BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF PUBLIC SERVICE COMPANY OF NEW MEXICO'S FIRST ANNUAL GRID MODERNIZATION REVIEW FILING PURSUANT TO THE COMMISSION'S FINAL ORDER	)	**Case No. 25-00049-UT**
PUBLIC SERVICE COMPANY OF NEW MEXICO,	)	
Applicant.	)	

DIRECT TESTIMONY

OF

JONATHAN C. HAWKINS

June 20, 2025

NMPRC CASE NO. 25-00___-UT
INDEX TO THE DIRECT TESTIMONY OF
JONATHAN C. HAWKINS

WITNESS FOR
PUBLIC SERVICE PNM OF NEW MEXICO

DIRECT TESTIMONY
OF JONATHAN C. HAWKINS
NMPRC CASE NO. 25-00___-UT

I. INTRODUCTION AND PURPOSE

Q. Please state your name, position, and business address.

A. My name is Jonathan Hawkins. I am the Associate Director of Grid Modernization for PNM. My address is 4201 Edith Blvd. NE, Albuquerque, New Mexico 87107. I am testifying on behalf of PNM.

Q. Please describe your duties and responsibilities as Associate Director of Grid Modernization.

A. I am responsible for leading the strategic implementation of a variety of technology and operations capability to modernize PNM's energy grid.

Q. Please describe the purpose of your testimony.

A. I describe the technical implementation plans for the technologies within the overall Grid Modernization plan. This includes: 1) Advanced Metering Infrastructure (AMI); 2) Advanced Distribution Management System (ADMS); 3) Customer Information and Analytics; 4) Cybersecurity; 5) Data Management and Architecture; 6) Distribution Automation; 7) Distribution Planning and Engineering; 8) Telecommunications, and 9) Program Oversight. Finally, I support PNM's request to recover capital investment and operations and maintenance ("O&M") costs for the grid modernization components discussed in my testimony.

II. PROGRAM COST ESTIMATE UPDATES

1) Advanced Metering

Q. Have there been any changes to the capital costs for the Advanced Metering component of the Grid Modernization plan?

A. Yes. The capital cost of the Advanced Metering program has increased by approximately $9M in total. This net impact is due to the combined impact of several overlapping major change drivers:

- **Software as a Service (SaaS) fees:** Shifted from O&M to capital as explained in the testimony of PNM witness Tom Baker. As PNM was able to update and finalize our agreement with the Advanced Metering hardware and software vendor, we identified approximately $13.5M SaaS fees that should be capitalized. These fees were previously forecasted as O&M across years one through six in the application in Case No. 22-00058-UT. This is a shift from O&M to capital and a timing shift for the payments to occur generally every three years instead of annually – **not** a net increase in project costs.
- **AMI Meter Installation Labor:** At the time of the application in Case No. 22-00058-UT, the AMI meter installation forecast included both the forecasted cost to install the meters based upon peer utility experience, as well as a related estimate for warehousing the meters. At that time, a specific meter installation vendor partner had not been selected. PNM's selected vendor's bid includes both scope areas (i.e., they will be providing the warehouse service for the duration of the program), leading to a combined cost reduction of approximately $15.4M across years two through four. Please refer to the Direct

Testimony of PNM witness Eric Morgan for additional detail on the planning for AMI meter installations.

- **MDMS System Integration / CIS Enhancements:** At the time of the application in Case No. 22-00058-UT, MDMS System Integration was expected to cost approximately $4.3M of capital. As part of the year one planning process and in collaboration with vendor partners, PNM has revised this forecast upwards by approximately $6.2M, to approximately $10.5M of capital clearings. This has been driven by a better understanding of the technical complexity and timeline required to stand up the end-to-end solution required to accurately bill customers and provide data to the customer energy management platform (CEMP) and Mobile App. We are continuing to negotiate this scope area with our selected vendor partners, and we have reflected our best estimate of the likely outcome.
- **Internal Labor:** As of the time of this filing, the expected internal labor costs were included as a sub-component in the scope areas they were would be supporting. Approximately $3.3M of internal labor costs across the four years of the AMI project are now being forecasted separately as a specific budget line item to support the program as it moves into the execution phase, to ensure it is appropriately supported with the relevant subject matter experts from PNM's Operations and Information Technology groups. Please refer to PNM Exhibit JCH-2, where this change can be seen visually. Note the Internal Labor within the application in Case No. 22-00058-UT is shown as $0M, while the

total as of the current forecast is now approximately $3.3M across years one through four.

- **Network Hardware / AMI Access Point Installation / Testing:** Additional forecast increases for network hardware (approximately $1.0M), AMI Access Point Installation (approximately $1.7M), and meter testing (approximately $0.6M) have been identified. I should note that the cost of the AMI Access Points may be impacted by future federal trade tariff policies, and that the installation cost is based upon a rough order of magnitude estimate with a formal Request for Proposal (RFP) planned for later in 2025.

Additionally, while it was not a net cost increase, there was a timing shift which pulled forward capital clearings into year one:

- **Increase in year one Capital Clearings:** The project has shifted approximately $16.8M from future years capital clearings into year one. At the time of the application in Case 22-00058-UT, year one Advanced Metering capital clearings were limited to deployment of PNM AMI Access Point Installations because year one was originally considered more of a planning year with limited progress on assets going into service. As the team has refined our planning, the revised forecast has captured approximately $16.8M of the software solution (e.g. Meter Head End, MDMS, Initial Project Costs) will be used and useful in year one to support further development and testing of the end-to-end system in year two (e.g., MDM System Integration / CIS

Enhancements). This is largely an overall acceleration of capital clearing that was forecast in the application in Case No. 22-00058-UT – **not** a net increase in project cost.

A summary of the AMI capital clearings can be found in PNM Exhibit JCH-2.

Q. Have there been any changes to the O&M costs for the AMI component of the grid modernization program?

A. Yes. The O&M costs for the AMI program have decreased by approximately $14.2M. This is primarily due to the shift of the forecasted SaaS costs to capital (approximately $13.5M) as outlined above. Additionally, PNM is forecasting a reallocation of approximately $0.5M of O&M, across years one and two, from the AMI project to the Program Oversight area to support centralized execution of business process change management. This reallocation is also discussed in PNM witness Eric Morgan's Direct Testimony.

A summary of the AMI O&M costs can be found in PNM Exhibit JCH-3.

2) Advanced Distribution Management System (ADMS)

Q. Have there been any changes to the capital or O&M costs for the ADMS component of the grid modernization program?

A. Yes. There was a reallocation of O&M costs between Grid Modernization areas discussed further below, while the capital clearings have not changed materially.

Capital Clearings: No material change to discuss.

O&M: PNM reallocated approximately $0.7M year one and approximately $0.2M year two O&M costs from ADMS to the Program Oversight area to support the centralized execution of business process change management and business requirements pre-work.

