing facility in Lincoln County.[3] This mining and milling operation is a small scale pozzolan or perlite surface mining operation employing few employees. Although gold and silver prices have continued to increase in recent years, no mine or milling operations have contacted Lincoln regarding the reactivation of existing facilities and as such no new mining or milling operations are forecast in the IRP planning period.

[3] State of Nevada Department of Business and Industry, Directory of Nevada Mine Operations, 2023.

SECTION 3
ENERGY AND CAPACITY REQUIREMENTS

1. Historical System Loads

Lincoln's system requirements represent the amount of energy and capacity that must be purchased each month for (1) sales to customers, (2) line losses, and (3) Lincoln's own use. As Graph 3-1 demonstrates, Lincoln's loads have increased at a relatively modest, but constant rate over the past 15 years.



There is no natural gas service within Lincoln County and electric heating is the predominate heat source. Accordingly, a significant percentage of Lincoln's winter load is created by electrical heaters and Lincoln's summer load is created by irrigation pumps. As such, cold winters produce increased demand and energy sales while mild winters produce less. Similarly, dry summers produce increased energy sales while wet summers create less energy sales. The impact of weather on Lincoln's loads is evident in graph 3-1 for the years 2014 through 2017 and 2019. The slight decrease in Lincoln's energy sales during these years was

primarily driven by weather conditions which included above average precipitation in the summer and above average temperatures in the winter. Lincoln will continue to remain susceptible to weather changes throughout the IRP planning period.

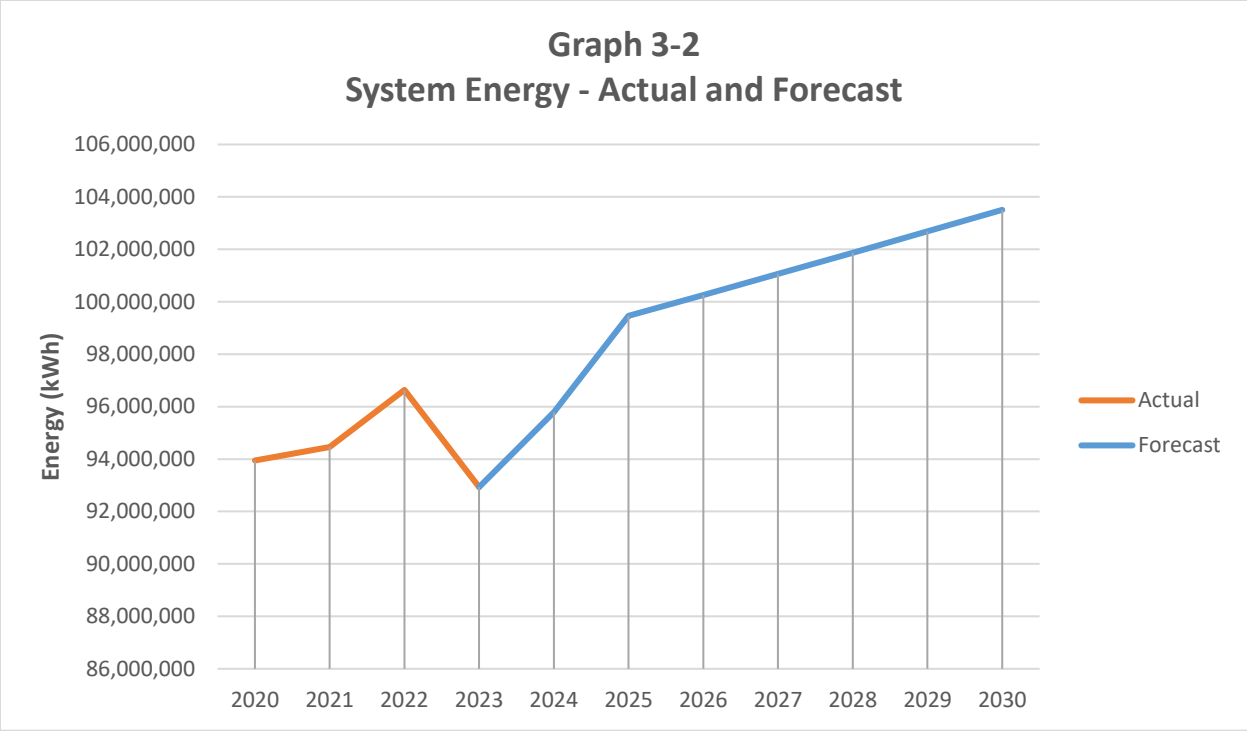
2. Forecast Methodology

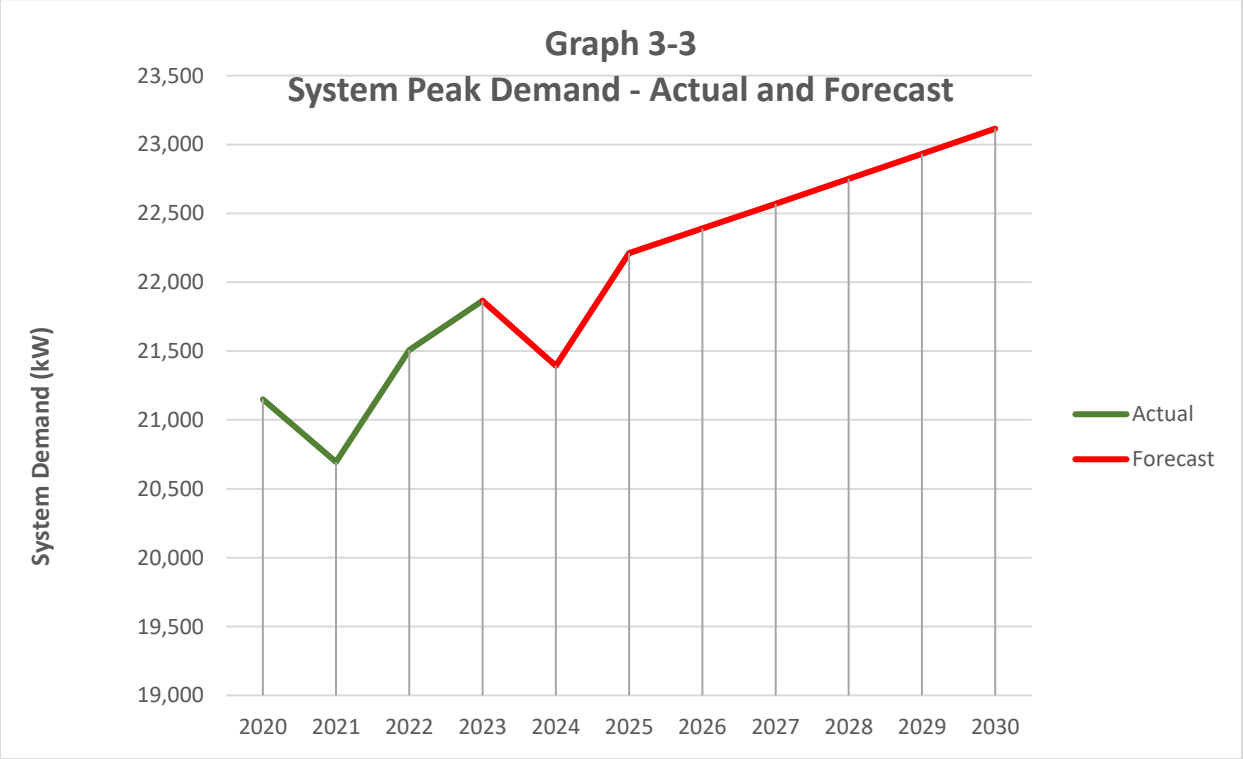
The methodology used by Lincoln to forecast its future system requirements employs a trend/time line analysis, adjusted for known and expected changes. Lincoln believes the methodology is appropriate for Lincoln due to the size of the Lincoln's load and the limited number of customers served. Specifically there are three generally accepted forecasting techniques used in the electric utility industry. These techniques are time/trend analysis, end-use analysis, and econometric analysis.[4] Lincoln does not have sufficient data to perform an end-use analysis and given the historical growth rates within Lincoln County, the time and expense required to perform an econometric analysis is not justified. In years past, Lincoln has used econometric analysis of its loads in order to satisfy load forecasting requirements of the Rural Electrification Administration of the U.S. Department of Agriculture (now known as Rural Utility Services). Lincoln's experience was that given the small statistical sample size, econometric analysis proved less reliable than time/trend analysis for Lincoln. Given Lincoln is no longer a RUS borrower, econometric analysis is no longer performed.

3. System Forecast

Under the Expected Load Forecast, the conditions which have existed over the past few years are expected to continue for at least the next five years. There are no known spot loads such as mines, factories, housing developments, or similar projects which are expected to come into service during the planning period. As a result, base system needs are expected to increase at an average annual rate of 0.70% per year. The forecast of expected energy requirements and system demand are summarized in Graph 3-2 and 3-3 on the following page.