A summary of the ADMS capital clearings and O&M costs can be found in PNM Exhibits JCH-4 and JCH-5, respectively.

3) Customer Information and Analytics

Q. Have there been any changes to the capital or O&M costs for the Customer Information and Analytics component of the grid modernization program?

A. Yes. The capital costs for the Customer Information and Analytics portion of the program have increased by approximately $5.6M, while the O&M costs have increased by approximately $2.2M.

Capital Clearings: Increase of approximately $5.6M capital driven by three factors:

- Approximately $4.4M for the Customer Information and Access Management (CIAM) solution, including its delivery in year two and license renewal in year four. This was not identified in PNM's original application in Case No. 22-00058-UT, but it is critical to the successful development and launch of the

CEMP and Mobile App. The CIAM is critical functionality to enable a seamless and secure customer experience within the CEMP and Mobile App.

- Approximately $0.9M increase in the cost to implement and test the CEMP and Mobile App.
- Approximately $0.3M in year three to deliver the Green Button Connect My Data functionality.

A summary of the Customer Information and Analytics capital clearings can be found in PNM Exhibit JCH-6.

O&M: Increase of approximately $2.2M in O&M costs due to the increased cost of the CEMP and Mobile App license costs, and the additional license cost for the Green Button Connect My Data beginning in year three.

A summary of the Customer Information and Analytics O&M costs can be found in PNM Exhibit JCH-7.

4) Cybersecurity

Q. Have there been any changes to the capital or O&M costs for the Cybersecurity component of the grid modernization program?

A. Yes. The capital costs for the Cybersecurity portion of the program have increased by approximately $0.5M, while the O&M costs have not changed materially.

Capital Clearings: Refinements were made to the Software Defined Networking / Network segmentation and SIEM components of the year two forecasts.

A summary of the Cybersecurity capital clearings can be found in PNM Exhibit JCH-8.

O&M: No material changes to discuss.

A summary of the Cybersecurity O&M costs can be found in PNM Exhibit JCH-9.

5) Data Management and Architecture

Q. Have there been any changes to the capital or O&M costs for the Data Management and Architecture component of the grid modernization program?

A. Yes. The capital costs for the Data Management and Architecture portion of the program have increased by approximately $5.2M, while the O&M costs have decreased by approximately $0.6M.

Capital Clearings: Year one capital clearings increased by approximately $2.4M driven by approximately $1.5M increase in the TIBCO license payment, with additional smaller increases driven by increased hardware, onsite infrastructure support, and configuration support costs. Year five capital clearings increased by approximately $2.2M for the expected TIBCO license renewal cost at the end of

the current agreement term with the vendor. The increased TIBCO license payment is driven by PNM proactively negotiating a 5-year contract with the new TIBCO vendor using an Enterprise License model. In doing so, PNM received approximately $1M in price concessions over the term of the contract. Also, the selected TIBCO solution provides technical flexibility and additional capacity that will be needed for the Grid Mod program.

A summary of the Data Management and Architecture capital clearings can be found in PNM Exhibit JCH-10.

O&M: Years four through six O&M costs have been reduced by a total of approximately $0.6M. As of the time of the Grid Modernization application filing in Case No. 22-00058-UT, the TIBCO license renewal was forecast as an O&M cost in the outer years of the plan. As this cost is now forecast as a capital cost (as discussed above), the O&M forecast has been removed.

A summary of the Data Management and Architecture O&M costs can be found in PNM Exhibit JCH-11.

6) Distribution Automation

Q. Have there been any changes to the capital or O&M costs for the Distribution Automation component of the grid modernization program?

A. Yes. The capital costs for the Distribution Automation portion of the program have increased by approximately $2.1M, while the O&M costs have not changed materially.

Capital Clearings: There was a reduction of approximately $4.2M in year one clearings due to program start-up and planning timing. Capital clearings were re-forecast to year two with minor refinements across the six-year program for the preparatory work expected to be conducted in years one and two.

A summary of the Distribution Automation capital clearings can be found in PNM Exhibit JCH-12.

O&M: No material changes to discuss.

A summary of the Distribution Automation O&M costs can be found in PNM Exhibit JCH-13.

7) Distribution Planning and Engineering

Q. Have there been any changes to the capital or O&M costs for the Distribution Planning and Engineering component of the grid modernization program?

A. No. There have been no material changes to the capital clearings or O&M costs for the Distribution Planning and Engineering portion of the program.

A summary of the Distribution Planning and Engineering capital clearings and O&M costs can be found in PNM Exhibits JCH-14 and JCH-15, respectively.

8) Telecommunications

Q. Have there been any changes to the capital or O&M costs for the Telecommunications component of the grid modernization program?

A. Yes. The capital costs for the Telecommunications portion of the program have increased by approximately $0.8M, while the O&M costs have not changed materially.

Capital Clearings: There was an increase in year one capital clearings of approximately $3.1M and year two capital clearings of approximately $1.6M, driven by Wide Area Network (WAN) Dense Wavelength Division Multiplexing (DWDM) Conversion acceleration (largely offset by decreases in later years). Overall, there is an approximately $0.8M increase in capital costs across the six-year program.

A summary of the Telecommunication capital clearings can be found in PNM Exhibit JCH-16.

O&M: No material changes to discuss.

A summary of the Telecommunication O&M costs can be found in PNM Exhibit JCH-17.

9) Program Oversight

Q. Have there been any changes to the O&M costs for the Program Oversight component of the grid modernization program?

A. Yes. The O&M costs for the Program Oversight portion of the program have increased by approximately $1.8M due largely to a reallocation between program areas.

O&M: Reallocation of approximately $1.8M to Program Oversight from the AMI and ADMS programs. As discussed in the AMI and ADMS areas above as well as in the Direct Testimony of PNM witness Morgan, this reallocation supports the centralized execution of business process, change management, and provides subject matter experts to support PNM as necessary.

A summary of the Program Oversight O&M costs can be found in PNM Exhibit JCH-18.

III. U.S. DEPARTMENT OF ENERGY FUNDING

Q. Can you provide an update on the U.S. Department of Energy funding that PNM applied for as part of the Grid Resilience and Innovation Partnerships (GRIP) grants?

A. Yes. PNM was awarded a provisional grant for the Virtual Power Plant project. The impacts to the Grid Modernization program have not been evaluated as of yet because the award is still under negotiation with the Department of Energy (DOE). All grant awards are currently under a DOE-wide review to ensure activities are best positioned to accomplish the DOE mission and align with the current administration's priorities.

IV. DEVELOPMENT OF THIRD-PARTY MARKETPLACE OFFERINGS

Q. Has PNM begun development of the third-party marketplace offerings enabled by grid modernization investments as of December 31, 2024?

A. No. PNM is currently working on initial deployment of the software systems that will provide the core functionality of the AMI system and the CEMP and has not proceeded to develop third-party marketplace offerings at this point of the project.

Q. Are there any plans for PNM to develop the third-party marketplace offerings during the remainder of year one?

A. No. The focus for year one will continue to be core functionality for initial meter deployment.

V. TECHNOLOGY IMPLEMENTATION STATUS

Q. Please provide an update on grid modernization technology implemented as of December 31, 2024.

A. PNM has implemented Dense Wave Division Multiplexing (DWDM) telecommunications technology within the core Albuquerque ring to replace the legacy Synchronous Optical Networking (SONET) technology.

Q. What grid modernization technology implementation is planned for the remainder of 2025?

A. PNM will deploy the software systems that will support the AMI meters. This will include the AMI meter head end system used to run the wireless network and communicate to the individual meters, the Meter Data Management System (MDMS) which will process the meter data coming from the field, Critical Operations Protector which provides for security of the AMI meter system, and data analytics software associated with the AMI system such as Outage Detection System, AMI Operations Optimizer, Query Service, and Node SIM which can be used for simulating AMI meter endpoints for testing purposes. PNM will also begin implementing the CEMP in preparation for future AMI meter installations, which will be completed in year two. PNM will begin installing the AMI Access Point / Field Area Network (FAN) starting this year, to be complete in year two. PNM will also be working on system integrations between the AMI software systems and internal PNM applications that will need that data such as the Customer Information System (CIS).

Q. What grid modernization technology will be implemented in year two?

A. PNM will complete installation of the FAN in year two and start deployment of AMI meters. As stated earlier, the CEMP implementation will also be completed in year two. An Enterprise Service Bus (ESB) will be implemented in year two to facilitate integration of AMI and Distribution Automation (DA) data into operational data systems used to operate the grid.

Q. Please provide an overview of the grid modernization technology to be implemented over years three through six.

A. In years three through six, PNM will complete the installation of the AMI meters. Additionally, PNM will execute the Distribution Automation, ADMS, Cybersecurity, Distribution Planning and Engineering, Distribution Automation, and Telecommunications portions of the original filing in Case No. 22-00058-UT. Those programs have not yet started design, so further specifics on the individual technologies are not available yet.

Q. Please describe any variances in the planned technology implementation from the application in Case No. 22-00058-UT to the current plan.

A. PNM's original plan in Case No. 22-00058-UT was to complete the installation of the software in 11 months and begin installing meters after the first year. That schedule has been extended and will now complete the software installation by late third quarter to early fourth quarter of 2026, with the first meters being installed at the end of 2026. The number of meters installed per month will increase, and it is

expected the total AMI deployment will still conclude in year four as originally planned.

VI. CUSTOMER-FACING PROGRAMS UTILIZING AMI & OTHER GRID MODERNIZATION TECHNOLOGIES OUTSIDE THE INITIAL APPLICATION IN CASE NO. 22-00058-UT

Q. Have there been any customer-facing programs utilizing AMI and other grid modernization technologies that have been developed outside the application in Case No. 22-00058-UT as of December 31, 2024?

A. No.

Q. Are there any planned customer-facing programs utilizing AMI and other grid modernization technologies that will be developed outside the application **in Case No. 22-00058-UT for year one?**

A. Yes. We plan to implement the CEMP and provide non-AMI data for that application to the customer in the first year for monthly data. Once AMI meters are deployed, the CEMP will be able to provide more granular interval data.

Q. Does this conclude your direct testimony?

A. Yes.

GCG#533870

Jonathan C. Hawkins' Resume

PNM Exhibit JCH-1

Is contained in the following 4 pages.

Jonathan Hawkins
414 Silver Ave., SW
Albuquerque, NM 87102
(505) 241-2189
Jon.hawkins@txnmenergy.com

EDUCATION: **University of New Mexico, Albuquerque, New Mexico**
Bachelor of Science in Electrical Engineering – December, 1994

EXPERIENCE:

June 2025-present **PNM**, Albuquerque, NM *Associate Director, Grid Modernization*

Mar. 2010 – June 2025 **PNMR Services Company**, Albuquerque, NM. *Associate Director, Innovation and Communication*

Manage a team that monitors technology trends and provides cross functional technical support for emerging technologies in energy generation and delivery, including areas such as integration of renewable energy systems, energy storage, and smart grid technologies

Demonstrated history of employee development with employees earning advanced degrees, three Innovation Awards as presented by PNMR Board of Directors, and promotions internal and external to PNMR

Managed multi-million dollar operational and capital budgets associated with multiple departments

Led technical development and delivery of foundational and transformational technology projects at PNMR. Examples of projects include energy storage technology, microgrid integration, electric vehicle infrastructure development, advanced metering, secure substation remote access, physical security, and various projects to facilitate NERC Critical Infrastructure Protection (CIP) compliance

Led and participated in technical aspects of energy storage and microgrid projects earning national or international recognition including finalist for Platts Global Energy Award in Sustainable Innovation, runner up for POWERGRID International Renewable/Grid Integration Project of the Year, runner up for International Energy Agency (IEA) International Smart Grid Action Network (ISGAN) award, personally named 50 Smart Grid Pioneers by Smart Grid Today, and earned a Robert Price Innovation Award awarded by the PNMR Board of Directors

Participation as a technical expert for PNM in the PRC led revision of the New Mexico Interconnection Manual, the State of New Mexico's Grid Modernization Roadmapping effort and Energy Storage working group

Developed or participated in development of multiple applications for government grants with many securing funding, including a $2.3M grant for a renewables with energy storage project

Co-developer of the cyber security plan to comply with DOE requirements for an energy storage project

Authored or co-authored twelve peer-reviewed technical publications in magazines or scientific journals on energy storage and electric vehicle integration (publication list available on request)

Earned U.S Patent (U.S. Patent Number 9,692,234) “Systems and Methods for Distributing Power Using Photovoltaic Resources and a Shifting Battery System”

Invited reviewer for Department of Energy for the DOE Sunshot Program, National Science Foundation (NSF), and Small Business Innovation Research (SBIR)/Small Business Technology Transfer Research (STTR) for funding opportunities reviewing renewable energy and storage grant applications

Developed or participated in development of multiple applications for funding by the U.S Department of Energy and National Science Foundation. Multiple applications were chosen for funding where I led the projects both in terms of technical project activities as well as governmental compliance and reporting requirements

Collaboration with Japanese Government organization (NEDO) and Japanese vendors on smart grid projects in New Mexico

Led and facilitated use case workshops with multiple Japanese organizations to document and specify desired capabilities of the New Mexico smart grid projects done by NEDO. The use cases were published internationally, were promoted by NEDO as a key project success of the local micro grid project and served as foundational use cases for both the IEEE P2030.7 working group efforts for micro grids as well as in the Smart Grid Interoperability Panel (SGIP) Micro grid Domain Expert Working Group

Member of external advisory board for a Sandia National Laboratories Grand Challenge project which won an R&D100 award as an innovative solar technology