[4] Integrated Resource Planning, Volume 2, Section 4 – Load Forecasting, Western Area Power Administration.


Graph 3-2
System Energy - Actual and Forecast
Energy (kWh)
106,000,000
104,000,000
102,000,000
100,000,000
98,000,000
96,000,000
94,000,000
92,000,000
90,000,000
88,000,000
86,000,000
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
Actual
Forecast


Graph 3-3
System Peak Demand - Actual and Forecast
System Demand (kW)
23,500
23,000
22,500
22,000
21,500
21,000
20,500
20,000
19,500
19,000
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
Actual
Forecast

As evident from the graphs, barring weather induced fluctuations Lincoln does not expect its system peak demand to exceed 23 MW or its energy requirements to reach 103,000 MWH until near the end of the planning period.

4. Customer Class Information

Lincoln provides electric service to customers located throughout its service area. Service is provided at both the retail and the wholesale (sale for resale), levels. Lincoln's current rate classifications appear as follows:

- Retail - Rural
  - Residential
  - Small Commercial
  - Commercial & Industrial Over 50 KVA
  - Large Municipal Water Pumping
  - Irrigation
  - Small Mixed Agricultural Use
  - Large Mixed Agricultural Use
- Retail - Urban
  - Small Commercial
  - Commercial & Industrial Over 50 KVA
  - Large Municipal Water Pumping
- Sales for Resale
  - SFR- Alamo Power District No. 3
  - SFR – City of Caliente

The number of customers served and total energy sales to each classification are summarized in Table 3-1.

Table 3-1
Customer Class Sales

Classification	2014		2016		2019		2023	
	Cust.	KWh	Cust.	KWh	Cust.	KWh	Cust.	KWh
Residential	780	10,136,812	814	11,183,140	865	12,807,702	1,401	18,549,519
Small Commercial	150	3,330,228	194	3,594,451	214	3,770,107	306	6,046,314
Commercial & Industrial Over 50 KVA	29	3,109,786	29	3,345,332	29	4,352,247	34	6,703,489
Large Municipal Water Pumping	3	3,843,094	3	3,117,001	3	4,355,897	4	2,614,400
Irrigation	85	12,620,769	92	12,752,169	78	10,527,111	116	11,294,284
Small Mixed Agricultural	5	1,210,100	4	955,200	4	938,900	3	702,500
Large Mixed Agricultural	2	5,781,808	2	5,726,800	2	4,527,200	2	5,325,600
Small Commercial - Urban	4	93,933	6	115,678	9	101,620	9	100,616
Commercial & Industrial Over 50 KVA - Urban	7	1,114,066	6	1,493,689	8	1,543,297	8	1,615,734
Large Municipal Water Pumping - Urban	3	2,140,765	3	1,636,346	3	2,317,242	3	2,134,417
Sales For Resale	5	35,163,600	5	35,150,401	5	35,466,905	3	26,481,235
System Total	1,073	78,544,961	1,158	79,070,207	1,220	80,708,228	1,888	81,568,108

Cust. average over 12-month

During 2023 Lincoln provided electric service to an average of 1,888 meters, of which all but 3 were retail type customer meters. Retail customers accounted for 67.53% of Lincoln's total sales. The balance of Lincoln's energy sales were made to three sales for resale accounts. The three sales for resale accounts represent two customers, one of which has multiple delivery points. These two sales for resale customers accounted for the remaining 32.47% of Lincoln's energy sales. Over the past twenty years, the majority of energy of Lincoln's energy sales have shifted from sales for resale classifications to retail classifications as shown in Table 3-2.

Table 3-2 Retail and Sales for Resale Energy Trends				
Customer Classification	% of Total Sales 1992	% of Total Sales 2004	% of Total Sales 2019	% of Total Sales 2023
Retail	26%	49.50%	56.10%	67.53%
Sales for Resale	74%	50.50%	43.90%	32.47%

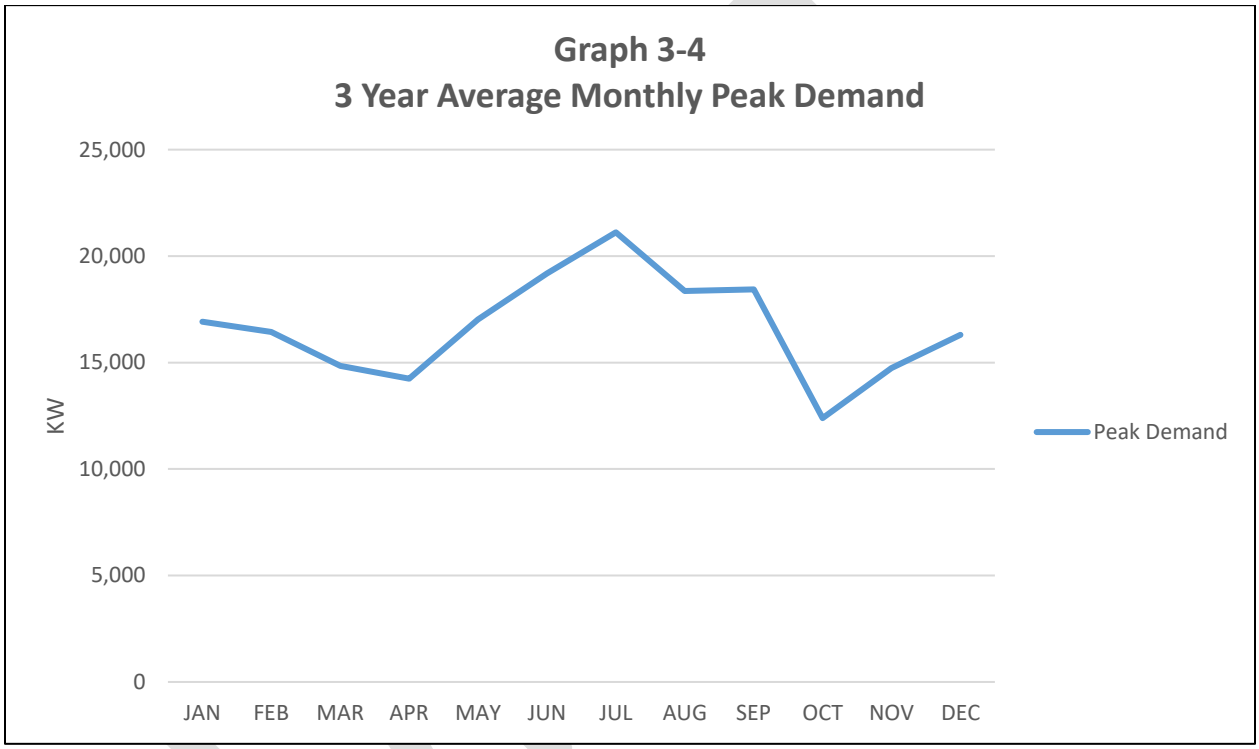
This shift of sales between retail and sales for resale is largely due to one factor. Prior to 1992, there were eleven separate electric utilities operating in Lincoln County and receiving all-requirements sales for resale service from Lincoln. At the beginning of 2019 all but three of these electric utilities had transferred utility responsibility to Lincoln. At the end of 2019, one of these remaining sales for resale customers turned their electric system over to Lincoln. This electric system transfer converted the end-use customers of that utility to retail customers of Lincoln. Further significant changes in the proportion of sales to retail and sales for resale customer classifications are not anticipated during the IRP planning period.

5. Seasonal Load Profile

Lincoln's electric system exhibits a very typical load profile with peaks occurring in the summer and winter periods and low demand periods occurring in the fall and spring periods. However, unlike many systems, the difference between Lincoln's summer and winter peaks can be minimal depending upon weather. Most years Lincoln's peak load will occur during the summer months. However, occasionally when unseasonably cold temperatures occur, Lincoln's system will peak during the winter months. These winter peaks occurred in 2000 and 2007. In addition, even in years when Lincoln's peak load occurs during the summer, winter peaks are sometimes only slightly lower. For example, in 2022 Lincoln's summer peak was 20,787 KW in June and an abnormally high Septemper peak of 21,508. The January 2023 peak was 18,980 KW.

This unusual characteristic associated with Lincoln's system is the result of the extensive use of electric heaters for residential heating during the winter months and the use of electric pumps for irrigation pumping during the summer. As a result, colder than normal winters followed by cooler, wetter summers can result in a winter system peak for Lincoln.

Lincoln's three-year average seasonal profile is shown in Graph 3-4.