Frequent public speaker at industry conferences and local requests on topics such as energy storage, renewable energy, utility industry technology trends, IT/OT convergence, energy storage control architecture, and electric network model management

Participation in and collaboration with multiple industry standards organizations, working groups, and research organizations such as IEEE, Smart Grid Interoperability Panel, Western Energy Institute, Edison Electric Institute, Rocky Mountain Institute, Santa Fe Institute, the Electric Power Research Institute (EPRI), the State of New Mexico, multiple universities across the United States and national laboratories such as National Renewable Energy Laboratory (NREL), Idaho National Laboratory, Los Alamos National Laboratory and established a formal Cooperative Research and Development Agreement (CRADA) with Sandia National Laboratories

Manage the PNMR research and development contract with the Electric Power Research Institute (EPRI). Advisor to EPRI for programs on integration of distributed renewables, Enterprise Architecture, Cyber Security, Smart Grid Demonstration Project, Electrification Initiative, Energy Storage Integration Council (ESIC), Sector Council member for EPRI Information and Communication Technology, and former member of Research Advisory Committee (RAC)

Manage a team responsible for telecommunications, fiber optic facilities, networking and cyber security activities including NERC Critical Infrastructure Protection (CIP) compliance

Part of PNMR technology road mapping efforts serving various internal business needs including benchmarking other utility approaches

Involved in PNMR's Enterprise Risk Management program specifically addressing and providing strategic industry information on new technologies and effects to business transformation

Support Public Policy Organization for regulatory and policy needs and communication with respect to technology initiatives including support for internal and external Economic Development organizations.

Formerly PNMR's voting member to the Smart Grid Interoperability Panel (SGIP) and participant in multiple Domain Expert Working Groups (DEWGs) and Priority Action Plans (PAPs)

2002 – 2010 **Public Service Company of New Mexico (PNM).** Albuquerque, NM. *Manager, Electric Distribution Standards (Sept. 2002 to Mar. 2010), Manager Electric and Gas Standards and Technical Training (Sept. 2002 to Mar. 2004), Project Manager (Mar. 2002 – Sept. 2002)*

Managed a department that drove policies and was responsible for technical approval of all new materials, material changes and design standards used in building and maintaining electric distribution, gas distribution and gas transmission infrastructure. The department was also responsible for management of the Joint Use department responsible for co-location of electric and communication infrastructure

Managed relationships with vendors and participated in contract negotiations on multi-million-dollar, enterprise-wide contracts for electric utility equipment

Led teams to analyze business processes using Root Cause Analysis, Lean, and Six Sigma techniques

Led teams to analyze best practices and potential synergies with regard to the acquisition and integration of a utility acquired by PNMR

Responsible for managing all technical training for gas field personnel (54 classes in the syllabus), material training for electric personnel, and the Distribution Engineering Mentorship Program

Responsible for implementation and administration of Natural Gas Operator Qualification program to meet auditable Department of Transportation (DOT) regulations

Project management related to construction and maintenance on electric distribution substations throughout the state including obtaining permits, materials, and scheduling crews

1997 - 2002 **Sumitomo Sitix Silicon.** Albuquerque, NM. *Senior Quality Engineer (2000-2002), Quality Engineer II (1998-2000), Quality Engineer I (1997-1998), Production Supervisor (1994-1997)*

Quality Engineer responsible for expansion, operation, and analysis of results obtained in the plant's semiconductor material characterization laboratory. Also, process owner for multiple sets of semiconductor metrology equipment and fabrication processes throughout the plant

Process designer for aspects of ISO 9002, QS 9000, and ISO 14001 processes and active participant in initial certification and follow up surveillance audits

Continuing education courses in advanced statistical process control and Design of Experiments

Managed a 6:00 PM to 6:00 AM production shift. Responsible for interviewing and hiring a staff of 16 Material Processors during facility start-up. Implemented employee development matrices and provided periodic performance appraisals. Responsible for coordinating resources to meet productivity and on-time delivery requirements. Also, served as Emergency Response Team Incident Commander

ORGANIZATIONS:

President of the Board of Directors for New Mexico Math, Engineering , Science Achievement (MESA) 2017, Board member since 2015

Board of Directors for the New Mexico Engineering Foundation (2007-2013) – served as Vice President (two terms), President, and Past President (two terms)

Quality New Mexico Award Examiner auditing New Mexico companies against the Malcolm Baldrige National Quality Award criteria for 14 years. Seven of those years served as a team lead

Member of DNP3 Users Group and IEEE

Current member of Advisory Board for the College of Electrical and Computer Engineering at the University of New Mexico

Current member of New Mexico's State Committee for DOE's Experimental Program to Stimulate competitive Research (EPSCoR)

Certified C Licensed Coach by U.S. Soccer and coach of youth club soccer teams

Advanced Metering Capital Clearings

PNM Exhibit JCH-2

Is contained in the following page.

PNM Exhibit JCH-2
Advanced Metering Capital Clearings
($ in millions)

	As of Application						Variance						Current Forecast						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Meter Installation Costs	**$ -**	**$ 8.71**	**$ 18.06**	**$ 16.34**	**$ -**	**$ -**	**$ -**	**$ (8.37)**	**$ (4.39)**	**$ (2.65)**	**$ -**	**$ -**	**$ -**	**$ 0.34**	**$ 13.67**	**$ 13.69**	**$ -**	**$ -**	*
Meter & Meter Infrastructure Costs	**$ 1.68**	**$ 39.58**	**$ 45.40**	**$ 39.47**	**$ 1.72**	**$ -**	**$ 16.84**	**$ (1.31)**	**$ 6.09**	**$ (3.61)**	**$ 6.45**	**$ -**	**$ 18.52**	**$ 38.28**	**$ 51.49**	**$ 35.86**	**$ 8.17**	**$ -**	
Advanced Meters	$ -	$ 19.26	$ 39.93	$ 36.13	$ -	$ -	$ -	$ (6.31)	$ 7.07	$ (0.82)	$ -	$ -	$ -	$ 12.95	$ 46.99	$ 35.31	$ -	$ -	**
Handheld Units	$ -	$ 0.04	$ -	$ -	$ -	$ -	$ 0.02	$ (0.04)	$ -	$ -	$ -	$ -	$ 0.02	$ -	$ -	$ -	$ -	$ -	**
Initial Project Costs	$ -	$ 5.02	$ 3.34	$ 3.34	$ 1.72	$ -	$ 5.48	$ (1.81)	$ 0.29	$ (3.23)	$ (0.63)	$ -	$ 5.48	$ 3.22	$ 3.63	$ 0.11	$ 1.09	$ -	**
Internal Labor	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.45	$ 1.50	$ 0.87	$ 0.44	$ -	$ -	$ 0.45	$ 1.50	$ 0.87	$ 0.44	$ -	$ -	**
MDMS	$ -	$ 1.45	$ -	$ -	$ -	$ -	$ 1.19	$ (1.45)	$ -	$ -	$ -	$ -	$ 1.19	$ -	$ -	$ -	$ -	$ -	**
Meter Head End	$ -	$ 8.20	$ -	$ -	$ -	$ -	$ 6.57	$ (8.20)	$ -	$ -	$ -	$ -	$ 6.57	$ -	$ -	$ -	$ -	$ -	**
Network Hardware	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.00	$ -	$ -	$ -	$ -	$ -	$ 1.00	$ -	$ -	$ -	$ -	$ -	**
PNM AMI Access Point Install.	$ 1.68	$ 3.47	$ -	$ -	$ -	$ -	$ 0.62	$ 1.11	$ -	$ -	$ -	$ -	$ 2.31	$ 4.59	$ -	$ -	$ -	$ -	**
Testing	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.62	$ -	$ -	$ -	$ -	$ -	$ 0.62	$ -	$ -	$ -	$ -	$ -	**
Head End/MDMS SaaS Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.88	$ 5.56	$ -	$ -	$ 7.08	$ -	$ 0.88	$ 5.56	$ -	$ -	$ 7.08	$ -	**
MDMS Sys. Integration/CIS Enhance.	$ -	$ 2.13	$ 2.13	$ -	$ -	$ -	$ -	$ 8.33	$ (2.13)	$ -	$ -	$ -	$ -	$ 10.47	$ -	$ -	$ -	$ -	**
Total Advanced Metering	**$ 1.68**	**$ 48.29**	**$ 63.46**	**$ 55.81**	**$ 1.72**	**$ -**	**$ 16.84**	**$ (9.67)**	**$ 1.70**	**$ (6.26)**	**$ 6.45**	**$ -**	**$ 18.52**	**$ 38.62**	**$ 65.16**	**$ 49.55**	**$ 8.17**	**$ -**	