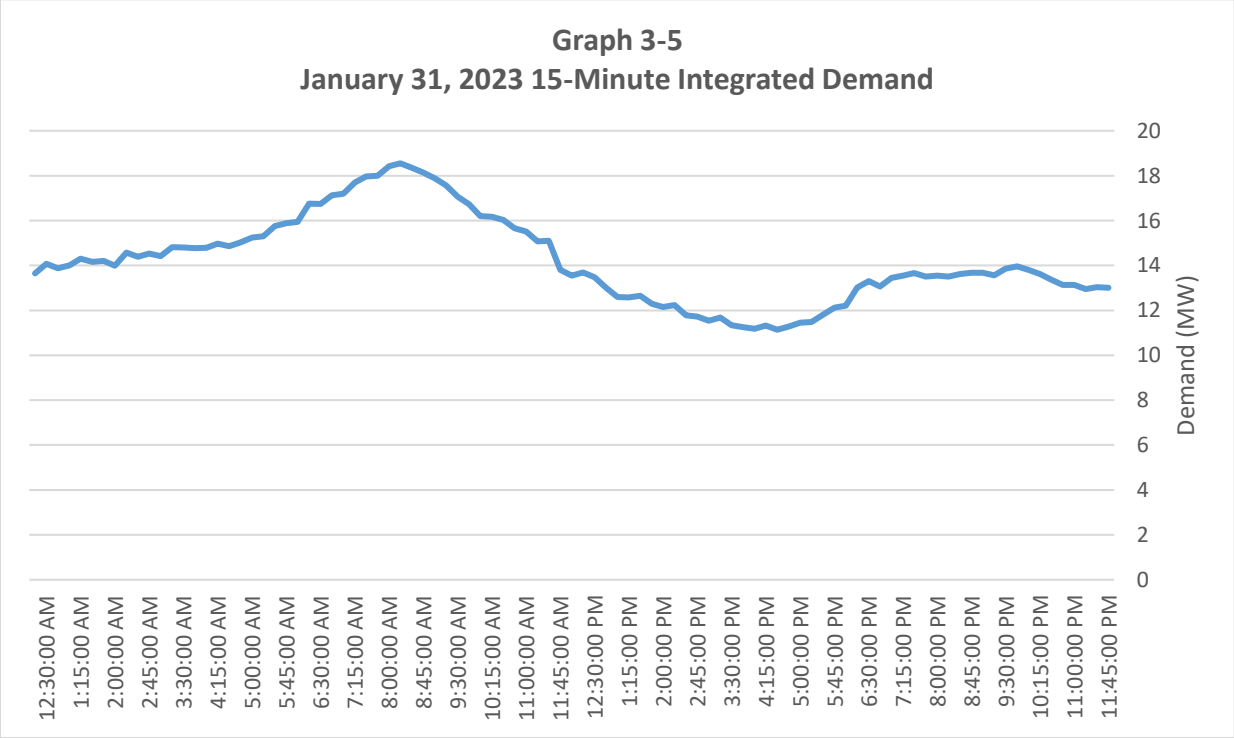


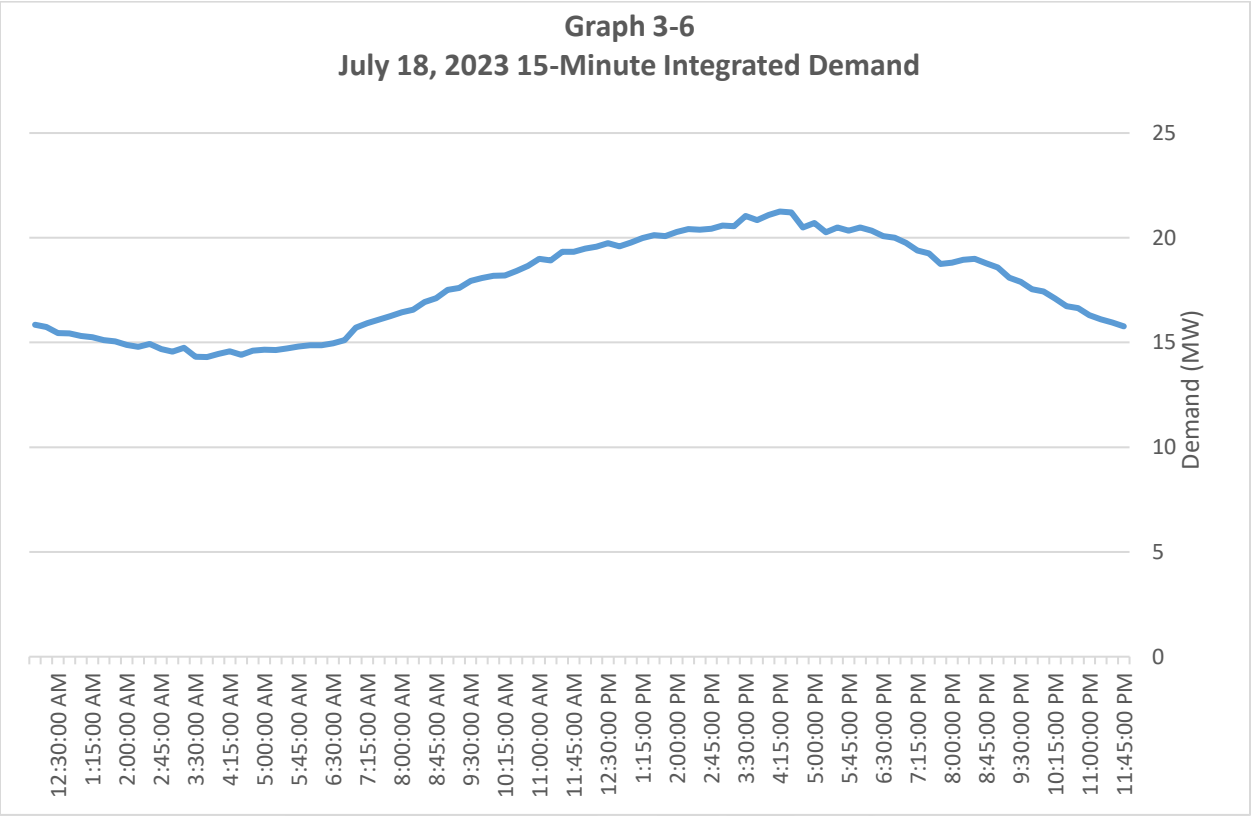
6. Daily Load Profile

Lincoln's 15-minute integrated load profiles for the summer and winter peaks for 2019 are shown by the graphs below. These graphs present the summation of data taken from Lincoln's 69-KV master meter at the Tortoise Substation, Lincoln's 69-KV meter at the Sheep

Mountain Switches, and Lincoln's 69-KV meter at the Mesa Substation. Consequently, the data represents all of Lincoln's system.

The winter peak occurred at 8:15 a.m. on January 31, 2023. Given the discussions regarding the nature and type of loads served by Lincoln, it is clear this winter peak is driven primarily by residential loads. Given the lack of natural gas service and limited propane use within Lincoln County, as residences begin to arise starting at about 5:00 a.m., electric space heating, electric water heating, electric cooking and electric light energy consumption increases. These residential uses continue to increase until about 8:30 a.m. at which time people begin to depart for work. Energy loads continue to decline throughout the day until about 4:00 p.m., at which time people begin to return home and again turn up electric heaters, turn on lights and turn on electric stoves.





The summer peak occurred at 4:15 p.m. on July 17, 2023. As the graph shows, Lincoln's system maintains a high base load 24-hours per day due to irrigation pumps running on a 24-hour daily basis. Irrigation loads operate 24-hours per day, seven days per week and are only turned off when alfalfa is cut for bailing or when extensive rainfall allows the pumps to be turned off temporarily. Overall system load begins to increase starting at about 6:00 a.m. caused by residential electric uses. As the day progresses, electric powered air conditioning begins and creates a situation whereby Lincoln's daily load remains high and continues to rise until around 4:00 p.m. After which load begins to decrease steadily with the exception of a slight increase again at 8:00. Actual peak demand can occur anywhere between these hours but typically occurs in the late afternoon between 4:00 p.m. and 6:00 p.m. each day.

SECTION 4
EXISTING RESOURCES

1. Hoover Dam Power

Lincoln has capacity and energy entitlements to hydroelectric power generated at the Boulder Canyon Project (Hoover Dam). These entitlements of 28,215 KW and 101,245,012 KWH were granted to Lincoln by the Colorado River Commission of Nevada (CRC) and are set forth in Contract No. P06-50-BCPESC-AB, as amended on September 13, 2017, between the parties. This contract extends through September 30, 2067.

The composite cost of Hoover Dam power to Lincoln fluctuates year to year and month to month. Year to year fluctuations are caused by annual adjustments in the cost of Hoover Dam power as set by the Western Area Power Administration and administrative charges set by CRC. Month to month fluctuations are caused by the energy output of Hoover Dam. Given contracts for Hoover Dam power are take-or-pay in nature, Lincoln is obligated to pay for energy regardless of the level of output from Hoover Dam. As a result, Lincoln has seen wide fluctuations in the composite delivered cost, ranging from lows in the 20 mill range to highs above 30 mills.

The 2023 average delivered cost to Lincoln for Hoover Dam power was $0.02546/KWH or 25.5 mills. In comparison, the 2024 projected cost of market power at the Mead Substation is as shown in Table 4-1.

Table 4-1
Current Market Prices[5]

Location	$/MWH
Mead 230 Bus	64.00on peak 61.45off peak

Due to the abundance of solar energy development in recent years, Lincoln has been able to purchase market power below the cost of Hoover Dam power during several months of

[5] Arizona Electric Power Cooperative, Current Pricing Information January 102024.

the year. However, generally the months when market prices are low are also months when Lincoln has sufficient hydropower resources to meet its demand. This anomaly is anticipated to change in the coming years as more base load generation units are decommissioned to comply with federal regulations and are replaced with solar and batteries. Therefore, Lincoln believes Hoover Dam power will continue to be the most important portion of its power supply portfolio for many years to come.

The U.S. Census Bureau reported 2018 household income in Lincoln County at $67,412 with 12.4% of the population living below the poverty line, making Lincoln one of the poorest counties in Nevada behind only Mineral, Pershing, Nye, Esmeralda, Clark, and Carson Counties.[6] The continued availability of low-cost federal hydroelectric power is essential for the growth and prosperity of Lincoln County, Nevada. Lincoln continues to seek opportunities to maximize the benefit its customers receive from low-cost federal hydroelectric power.

2. Market Power Purchases

Although Lincoln's allocation of hydroelectric power generated at Hoover Dam would be sufficient to meet Lincoln's capacity and energy needs, Lincoln has not received its full allocation since 2004. As a result, Lincoln through its membership in the Arizona Electric Power Cooperatives Association (AEPCO) hedges energy in amounts determined through load and resource forecasting. The hedge product price is greater than Hoover Dam hydropower but typically less than market purchases. In instances that market power is available for less that the purchased hedge product, Lincoln sells the more expensive hedge and purchases the less expensive market power to provide the greatest economic benefit to its customers. In 2023 Lincoln made hedge and market purchases of $2,083,801.42 through AEPCO, which represents 57.3% of the cost of Lincoln's power supply mix for2023.

[6] U.S. Census, QuickFacts, On-Line Data, 2023.

AEPCO is a member-owned, not-for-profit electric generation and transmission cooperative formed in 1961 to provide reliable, affordable power to electric energy to its members across the Southwest. Lincoln became a class D member of AEPCO in May of 2017.

3. Solar Generation Project

In addition to federal hydroelectric power and purchases of power from the wholesale market, Lincoln constructed a 90 KW solar photovoltaic generating project in 2015. In 2016 Lincoln added an additional 60 KW to the project, bringing the total nameplate capacity of the facility to 150 KW DC. The solar project is expected to generate approximately 275,000 KWHs of energy annually. This solar generation represents approximately 0.31% of Lincoln's total annual power supply need. A portion of this project was offered by Lincoln to its customers for direct participation, making the project the first community solar project in the state of Nevada.

The net equivalent cost of this resource to Lincoln is $41.76/MWH. Although currently more costly than Hoover, this resource integrates well with Lincoln's Hoover resource and wholesale purchases which can be scheduled during off peak hours. In addition, at a fixed cost of $41.76/MWH this resource is well below projected on peak prices in the near future as shown by Table 4-2.

Table 4-2
Forecast Prices
On-Peak Mead 230-kV Bus[7]

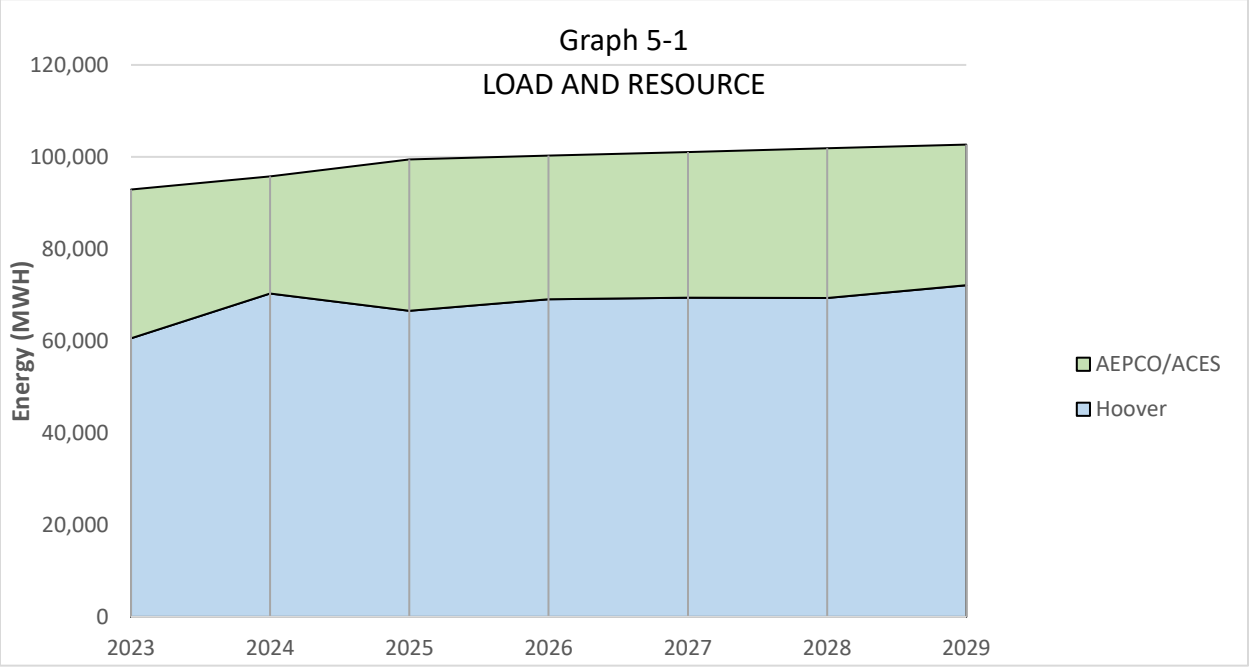
Month	$/MWH
June, 2024	81.97
July, 2024	195.57
August, 2024	205.54
September, 2024	159.37

[7] Arizona Electric Power Cooperative, Current Pricing Information, January 10, 2024.

SECTION 5
LOAD AND RESOURCE ANALYSIS

1. Existing Loads and Resource

Lincoln's projection of future loads and Lincoln's existing resources are summarized and compared in Graph 5-1. Currently Lincoln has only hedged its wholesale power supply from AEPCO through the end of 2025. For the purposes of this graph, it is presumed that Lincoln would continue to purchase supplemental power from AEPCO to meet its needs through the end of the planning period. Accordingly, as the graph shows, Lincoln's existing resources are expected to be sufficient to meet its needs through the end of 2029 (the term of this IRP planning period) and beyond.



SECTION 6
IRP GOALS

1. General Mission

Lincoln, as a power district under Chapter 318 of the NRS is charged with many obligations and responsibilities. Paramount among these is to provide a public service for the benefit of all electric power consumers located within its service area, including those that may be served by other local distribution systems that purchase wholesale power from Lincoln. In order to accomplish its statutory obligations, in the late 1980's Lincoln established a mission statement to help guide the Board, management and employees of Lincoln. This mission statement is:

> "To construct, operate and maintain a system which will provide our customers with electric service in the most economical and efficient manner consistent with sound business practice. In support of this statement we are committed to:
>
> - Provide programs and services in the most equitable and cost effective manner.
> - Utilize available resources as a vehicle to promote economic development within areas we serve at retail and at wholesale.
> - Meet present and future power needs with consideration for energy conservation, environmental quality and economical benefits.
> - Attract and retain service oriented employees who are recognized for their dedication, cooperation and knowledge.
> - Be recognized as a leader within the areas we serve at retail and at wholesale in regards to practicing and promoting safety among our employees and the public."

2. IRP Goals

Utilizing the foregoing mission statement and in consideration of the information contained in sections 2 through 5 of this report regarding the unique circumstances of Lincoln's service area, expected system loads, and existing and future generation resources, Lincoln has established the following goals relating to this IRP covering calendar years 2025 through 2029. These goals are based on the underlying premise that Lincoln has sufficient resource capacity, but due to low generation capacity factor of the Hoover resource, Lincoln has a need to conserve energy during peak hours while promoting efficient energy utilization during off-peak hours. Also, Lincoln has a need to develop local generation to help offset system losses, increase reliability, and reduce market power purchases.

Supply Side Goals

- Resource Diversification. Lincoln's resource portfolio is primarily made up of two resources, hydroelectric generation and fossil fueled generation. It is the goal of Lincoln to continue to diversify its resource portfolio to make it less susceptible to curtailments in the supply chain, such as those caused by drought within the Colorado River drainage basin.
- Cost Stabilization. fossil fueled generation accounts for 50% to 60% of Lincoln's annual power supply cost. Although natural gas prices have been at historic lows, it is expected the price for natural gas will increase in the future. It is the goal of Lincoln to identify and incorporate non-fossil fueled generation resources into its power supply mix.