* Discussed within PNM witness Morgan's testimony

** Discussed within PNM witness Hawkins' testimony

Advanced Metering O&M

PNM Exhibit JCH-3

Is contained in the following page.

PNM Exhibit JCH-3
Advanced Metering O&M
($ in millions)

	As of Application						Variance						Current Forecast						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Meter Installation Costs	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	
Meter and Meter Infrastructure Costs	**$ 5.70**	**$ 6.41**	**$ 4.92**	**$ 3.33**	**$ 1.40**	**$ (2.42)**	**$ (2.15)**	**$ (2.30)**	**$ (2.27)**	**$ (2.47)**	**$ (2.47)**	**$ (2.51)**	**$ 3.55**	**$ 4.11**	**$ 2.65**	**$ 0.87**	**$ (1.07)**	**$ (4.93)**	
Subtotal: Witness Morgan	**$ 0.80**	**$ 0.91**	**$ (0.85)**	**$ (2.75)**	**$ (4.68)**	**$ (6.80)**	**$ (0.24)**	**$ (0.24)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 0.56**	**$ 0.67**	**$ (0.85)**	**$ (2.75)**	**$ (4.68)**	**$ (6.80)**	
AMI Business Process Change Mgmt	$ 0.40	$ 0.40	$ 0.40	$ 0.40	$ 0.40	$ -	$ (0.24)	$ (0.24)	$ -	$ -	$ -	$ -	$ 0.16	$ 0.16	$ 0.40	$ 0.40	$ 0.40	$ -	*
AMI Meter Reader Retraining	$ 0.40	$ 0.40	$ 0.40	$ 0.40	$ 0.40	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.40	$ 0.40	$ 0.40	$ 0.40	$ 0.40	$ -	*
AMI Meter Troubleshooting Employee	$ -	$ 0.11	$ 0.12	$ 0.12	$ 0.13	$ 0.13	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.11	$ 0.12	$ 0.12	$ 0.13	$ 0.13	*
AMI Pick Up Reads Employee	$ -	$ -	$ -	$ -	$ 0.11	$ 0.12	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.11	$ 0.12	*
AMI Vehicle Costs	$ -	$ -	$ -	$ -	$ -	$ 0.10	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.10	*
Opt-Out Meter Reading Employees	$ -	$ -	$ -	$ -	$ -	$ 0.33	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.33	*
Avoided Meter Reader & Assoc. Costs	$ -	$ -	$ (1.76)	$ (3.67)	$ (5.71)	$ (7.48)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (1.76)	$ (3.67)	$ (5.71)	$ (7.48)	*
Subtotal: Witness Hawkins	**$ 4.90**	**$ 5.50**	**$ 5.77**	**$ 6.08**	**$ 6.08**	**$ 4.38**	**$ (1.91)**	**$ (2.06)**	**$ (2.27)**	**$ (2.47)**	**$ (2.47)**	**$ (2.51)**	**$ 2.99**	**$ 3.44**	**$ 3.50**	**$ 3.62**	**$ 3.61**	**$ 1.87**	
AMI Database Administrator/Analyst	$ 0.17	$ 0.17	$ 0.18	$ 0.19	$ 0.20	$ 0.20	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.17	$ 0.17	$ 0.18	$ 0.19	$ 0.20	$ 0.20	**
AMI Marketing FTE	$ 0.17	$ 0.17	$ 0.18	$ 0.19	$ 0.20	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.17	$ 0.17	$ 0.18	$ 0.19	$ 0.20	$ -	**
AMI Radio Frequency (RF) Technician	$ 0.17	$ 0.17	$ 0.18	$ 0.19	$ 0.20	$ 0.20	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.17	$ 0.17	$ 0.18	$ 0.19	$ 0.20	$ 0.20	**
AMI System Administrator	$ 0.17	$ 0.17	$ 0.18	$ 0.19	$ 0.20	$ 0.20	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.17	$ 0.17	$ 0.18	$ 0.19	$ 0.20	$ 0.20	**
Call Center Support for Deployment - Temp Labor	$ -	$ 0.50	$ 0.52	$ 0.54	$ 0.56	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.50	$ 0.52	$ 0.54	$ 0.56	$ -	**
Customer Educ. & Communication Plan	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ -	**
Field Service Unit Maintenance Fee	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ (0.00)	$ 0.00	$ (0.00)	$ 0.00	$ (0.00)	$ 0.01	$ -	$ 0.01	$ -	$ 0.01	$ -	**
Head End Hardware Security Module (NEW) 3 Year Maint.	$ 0.09	$ -	$ -	$ 0.09	$ -	$ -	$ (0.02)	$ -	$ -	$ (0.02)	$ -	$ -	$ 0.07	$ -	$ -	$ 0.07	$ -	$ -	**
Head End / MDMS Maintenance & Support	$ 3.15	$ 3.31	$ 3.52	$ 3.70	$ 3.73	$ 3.76	$ (1.90)	$ (2.05)	$ (2.27)	$ (2.45)	$ (2.48)	$ (2.51)	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	**
Total Advanced Metering	**$ 5.70**	**$ 6.41**	**$ 4.92**	**$ 3.33**	**$ 1.40**	**$ (2.42)**	**$ (2.15)**	**$ (2.30)**	**$ (2.27)**	**$ (2.47)**	**$ (2.47)**	**$ (2.51)**	**$ 3.55**	**$ 4.11**	**$ 2.65**	**$ 0.87**	**$ (1.07)**	**$ (4.93)**	

* Discussed within PNM witness Morgan's testimony

** Discussed within PNM witness Hawkins' testimony

ADMS Capital Clearings

PNM Exhibit JCH-4

Is contained in the following page.