Resource Delivery Goals

- Loss Mitigation. In 2023 Lincoln purchased 94,667,500 KWH and sold 81,838,934 KWH. The remaining energy was lost through transmission losses in third party system; losses in Lincoln' transmission and distribution systems; and ramping, regulation and spinning reserves at Hoover. Of energy losses, approximately 11.6% are lost in

Lincoln's electric system. It is the goal of Lincoln to continue to rehabilitate and upgrade its aged electric infrastructure to improve reliability and to reduce energy losses.

- Distributed Generation. For reasons similar to that stated above regarding loss mitigation, it is the goal of Lincoln to continue to look for opportunities to install distributed generation within Lincoln's electric system.

Demand Side Goals

- Beneficial Electrification. On-peak hours are defined by the National Energy Reliability Corporation (NERC) as those hours ending in 0700 to 2200 (7 a.m. through 11 p.m.) from Monday through Friday excluding NERC holidays (New Years, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas). Given the laws of supply and demand, energy available through the wholesale power markets is typically much more costly during on-peak hours. It is the goal of Lincoln to develop and offer programs that promote energy utilization during off-peak hours (hours other than on-peak hours).
- Residential Energy Conservation. Residential energy (from both Lincoln's retail and sales for resale sales) accounts for an estimated 55% of the total energy use in Lincoln County. It is the goal of Lincoln to develop and offer programs to assist and educate residents in lowering their energy consumption and electric bills.
- Agriculture Energy Conservation. Agriculture is the primary export industry of Lincoln County and accounts for 21% of the total energy use in Lincoln County. It is the goal of Lincoln to develop and offer programs to assist agriculture producers in lowering their energy consumption and electric bills.
- Low Income Assistance. 12.4% of the population in Lincoln County is classified as being under the poverty line. In addition, the U.S. Census report 24.8% of the population to be 65 years and older as of 2023. It is the goal of Lincoln to develop programs and offer

services specifically targeted to low income and elderly residents of Lincoln County to help them reduce their energy consumption and electric bills.

SECTION 7
PROGRAM EVALUATION

1. Supply-Side Programs

As indicated in section 5 of this report, Lincoln does not anticipate the need for additional supply-side resources during the IRP planning period. However, to achieve Lincoln's goals in regard to resource diversification and cost stabilization, Lincoln will continue to look for additional resource opportunities during the IRP planning period. Particular emphasis will be placed on renewable resources.

Based on Lincoln's resource needs, Lincoln could integrate into its supply side portfolio up to 25,000,000 KWH of additional resources which would displace wholesale market purchases of fossil fueled generation. This amount of resource opportunity is the equivalent of an approximate 9 MW single axis tracking, solar photovoltaic generating project. Given Lincoln's location, solar is the most likely opportunity for additional resources. Geothermal does not exist in Lincoln County at temperatures sufficient for generation purposes and wind resources are not sufficient in most areas of the county with ready access to Lincoln's electrical grid. Accordingly, Lincoln has and continues to focus on solar development.

Program Proposal 1.a, Small Scale Utility Owned Solar.

Lincoln applied for and was awarded a community directed funding grant through the omnibus spending bill for development of a 2 MW solar powered generation facility within its service territory. During the term of this IRP, Lincoln will construct and commission a photovoltaic project consisting of single axis tracking panels estimated to cover approximately 10 – 12 acres of land. Based upon feasibility studies conducted by National Renewable Energy Laboratories (NREL) and considering the grant funding, the levelized cost of energy for this project is estimated to be $31.50/MWH. Pricing indicates this project is favorable in comparison to market power purchases as it is only slightly higher than Hoover hydropower. Table 7.1 provides an estimate of costs and planned construction dates.

Table 7-1 Small Scale Utility Owned Solar			
Year	**Project**	**Generation**	**Cost W/O Grant**
2026	2 MW Single Axis Solar	5,496,000 KWH	$3,500,000

Given budgetary limitations, Lincoln will continue to assess small-scale renewable energy resource development in phases over multi-year periods.

Program Proposal 1.b, Utility Scale Renewable PPA.

Lincoln became a member of Arizona Electric Power Cooperative (AEPCO) in 2017 and as such is eligible to participate and purchase energy and capacity from projects constructed by AEPCO. Through its commitment to its members to provide energy solutions, AEPCO has determined that additional renewable resources are warranted. As a result of AEPCO's planning process, Apache II Solar is being designed and constructed as a 235 MW single axis tracking generation station located in Cochise, Arizona. Lincoln has executed a subscription agreement with AEPCO to purchase 5 MW of energy from the project. Lincoln's pricing for the project is anticipated at $21-$25/MWH which is comparable to Hoover hydropower prices and very favorable compared to current and forecast market power prices.

Apache II is planned to be operational during the term of this IRP with estimated completion dates of late 2025 to early 2026. Table 7.2 provides projected annual generation that will be included in Lincoln's supply portfolio.

Table 7-2 Solar Photovoltaic Generation Development			
Year	**Project**	**Generation**	**Cost**
2025	5 MW Apache II Solar	13,741,000 KWH	$.021-.025/KWH

Lincoln will continue to monitor pricing available for small utility scale solar projects from solar project developers in the form of PPAs. Should PPA pricing become comparable to

Lincoln's self-construction costs, Lincoln shall entertain executing of the PPA in lieu of continued self-construction.

2. Resource Delivery Programs

Most of Lincoln's system is constructed of long, radial, overhead distribution lines. Many of these lines were constructed in the 1930's and 1940's with various size conductors ranging from #2AWG copper to 4/0 ACSR. Losses in these lines are the sum of the I^2R, or resistance losses. In other words, as current increases in lines with small conductor size, losses increase with the square of the current. Lincoln continues to evaluate its distribution system and has identified several distribution feeders in need of reconductoring with larger sized conductor.

One of these distribution feeders was reconductored in recent years but the Gold Springs circuit remains in need of larger size conductor and structural rehabilitation. Because of the long radial transmission line lengths, Lincoln's electric system is capacity restricted and suffers significant voltage drop. These limitations significantly impair Lincoln's ability to serve new customers.

Program Proposal 2. a, Gold Springs Reconductoring.

During the IRP planning period, Lincoln intends to commence work on the reconstruction and reconductoring of the Gold Springs distribution circuit. This feeder is a radial feeder and serves and area experiencing growth. This 12 mile-long line will be reconstructed as a 22-KV, distribution feeder with 336 ACSR conductor in lieu of its current #2 AWG copper conductor. Cost of changing out the structures and reconductoring the line is estimated at $145,000 per mile.

The feeder experiences loading that varies from 125 KW to 1,800 KW. By making simplifying assumptions regarding the loading cycle and load distribution along the distribution circuit, the estimated energy savings from this project upon its completion will be approximately 24,837 KWH annually.

The total estimated cost of the distribution line replacement and upgrade is $1.4M. This system improvement project will reduce Lincoln's cost of purchased power by an estimated $1,018 per year. Because this project does not provide a reasonable payback on Lincoln's investment at current load levels, it would not normally be pursued for energy savings purposes. However, this project is required and must be implemented based on age of the existing distribution line and to provide system capacity for possible load growth in the Eagle, Rose and Dry Valley areas of Lincoln's service area.

Table 7-3 provides an estimate of costs and planned construction dates for this project.

Table 7-3
Meadow Valley Distribution Line Reconstruction and Reconductoring

Year	Miles	Estimated Cost
2025	1.8	$261,000
2026	0.6	$87,000
2027	3.0	$435,000

Lincoln has already replaced approximately 2 miles of structures located on the Gold Springs line.

Program Proposal 2.b, Power Factor Correction.

Throughout the period of this IRP, Lincoln plans to install capacitor banks within its service area to correct areas experiencing a low power factor and causing excessive energy losses. Through Lincoln's evaluation of system performance, certain areas of the distribution system have been identified as having a poor power factor. The data collection used to identify these areas has been greatly attributed to the deployment of Advanced Metering Infrastructure. Power factor is an expression of energy efficiency and generally expressed as a percentage. It is the ratio of Working Power, measured in kilowatts (KW), to Apparent Power, measured in kilovolt amperes (KVA). A power factor of less than 95% is considered inefficient in the

electrical industry and can lead to additional energy supplied to a load than what is actually required. Of the areas identified as having a poor power factor, one stands out located at the Mesa Substation. High inductive load largely caused by municipal water pumping has caused losses on this circuit at approximately 260,000 KWH in 2023.

Lincoln has calculated that approximately 600 Vars of capacitance would be sufficient to increase efficiency and correct low power factor conditions.

Table 7-4 provides an estimate of costs and planned dates for completion of the Power Factor correction project.

Table 7-4
Power Factor Correction Project

Year	Location	Estimated Cost
2025	Mesa Substation	$50,000

3. Demand-Side Evaluation

As outlined in section 6 of this report, Lincoln has established four primary goals of this IRP. In order to achieve these goals, demand-side programs developed by Lincoln must not adversely impact rates, must continue to focus on energy reduction, and must provide direct benefit to end-use customers. Further, given the daily, monthly and seasonal load profiles presented in section 3, coupled with possible growth in Lincoln's residential sector, Lincoln has determined that its demand-side programs shall strive to achieve strategic overall energy conservation while providing beneficial electrification opportunities during non-peak hours. Using the above screening criteria, Lincoln has determined the following demand-side programs to be appropriate for its electric system during the IRP planning period.

Program Proposal 3.a, Residential and Commercial High Efficiency Air Conditioning and Heating.

In Lincoln's service area, electric heating is the most significant factor driving winter peak demand and electric cooling in conjunction with irrigation loads combine to establish summer peak demand. Accordingly, Lincoln proposes to develop programs intended to promote high efficiency air conditioning and heating.

Up to 50 percent of a home's energy costs may be going directly to heating and cooling according to the U.S. Environmental Protection Agency, Energy Star program. Energy efficient heating and cooling equipment that's sized and installed according to best practices can keep a home more comfortable year-round and save energy.

Air conditioning and heating equipment efficiencies are rated according to the following standards:

- SEER2. The Seasonal Energy Efficiency Ratio (SEER) rating of a unit is the cooling output during a typical cooling-season divided by the total electric energy input during the same period. The higher the unit's SEER rating the more energy efficient it is. In the U.S., the SEER is the ratio of cooling in British thermal unit (BTU) to the energy consumed in watt-hours. Efficiency of central air conditioners are typically reported by a SEER rating.
- EER2. The Energy Efficiency Ratio (EER) of a cooling device is the ratio of output cooling energy (in BTU) to input electrical energy (in watthours) at a given operating point. EER is generally calculated using a 95 °F outside temp and an inside (return air) temp of 80 °F and 50% relative humidity. Efficiency of window air conditioners are typically reported by an EER rating.
- HSPF2. The Heating Seasonal Performance Factor (HSPF) is used to measure the efficiency of air source heat pumps. The higher the HSPF rating of a unit, the more energy efficient it is. HSPF is a ratio of BTU heat output over the heating season to watt-hours of electricity used. It has units of BTU/watthour.

SEER2 rating reflects overall system efficiency on a seasonal basis and EER reflects the system's energy efficiency at one specific operating condition. Both ratings are useful when choosing products, but the same rating must be used for comparisons.

It is rare to see cooling systems rated below SEER 9 in the United States because aging, existing units are being replaced with new, higher efficiency units. In 2023 the (DOE revised energy conservation rules to impose elevated minimum standards and regional standards for residential HVAC systems. The regional approach recognizes the differences in cost-optimization resulting from regional climate differences. Starting January 1, 2023, split system central air conditioners installed in the installed in the Southwestern Region, which includes Nevada, must be a minimum 14.3 SEER2and 11.7 EER2. In comparison though, ENERGY STAR qualified central air conditioners must have a SEER2 of at least 16. Substantial energy savings can be obtained from more efficient air conditioning systems.

For heating units, HSPF2 ratings have similarly increased over time. An HSPF of 8 or greater can be considered high efficiency and currently eligible for federal tax credits. To be ENERGY STAR rated, air-source heat pumps must have a HSPF2 of 10.6 or greater.

In Lincoln's service area, electric air conditioning options include central air conditioners (also called "split-systems") with ducts, heat pumps (both air source and geothermal source), evaporative coolers, window air conditioners, and ductless heat pumps. Ductless heat pumps incorporate the use of a condenser unit that is placed outside the home, with refrigerant and electrical lines that go through the exterior wall to connect to one or more compact, wall-mounted cooling units (zones) inside the home. They are efficient and allow retrofit of existing homes without the installation of ducts.

To encourage the retirement of older, less efficient units, and to encourage the installation of high efficiency air conditioning and heating equipment on new and existing buildings, Lincoln shall offer incentives to residences installing high efficiency equipment as shown in Table 7-5. Incentives will be paid as credits on customer bills for electric service or as cash rebates. Incentive payments shall be capped at one incentive payment per location during the 5-year IPR planning period. Applicants will have six months from date of purchase to apply for incentives.

Table 7-5 Residential and Commercial High Efficiency Air Conditioning and Heating		
New System Being Installed	New System Minimum Efficiency	Incentives
Air Source Heat Pump	9.6 HSPF2, 16 SEER2	$200
Air Source Heat Pump	10 HSPF2, 17 SEER2	$400
Ductless Mini Split Air Conditioner and Heat Pump – Single Head (single air handler unit)	10 HSPF2, 17 SEER2	$400
Ductless Mini Split Air Conditioner and Heat Pump -Dual Head (2 air handler units)	10 HSPF2, 17 SEER2	$600
Ductless Mini Split Air Conditioner and Heat Pump – Multiple Head (3 or more air handler units)	10 HSPF2, 17 SEER2	$800
Central Air Conditioners	17 SEER2	$200
Central Air Conditioners	18 SEER2	$300
Central Air Conditioners	19 SEER2	$400
Evaporative Cooler – Permanently Installed		$100

- Air Source Heat Pump Qualifications: New air source heat pump must become the primary heat source and must serve at least 80 percent of the home's conditioned area. Ductless heat pump must be a new AHRI (Air Conditioning, Heating, and Refrigeration Institute) rated ductless (mini-split) system with an AHRI Standard Rating Cooling Capacity of 65,000 BTU/hour (5.4 tons) or less. Unit must be listed on the AHRI Certified Directory: ahridirectory.org. Ductless mini split air conditioner and heat pump must employ an inverter driven outdoor compressor unit and a variable speed fan for indoor blower and be fully ductless. Ductless mini split air conditioner and heat pump must be Energy Star rated and installed by a licensed contractor
- Central Air Conditioner Qualifications. Central air conditioner must be a new, air source-split system equipment with a matching condensing unit and evaporator coil or packaged unitary air conditioner. SEER determined by AHRI (Air Conditioning, Heating, and Refrigeration Institute) Standard 210/240 and listed in the AHRI

Certified Directory of Unitary Equipment: ahridirectory.org. Central air conditioner must have an AHRI Standard Rating Cooling Capacity of 65,000 BTU/hour (5.4 tons) or less. Window air conditioning units, packaged terminal units, and heat pumps are not eligible. Central air conditioner must be Energy Star rated and installed by a licensed contractor.

- Evaporative Cooler Qualifications. Evaporative coolers must be new, with a minimum 2,500 CFM rating. Evaporative cooler must be permanently installed in a window or on a roof. The residence of building being cooled must use evaporative cooling exclusively. The evaporative cooler shall not be installed in conjunction with other cooling equipment. Evaporative cooler must be Energy Star rated.

The program shall be available to all customers within Lincoln's service area including those directly served by Lincoln, the Alamo Power District No. 3 and the City of Caliente. This program shall not be available for the new large scale residential or commercial subdivisions or developments that may occur in Coyote Springs. Developers of large scale residential or commercial subdivisions or developments in Coyote Springs shall be required to install air conditioning and air source heat pumps that are Energy Star ® rated, and neither the developers nor the purchaser shall be eligible to apply for a rebate under this program.

The program is available for new construction or for replacement of existing evaporative coolers, room air conditioners, central air conditioners, electric wall heaters, or air source heat pumps.

Lincoln shall provide incentives to residences installing high efficiency equipment as shown in incentive table. Incentives will be paid as credits on customer bills for electric service or as cash rebates. Incentive payments shall be capped at one incentive payment per location during a 5-year period. Applicants will have six months from date of purchase to apply for incentives.

To qualify an end-user must submit an application, provide a copy of the invoice or receipt for the high efficiency air conditioning unit or heat pump, and provide a copy of the Energy Guide label identifying the SEER or EER rating. To receive an incentive payment,

representatives of Lincoln must inspect the installation and verify that the high efficiency air conditioning unit or air source heat pump is connected and operational. Applications for incentive payments will be reviewed and approved on the basis of the order in which eligible applications are received by Lincoln. The number of incentive payments to be issued each year is subject to the program budget limitation set by Lincoln. Applications received after funding limits have been reached shall be retained for consideration in the following year.

Proposal 3.b, Weatherization.

The U.S. Census Bureau reports that 2,261 housing units existed in Lincoln County in 2023. Detail for 2023 is not available but from 2020 Census Bureau data, 47% of these units were constructed before 1970 as indicated in Table 7-6.