PNM Exhibit JCH-4
ADMS Capital Clearings
($ in millions)

	As of Application						Variance						Current Forecast						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
ADMS - DERMS	$ -	$ -	$ -	$ -	$ -	$ 6.32	$ -	$ -	$ -	$ -	$ -	$ (0.00)	$ -	$ -	$ -	$ -	$ -	$ 6.32	*
ADMS - FLISR	$ -	$ -	$ -	$ -	$ -	$ 6.32	$ -	$ -	$ -	$ -	$ -	$ (0.00)	$ -	$ -	$ -	$ -	$ -	$ 6.32	*
ADMS - IVVC	$ -	$ -	$ -	$ 6.22	$ -	$ -	$ -	$ -	$ -	$ (0.00)	$ -	$ -	$ -	$ -	$ -	$ 6.21	$ -	$ -	*
ADMS Expansion - DERMS Sys. Integrat.	$ -	$ -	$ -	$ -	$ -	$ 1.38	$ -	$ -	$ -	$ -	$ -	$ (0.00)	$ -	$ -	$ -	$ -	$ -	$ 1.38	*
ADMS Expansion - FLISR Sys. Integrat.	$ -	$ -	$ -	$ -	$ -	$ 1.38	$ -	$ -	$ -	$ -	$ -	$ (0.00)	$ -	$ -	$ -	$ -	$ -	$ 1.38	*
ADMS Expansion - IVVC Sys. Integrat.	$ -	$ -	$ -	$ 1.36	$ -	$ -	$ -	$ -	$ -	$ (0.00)	$ -	$ -	$ -	$ -	$ -	$ 1.36	$ -	$ -	*
Total ADMS	**$ -**	**$ -**	**$ -**	**$ 7.57**	**$ -**	**$ 15.40**	**$ -**	**$ -**	**$ -**	**$ (0.00)**	**$ -**	**$ (0.01)**	**$ -**	**$ -**	**$ -**	**$ 7.57**	**$ -**	**$ 15.39**	

* Discussed within PNM witness Hawkins' testimony

ADMS O&M

PNM Exhibit JCH-5

Is contained in the following page.

PNM Exhibit JCH-5
ADMS O&M
($ in millions)

	As of Application						Variance						Current Forecast						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
ADMS - DERMS Annual Software Maint. Fees	$ -	$ -	$ -	$ -	$ 0.50	$ 0.53	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.50	$ 0.53	*
ADMS - FLISR Annual Software Maint. Fees	$ -	$ -	$ -	$ -	$ 0.50	$ 0.53	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.50	$ 0.53	*
ADMS - IVVC Annual Software Maint. Fees	$ -	$ -	$ 0.50	$ 0.53	$ 0.55	$ 0.58	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.50	$ 0.53	$ 0.55	$ 0.58	*
ADMS (FLISR/IVVC/DERMS) Bus. Process Chg Mgt	$ 0.33	$ 0.33	$ 0.33	$ 0.33	$ 0.33	$ 0.33	$ (0.20)	$ (0.20)	$ -	$ -	$ -	$ -	$ 0.13	$ 0.13	$ 0.33	$ 0.33	$ 0.33	$ 0.33	*
O&M Labor, Prof. Srvs for Pre-work (bus. requir.)	$ 0.49	$ -	$ -	$ -	$ -	$ -	$ (0.49)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	*
Total ADMS	**$ 0.82**	**$ 0.33**	**$ 0.83**	**$ 0.86**	**$ 1.88**	**$ 1.96**	**$ (0.69)**	**$ (0.20)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 0.13**	**$ 0.13**	**$ 0.83**	**$ 0.86**	**$ 1.88**	**$ 1.96**	

* Discussed within PNM witness Hawkins' testimony

Customer Information & Analytics Capital Clearings

PNM Exhibit JCH-6

Is contained in the following page.

PNM Exhibit JCH-6
Customer Information & Analytics Capital Clearings
($ in millions)

	As of Application						Variance						Current Forecast						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Customer Info. & Analytics Portals	$ -	$ 0.52	$ -	$ -	$ -	$ -	$ -	$ 0.91	$ -	$ -	$ -	$ -	$ -	$ 1.43	$ -	$ -	$ -	$ -	*
Green Button Connect My Data	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.29	$ -	$ -	$ -	$ -	$ -	$ 0.29	$ -	$ -	$ -	*
Customer Info. & Access Mgmt (CIAM)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2.65	$ -	$ 1.75	$ -	$ -	$ -	$ 2.65	$ -	$ 1.75	$ -	$ -	*
Total Customer Info. & Analytics	**$ -**	**$ 0.52**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 3.56**	**$ 0.29**	**$ 1.75**	**$ -**	**$ -**	**$ -**	**$ 4.08**	**$ 0.29**	**$ 1.75**	**$ -**	**$ -**	

* Discussed within PNM witness Hawkins' testimony

Customer Information & Analytics O&M

PNM Exhibit JCH-7

Is contained in the following page.

PNM Exhibit JCH-7
Customer Information & Analytics O&M
($ in millions)

	As of Application						Variance						Current Forecast						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
Cust Info & Analytics Support O&M	$ -	$ 1.06	$ 1.06	$ 1.06	$ 1.06	$ 1.06	$ 1.15	$ (0.23)	$ 0.13	$ 0.35	$ 0.37	$ 0.40	$ 1.15	$ 0.83	$ 1.19	$ 1.41	$ 1.43	$ 1.46	*
Customer Portal Mgmt & Analytics Emp.	$ -	$ 0.33	$ 0.34	$ 0.36	$ 0.38	$ 0.39	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.33	$ 0.34	$ 0.36	$ 0.38	$ 0.39	*
Total Customer Info. & Analytics	**$ -**	**$ 1.39**	**$ 1.40**	**$ 1.42**	**$ 1.44**	**$ 1.45**	**$ 1.15**	**$ (0.23)**	**$ 0.13**	**$ 0.35**	**$ 0.37**	**$ 0.40**	**$ 1.15**	**$ 1.16**	**$ 1.53**	**$ 1.77**	**$ 1.81**	**$ 1.85**	

* Discussed within PNM witness Hawkins' testimony

Cybersecurity Capital Clearings

PNM Exhibit JCH-8

Is contained in the following page.