Table 7-6
Age of Housing Stock

Year Built	Percent of Total Housing Stock
2010 or Later	3%
1990 to 2009	18%
1970 to 1989	33%
1969 or earlier	47%

These statistics indicate that most of the housing units in Lincoln County are older homes or mobile homes with relatively few modern units. As a result it is believed that many could significantly benefit from various weatherization type programs including insulation, duct sealing, shell sealing, caulking, weather stripping, exterior door replacement, window replacement, evaporative cooler covers, solar screens, appliance upgrades, insulation of water heaters and pipes, and low flow shower heads. Further,12.4% of the population in Lincoln County is classified as being under the poverty line. In addition, the U.S. Census report 24.8% of the population to be 65 years and older as of 2023. Therefore, it is believed that a significant

portion of the older homes in Lincoln County are occupied by the elderly or by low income residents.

To provide opportunities for weatherization of older homes in Lincoln County, Lincoln shall offer a program that funds most if not all of the needed repairs. To achieve this objective, Lincoln believes it in the best interest of its customers for Lincoln to continue to team with the Rural Nevada Development Corporation (RNDC). The RNDC is a non-profit organization created to implement the grant programs of the Nevada Division of Housing, including a low- income weatherization assistance program. The goal of the program is to assist low-income persons in reducing their utility bills by providing various energy conservation measures. Assistance is provided free of charge. Assistance is available to homeowners or renters who reside in either mobile homes, single family homes or multi-family homes, provided the household's annual gross income is at or below 150% of the federal poverty income guidelines (established by the Office of Management and Budget). Individuals participating in the state's Energy Assistance Program (EAP) are eligible for services as well. For example, a household of five individuals with household income of $41,355 would currently qualify for the program.

Weatherization measures completed by the RNDC at no cost to the homeowner or renter are dependent on funding, program guidelines, regional climate, and the needs of the building, but are identified by the RNDC to include:

- Ceiling, floor, and duct insulation
- Duct leakage sealing (return and supply systems)
- Shell infiltration sealing (replace broken windows, replace exterior doors, weather stripping, caulking, evaporative cooler covers, etc.)
- Insulation of water heater and water heater pipes
- Installation of low-flow showerheads (2.5 gallons per minute or less)
- Solar screens (Southern Nevada only)
- Minor home repairs
- Heating and cooling system repairs/replacements
- Refrigerators

- Health and safety measures (carbon monoxide testing of combustion appliances, assurance of indoor air quality standards, and installation of carbon monoxide detectors)

Based on past records maintained by the RNDC, weatherization projects in Lincoln's area typically result in an average reduction in energy use of 7,475 kWh per year.

Under Lincoln's arrangement with the RNDC, Lincoln shall contribute additional grant money to the RNDC for use on weatherization projects in Lincoln County. Specifically, Lincoln shall fund one-half the cost of weatherization projects in Lincoln County by the RNDC, up to $15,000 per year. Based on records of past weatherization projects, each project costs between $2,000 and $4,000. Historically, RNDC completes an average of 3 projects in Lincoln County each year.

The program shall be available to all residential end-use customers within Lincoln's service area including those directly served by Lincoln, the Alamo Power District No. 3 and the City of Caliente.

The program is available through the Rural Nevada Development Corporation for weatherization of existing mobile homes, single family homes or for multi-family homes. The rules, regulations, requirements and limitations of the RNDC Low Income Weatherization Program shall apply. Lincoln shall provide customers with applications and program information and shall assist customers in contacting and preparing applications for the RNDC Low Income Weatherization Program.

Program Proposal 3.c, Irrigation Efficiency.

Irrigated fields accounted for approximately 22% of the energy use in Lincoln County in 2023. To ensure peak operating efficiency, it is important the irrigation systems are properly maintained. This includes utilizing efficient nozzles and sprinklers and eliminating leaks within

the system. By replacing old and deteriorated irrigation system parts with new parts, water use and electric energy consumption can be reduced.

To encourage proper maintenance of irrigation systems, Lincoln proposes to pay an incentive for the purchase of specified replacement parts and components for existing irrigation systems. The incentive shall vary by the sprinkler component or part incorporated in the sprinkler system. Incentives shall be offered for 11 specific sprinkler parts as listed in Table 7-7. The program shall be available to customers in Lincoln's Irrigation, Small Mixed Agricultural Use and Large Mixed Agricultural Use classifications. Incentives will be paid as credits on customer bills for electric service. Incentive payments shall be capped at $1,000 per location during the 5-year IPR planning period. Applicants will have six months from date of purchase to apply for incentives. Applications for incentive payments will be reviewed and approved on the basis of the order in which eligible applications are received by Lincoln. The number of incentive payments to be issued each year is subject to the program budget limitation set by Lincoln. Applications received after funding limits have been reached shall be retained for consideration in the following year.

Table 7-7
Irrigation Efficiency Improvement Incentives

Replacement Part	Incentive
New flow-control-type nozzles (Entire pivot or line must be upgraded and flow may not be increased)	$1.50 Each Nozzle
New nozzles for impact, rotating or fixed head sprinkler (Entire pivot or line must be upgraded and flow may not be increased)	$0.25 Each Nozzle
New impact or rotating type sprinklers (Entire pivot or line must be upgraded and flow may not be increased)	$2.75 Each Sprinkler
New or rebuilt wheel line levelers (Self-leveler which automatically keeps the sprinkler heads on an irrigation wheel-line in a steady upright position)	$0.75 Each Leveler

Table 7-7 Continued	
New drains for pivots and wheel lines (Entire pivot or line must be upgraded)	$2.00 Each Drain
New riser caps and gaskets for hand lines, wheel lines or portable mainline (Entire line must be upgraded)	$1.00 Each Riser cap
New wheel line hubs (Entire line must be upgraded)	$12.00 Each Hub
New gooseneck with drop tube or boom back	$1.00 Each Outlet
Cut and pipe press or weld repair of leaking hand lines, wheel lines and portable mainline (invoice must show number of joints repaired)	$8.00 Each Joint
New center pivot base boot gasket	$125.00 Per Pivot
New low-pressure regulators (Entire pivot must be upgraded)	$5.00 Per Regulator

- Satisfactory proof of purchase is required. Sales receipts or invoices itemizing the sprinkler parts purchased must accompany each incentive item. Proof of purchase must indicate the size, type, make, model or part number of each product purchased and installed, the date of purchase and identity of purchaser.
- Sprinkler parts must be purchased and installed before payment can be issued. Submitting an incentive application with incomplete or missing information may delay incentive processing and payment. The incentive amount per unit will be the lesser of the incentive per unit as specified on the incentive value or the actual amount paid. Incentive payments will be applied first to any outstanding balance owed to Lincoln.
- The recipient of the incentive is responsible for any tax liability imposed as a result of the payment of such incentives. Incentives greater than $600 (single and cumulative) will be reported to the IRS unless the customer has established exemption from taxation. An IRS W-9 form may be required.
- Lincoln makes no express or implied warranties concerning the performance of irrigation systems using the specified sprinkler parts.

- Lincoln's employees or representatives must be provided reasonable access to the agricultural irrigation system to which any incentive application applies to verify installation and proper program participation.

Program Proposal 3.d, Electric Vehicle Advancement.

In 2023, 1.2 million electric vehicles were sold in the US. Also, the total EV share of the total U.S. vehicle market was 7.6%. Future projections vary significantly, with some predicting 20% of vehicle sales by 2030 being electric. More conservative economists put the number closer to 12%.

The state of Nevada has made significant push to encourage a transition to greater us of electric vehicles, including the passage of Senate Bill 254. Among other things, Senate Bill 254 sets forth economy-wide greenhouse gas (GHG) reduction goals of 28% below 2005 levels by 2025, 45% below 2005 levels by 2030, and zero or near-zero by 2050. To achieve these goals requires significant evolution within the transportation sector.

Prior to adoption of GHG reduction goals, Nevada has put in place a program to create electric vehicle friendly highways in Nevada by establishing charging stations every 80 miles. This effort known as the Nevada Electric Highway commenced in 2016 and is headed by the Nevada Governor's Office of Energy. In 2017, Lincoln constructed an electric vehicle charging station in Panaca, Nevada and in 2019 completed an electric vehicle charging station in Alamo, Nevada. To date, Lincoln has provided 1,192 KWHs from the Panaca site. Although, electric vehicles are traveling through Lincoln County, Lincoln is not aware of any all electric plug-in vehicle that is based in Lincoln County.

The amount of energy needed by an electric vehicle is directly proportional to the distance driven. However, for estimating purposes, a Nissan Leaf Plus that is driven 15,000 miles annually will require 4,115 KWH of energy. The average energy required by a home in Lincoln County in 2023 was 13,200 KW. Therefore, 3 electric vehicles in Lincoln County would provide nearly the same level energy sales to Lincoln as one new home in Lincoln County. The

main advantage of an electric vehicle and these related energy sales is that they could be controlled to occur during off-peak hours.

To encourage adoption of electric vehicles in Lincoln County, Lincoln proposes to provide a program to install residential electric vehicle chargers at a reduced cost as indicated in Table 7-8. This program will be capped at 15 electric vehicle chargers per year. Applications for electric vehicle chargers will be reviewed and approved on the basis of the order in which eligible applications are received by Lincoln. Applications received after the annual cap for electric vehicle chargers has been reached shall be retained for consideration in the following year.

Table 7-8
Electric Vehicle Advancement Program

Component	Cost Charged to Customer
Level 2, 120 Volt, 40 Amp, UL listed, Residential Vehicle Charger.	Free
Mounting of Level 2 Electric Charger in an enclosed garage (does not include a 240 Volt, NEMA 14-50 receptacle which is required for the charger).	Free
Modifications of a residential customer's electric wiring to support a Level 2 Charger, including addition of a breaker, installation of building wire, or installation of a NEMA 14-50 receptacle.	At the Cost of the Work. Lincoln will provide the customer with an estimate for labor and materials. The customer is required to pay Lincoln for modifications or to hire a licensed contractor to perform the work.

- The electric vehicle charger supplied by Lincoln shall be JuiceBox 40 or an equal as determined by Lincoln. The electric vehicle charger shall be supplied with an 25-foot long charging cable and cable holder.
- The customer receiving the electric vehicle charger must have available WiFi service at their residents and must agree to allow the electric vehicle charger to utilize the WiFi service.

- The customer receiving the electric vehicle charger must agree to download the smart phone app that is available for the charger and must agree to set the electric charger not allow a plugged-in vehicle to charger during the hours of 6:00 a.m. to 9:00 p.m. Monday through Friday of each week.
- The electric vehicle charger will be mounted by Lincoln. Modifications of the customer's electric wiring at their home to allow operation of the electric vehicle charger will be at the customer's cost and is not free. Lincoln shall provide a customer with an estimate to perform the necessary work , or at the customer's option they may have the work performed by an electrician, licensed with the State of Nevada Contractor's Board, and authorized by all appropriate licensing bureaus to conduct business in Lincoln County, Nevada.
- An electric vehicle charger will only be supplied by Lincoln to its residential service customers or to residential service customers of the City of Caliente or residential service customers of Alamo Power District No. 3. Electric vehicle chargers will not be provided to businesses, schools, government offices or similar type commercial service customers.
- If an AMI meter is not already present, the customer must agree to the installation of an AMI meter. Lincoln shall monitor the AMI meter to verify electric vehicle charging by the customer only occurs within authorized charging hours. If electric vehicle charging that occurs outside of the authorized hours, the customer will be assessed a $50 penalty for each month charging outside of authorized hours occurs.

SECTION 8

ACTION PLAN

1. Program Summary

Table 8-1 summarizes Lincoln's planned budget and expected energy savings by year under this IRP for the period 2025 through 2029. Details of each program are provided in the sections following the table.

Table 8-1
Program Summary

Program	2025	2026	2027	2028	2029
1.a Small Scale Utility Owned Solar	$0	$1,750,000	$1,200	$1,200	$1,200
1.b Utility Scale Renewable PPA	$0	$316,043	$316,043	$316,043	$316,043
2.a Gold Springs Reconductoring	$261,000	$87,000	$435,000	$0	$0
2.b Power Factor Correction	$50,000	$0	$0	$0	$0
3.a HVAC Rebate	$5,000	$5,000	$5,000	$5,000	$5,000
3.b Weatherization	$15,000	$15,000	$15,000	$15,000	$15,000
3.c Irrigation Efficiency	$4,000	$4,000	$4,000	$4,000	$4,000
3.d Electric Vehicle Advancement	$15,000	$15,000	$15,000	$15,000	$15,000
Total Budget Cost	$350,000	$2,192,043	$791,243	$356,243	$356,243
Expected Annual Energy Savings (KWH)	243451	237931	248971	260008	260008
Cumulative Energy Savings (KWH)	243451	481382	730353	990361	1250369

SECTION 9
PUBLIC INVOLVEMENT

1. Public Involvement

Lincoln's IRP has been developed with full public involvement. To encourage public input, meetings were held on June 10, 2024 and July 22, 2024 during which the IRP was discussed and reviewed. Notices of the scheduled public meetings were posted at the Lincoln County Courthouse, U.S. Post Office in Pioche, Lincoln County Telephone System Office, Lincoln County Power District Office, Panaca Market, and the U.S. Post Office in Panaca. In addition, in order to solicit input from those not attending the public meetings, legal notices were placed in the Lincoln County Record, the local paper. These notices indicated:

Draft Integrated Resource Plan Available For Review

The Lincoln County Power District No. 1 (LCPD) is required by its contract for power from Hoover Dam to prepare an Integrated Resource Plan (IRP) every five years. The purpose of the IRP is to verify LCPD is using Hoover Dam power efficiently. To ensure the efficient use of hydroelectric power, under the IRP LCPD will offer various conservation programs to its customers. The draft IRP identifies the programs LCPD is planning for the next five years. The draft IRP is available for customer review at LCPD's website at www.lcpd1.com. Copies will be made available upon request. Customers may offer comments and suggestions on the planned programs for consideration. Comments should be submitted in writing to LCPD before July 19, 2024. Submit comments to Lincoln County Power District No. 1, P.O. Box 910, Panaca, Nevada 89042.

Additional notices regarding the availability of Lincoln's draft IRP were placed on Lincoln's website and in Lincoln's Ruralite magazine.

As a result of the planning and public comment process, Lincoln's IRP has been specifically tailored to meet the needs, goals and objectives for Lincoln's system.

APPENDIX A

Projected System Requirements

SYSTEM FORECAST

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
2024													
Capacity	17,037	16,624	15,037	14,390	17,186	19,443	21,393	18,639	18,513	12,515	14,897	16,461	
Energy	8,054,645	7,032,135	7,069,833	6,916,036	8,875,387	9,627,597	11,093,163	8,723,838	7,699,858	6,437,614	6,500,437	7,764,753	95,795,297
2025													
Capacity	17,689	16,666	15,612	14,941	17,844	20,188	22,212	19,352	19,222	12,994	15,467	17,091	
Energy	8,363,030	7,301,372	7,340,513	7,180,828	9,215,195	9,996,205	11,517,882	9,057,844	7,994,659	6,684,088	6,749,316	8,062,039	99,462,971
2026													
Capacity	17,830	17,399	15,737	15,061	17,987	20,349	22,390	19,507	19,376	13,098	15,591	17,228	
Energy	8,429,934	7,359,783	7,399,237	7,238,274	9,288,917	10,076,174	11,610,025	9,130,307	8,058,616	6,737,561	6,803,311	8,126,535	100,258,675
2027													
Capacity	17,973	17,538	15,863	15,181	18,131	20,512	22,569	19,663	19,531	13,203	15,716	17,366	
Energy	8,497,374	7,418,661	7,458,431	7,296,181	9,363,228	10,156,784	11,702,906	9,203,349	8,123,085	6,791,462	6,857,737	8,191,547	101,060,744
2028													
Capacity	18,117	17,678	15,990	15,303	18,276	20,676	22,750	19,821	19,687	13,309	15,841	17,505	
Energy	8,565,353	7,478,010	7,518,099	7,354,550	9,438,134	10,238,038	11,796,529	9,276,976	8,188,070	6,845,793	6,912,599	8,257,080	101,869,230
2029													
Capacity	18,262	17,205	16,118	15,425	18,422	20,842	22,932	19,979	19,845	13,415	15,968	17,645	
Energy	8,633,876	7,537,834	7,578,243	7,413,386	9,513,639	10,319,942	11,890,901	9,351,192	8,253,574	6,900,560	6,967,900	8,323,136	102,684,184
2030													
Capacity	18,408	17,962	16,247	15,549	18,569	21,008	23,115	20,139	20,003	13,522	16,096	17,786	
Energy	8,702,947	7,598,137	7,638,869	7,472,693	9,589,748	10,402,502	11,986,028	9,426,001	8,319,603	6,955,764	7,023,643	8,389,721	103,505,658
2031													
Capacity	18,555	18,106	16,377	15,673	18,718	21,176	23,300	20,300	20,163	13,631	16,224	17,928	
Energy	8,772,570	7,658,922	7,699,980	7,532,475	9,666,466	10,485,722	12,081,916	9,501,409	8,386,160	7,011,410	7,079,833	8,456,839	104,333,703
2032													
Capacity	18,704	18,251	16,508	15,798	18,868	21,346	23,486	20,463	20,325	13,740	16,354	18,072	
Energy	8,842,751	7,720,194	7,761,580	7,592,735	9,743,798	10,569,608	12,178,572	9,577,420	8,453,249	7,067,501	7,136,471	8,524,494	105,168,372
2033													
Capacity	18,853	17,763	16,640	15,925	19,019	21,517	23,674	20,626	20,487	13,850	16,485	18,216	
Energy	8,913,493	7,781,955	7,823,673	7,653,477	9,821,748	10,654,165	12,276,000	9,654,040	8,520,875	7,124,041	7,193,563	8,592,690	106,009,719