PNM Exhibit JCH-8
Cybersecurity Capital Clearings
($ in millions)

	As of Application						Variance						Current Forecast					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Firewalls/IDP	$ -	$ 0.32	$ -	$ -	$ -	$ -	$ -	$ 0.04	$ -	$ -	$ -	$ -	$ -	$ 0.36	$ -	$ -	$ -	$ - *
Network Security Monitoring (5 Year Invest.)	$ 0.07	$ 0.35	$ 0.21	$ 0.21	$ 0.22	$ -	$ 0.01	$ 0.04	$ (0.00)	$ (0.00)	$ (0.00)	$ -	$ 0.08	$ 0.39	$ 0.21	$ 0.21	$ 0.21	$ - *
SIEM	$ -	$ 1.03	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ -	$ -	$ -	$ -	$ -	$ 1.15	$ -	$ -	$ -	$ - *
Software Defined Networking / Network Seg.	$ -	$ 2.36	$ -	$ -	$ -	$ -	$ -	$ 0.28	$ -	$ -	$ -	$ -	$ -	$ 2.64	$ -	$ -	$ -	$ - *
Total Cybersecurity	**$ 0.07**	**$ 4.06**	**$ 0.21**	**$ 0.21**	**$ 0.22**	**$ -**	**$ 0.01**	**$ 0.48**	**$ (0.00)**	**$ (0.00)**	**$ (0.00)**	**$ -**	**$ 0.08**	**$ 4.54**	**$ 0.21**	**$ 0.21**	**$ 0.21**	**$ -**

* Discussed within PNM witness Hawkins' testimony

Cybersecurity O&M

PNM Exhibit JCH-9

Is contained in the following page.

PNM Exhibit JCH-9
Cybersecurity O&M
($ in millions)

	As of Application						Variance						Current Forecast						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
Cyber Systems - Annual Software Maint. Fees	$ -	$ 0.22	$ 0.23	$ 0.24	$ 0.25	$ 0.26	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.22	$ 0.23	$ 0.24	$ 0.25	$ 0.26	*
Total Cybersecurity	**$ -**	**$ 0.22**	**$ 0.23**	**$ 0.24**	**$ 0.25**	**$ 0.26**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 0.22**	**$ 0.23**	**$ 0.24**	**$ 0.25**	**$ 0.26**	

* Discussed within PNM witness Hawkins' testimony

Data Management & Architecture Capital Clearings

PNM Exhibit JCH-10

Is contained in the following page.

PNM Exhibit JCH-10
Data Management & Architecture Capital Clearings
($ in millions)

	As of Application						Variance						Current Forecast						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
Hardware - OSI Soft PI	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.40	$ -	$ -	$ -	$ -	$ -	$ 0.40	$ -	$ -	$ -	$ -	$ -	*
Network Model Mgmt./Connectivity Model/GIS Integrat.	$ -	$ 1.09	$ 1.09	$ 1.09	$ -	$ -	$ -	$ 0.16	$ 0.12	$ 0.01	$ -	$ -	$ -	$ 1.25	$ 1.21	$ 1.10	$ -	$ -	*
Onsite Infrastructure Support	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ -	$ -	$ -	$ -	$ -	*
OSI Soft PI AMI Data Lake Infrastructure	$ -	$ 0.35	$ -	$ -	$ -	$ -	$ -	$ 0.05	$ -	$ -	$ -	$ -	$ -	$ 0.40	$ -	$ -	$ -	$ -	*
OSI Soft PI AMI Data Lake Setup Labor	$ -	$ 0.14	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ -	$ -	$ -	$ -	$ -	$ 0.16	$ -	$ -	$ -	$ -	*
Technical Lead	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.16	$ 0.16	$ -	$ -	$ -	$ -	$ 0.16	$ 0.16	$ -	$ -	$ -	$ -	*
TIBCO Hardware	$ 0.46	$ -	$ -	$ -	$ -	$ -	$ 0.08	$ -	$ -	$ -	$ -	$ -	$ 0.53	$ -	$ -	$ -	$ -	$ -	*
TIBCO Labor for Setup of New Tibco Instance	$ 0.13	$ -	$ -	$ -	$ -	$ -	$(0.13)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	*
TIBCO Licensing	$ 2.03	$ -	$ -	$ -	$ -	$ -	$ 1.49	$ -	$ -	$ -	$ 2.20	$ -	$ 3.52	$ -	$ -	$ -	$ 2.20	$ -	*
TIBCO RedHat and Oracle Licensing	$ 0.25	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ -	$ -	$ -	$ -	$ -	$ 0.27	$ -	$ -	$ -	$ -	$ -	*
OSI Soft PI Configuration Support	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.16	$ -	$ -	$ -	$ -	$ -	$ 0.16	$ -	$ -	$ -	$ -	$ -	*
Total Data Management & Architecture	**$ 2.86**	**$ 1.58**	**$ 1.09**	**$ 1.09**	**$ -**	**$ -**	**$ 2.45**	**$ 0.39**	**$ 0.12**	**$ 0.01**	**$ 2.20**	**$ -**	**$ 5.31**	**$ 1.97**	**$ 1.21**	**$ 1.10**	**$ 2.20**	**$ -**	

* Discussed within PNM witness Hawkins' testimony

Data Management & Architecture O&M

PNM Exhibit JCH-11

Is contained in the following page.

PNM Exhibit JCH-11
Data Management & Architecture O&M
($ in millions)

	As of Application						Variance						Current Forecast						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
Data Management - OSI PI Incremental Distribution	$ -	$ 0.13	$ 0.13	$ 0.13	$ 0.14	$ 0.14	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.13	$ 0.13	$ 0.14	$ 0.14	*
Data Management - OSI PI Servers for AMI	$ -	$ 0.53	$ 0.55	$ 0.56	$ 0.58	$ 0.60	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.53	$ 0.55	$ 0.56	$ 0.58	$ 0.60	*
OT/IT/Data/Cybersecurity Architecture & Engineering (Capital Costs Not in Line Item, Assumed to be Within Each Capital Initiative)	$ 1.11	$ 1.15	$ 0.44	$ 0.46	$ 0.48	$ 0.50	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.11	$ 1.15	$ 0.44	$ 0.46	$ 0.48	$ 0.50	*
Production Support/App./Database/Info. Analytics/Sys. Integrat. (for All Applications ADMS/MDMS etc.)	$ -	$ -	$ 0.83	$ 0.86	$ 0.90	$ 0.94	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.83	$ 0.86	$ 0.90	$ 0.94	*
TIBCO Licensing	$ -	$ 0.04	$ 0.04	$ 0.23	$ 0.24	$ 0.25	$ -	$ -	$ -	$ (0.18)	$ (0.19)	$ (0.20)	$ -	$ 0.04	$ 0.04	$ 0.04	$ 0.05	$ 0.05	*
Total Data Management & Architecture	**$ 1.11**	**$ 1.85**	**$ 1.99**	**$ 2.25**	**$ 2.34**	**$ 2.44**	**$ -**	**$ -**	**$ -**	**$ (0.18)**	**$ (0.19)**	**$ (0.20)**	**$ 1.11**	**$ 1.85**	**$ 1.99**	**$ 2.07**	**$ 2.15**	**$ 2.23**	

* Discussed within PNM witness Hawkins' testimony

Distribution Automation Capital Clearings

PNM Exhibit JCH-12

Is contained in the following page.

PNM Exhibit JCH-12
Distribution Automation Capital Clearings
($ in millions)

	As of Application						Variance						Current Forecast						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Distrib. Automation Intelligent Switches (Reclosers)	$ -	$ 10.84	$ 11.15	$ 11.47	$ 12.19	$ 12.37	$ -	$ 1.08	$ (0.01)	$ 0.02	$ (0.16)	$ 0.15	$ -	$ 11.92	$ 11.14	$ 11.49	$ 12.03	$ 12.52	*
Distrib. Automation Intelligent Switches (Single Phase Reclosers/Smart Fuses)	$ -	$ 1.03	$ 1.06	$ 1.09	$ 1.16	$ 1.17	$ -	$ 0.10	$ (0.00)	$ 0.00	$ (0.01)	$ 0.01	$ -	$ 1.13	$ 1.06	$ 1.09	$ 1.14	$ 1.19	*
FCIs	$ -	$ 0.10	$ 0.10	$ 0.10	$ 0.11	$ 0.11	$ -	$ 0.01	$ (0.00)	$ 0.00	$ (0.00)	$ 0.00	$ -	$ 0.11	$ 0.10	$ 0.10	$ 0.11	$ 0.11	*
PNM Dist. Automation Mesh Repeater	$ 4.15	$ 4.22	$ -	$ -	$ -	$ -	$ (4.15)	$ 5.05	$ -	$ -	$ -	$ -	$ -	$ 9.27	$ -	$ -	$ -	$ -	*
Voltage Management Devices	$ -	$ -	$ 3.85	$ 3.96	$ 4.21	$ 4.27	$ -	$ -	$ (0.00)	$ 0.01	$ (0.05)	$ 0.05	$ -	$ -	$ 3.84	$ 3.97	$ 4.15	$ 4.32	*
Total Distribution Automation	**$ 4.15**	**$ 16.18**	**$ 16.15**	**$ 16.62**	**$ 17.66**	**$ 17.93**	**$ (4.15)**	**$ 6.24**	**$ (0.01)**	**$ 0.03**	**$ (0.23)**	**$ 0.21**	**$ -**	**$ 22.43**	**$ 16.14**	**$ 16.65**	**$ 17.44**	**$ 18.14**	

* Discussed within PNM witness Hawkins' testimony

Distribution Automation O&M

PNM Exhibit JCH-13

Is contained in the following page.

PNM Exhibit JCH-13
Distribution Automation O&M
($ in millions)

	As of Application						Variance						Current Forecast						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
Distribution Automation Employees	$ 0.01	$ 0.62	$ 0.74	$ 0.89	$ 1.08	$ 1.32	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.62	$ 0.74	$ 0.89	$ 1.08	$ 1.32	*
Total Distribution Automation	**$ 0.01**	**$ 0.62**	**$ 0.74**	**$ 0.89**	**$ 1.08**	**$ 1.32**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 0.01**	**$ 0.62**	**$ 0.74**	**$ 0.89**	**$ 1.08**	**$ 1.32**	

* Discussed within PNM witness Hawkins' testimony

Distribution Planning & Engineering Capital Clearings

PNM Exhibit JCH-14

Is contained in the following page.

PNM Exhibit JCH-14
Distribution Planning & Engineering Capital Clearings
($ in millions)

	As of Application						Variance						Current Forecast						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
Dist. Planning/Interconnection Forecast Tools	$ -	$ -	$ -	$ 7.46	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ -	$ 7.46	$ -	$ -	*
Dist. Planning/Interconnection Study Tools - Additional Synergi Modules	$ -	$ -	$ 0.17	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ -	$ -	$ -	*
Interconnection Management Systems	$ -	$ -	$ 1.21	$ -	$ -	$ -	$ -	$ -	$ (0.00)	$ -	$ -	$ -	$ -	$ -	$ 1.21	$ -	$ -	$ -	*
Total Distribution Planning & Engineering	**$ -**	**$ -**	**$ 1.39**	**$ 7.46**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 0.01**	**$ 0.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1.39**	**$ 7.46**	**$ -**	**$ -**	

* Discussed within PNM witness Hawkins' testimony

Distribution Planning & Engineering O&M

PNM Exhibit JCH-15

Is contained in the following page.

PNM Exhibit JCH-15
Distribution Planning & Engineering O&M
($ in millions)

	As of Application						Variance						Current Forecast						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
Dist. Planning/Interconnection Forecast Tools License	$ -	$ 0.20	$ 0.21	$ 0.21	$ 0.22	$ 0.23	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.20	$ 0.21	$ 0.21	$ 0.22	$ 0.23	*
Preliminary Field Distribution Engineering Employees	$ 0.38	$ 0.40	$ 0.42	$ 0.44	$ 0.45	$ 0.47	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.38	$ 0.40	$ 0.42	$ 0.44	$ 0.45	$ 0.47	*
Synergi License for Electric Load Flow Core License	$ -	$ 0.02	$ 0.02	$ 0.02	$ 0.02	$ 0.02	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ 0.02	$ 0.02	$ 0.02	$ 0.02	*
Synergi License for Protection License	$ -	$ 0.01	$ 0.01	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01	$ 0.01	$ 0.01	*
Total Distribution Planning & Engineering	**$ 0.38**	**$ 0.62**	**$ 0.65**	**$ 0.67**	**$ 0.70**	**$ 0.72**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 0.38**	**$ 0.62**	**$ 0.65**	**$ 0.67**	**$ 0.70**	**$ 0.72**	

* Discussed within PNM witness Hawkins' testimony

Telecommunications Capital Clearings

PNM Exhibit JCH-16

Is contained in the following page.

PNM Exhibit JCH-16
Telecommunications Capital Clearings
($ in millions)

	As of Application						Variance						Current Forecast					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
DA NAN Bridge	$ 0.18	$ 0.17	$ 0.34	$ 0.38	$ 0.39	$ 0.38	$ 0.04	$ 0.00	$ (0.02)	$ (0.02)	$ (0.03)	$ (0.02)	$ 0.22	$ 0.17	$ 0.32	$ 0.36	$ 0.36	$ 0.36 *
WAN DWDM Conversion	$ -	$ 1.54	$ 1.54	$ 1.54	$ 1.59	$ 1.56	$ 3.08	$ 1.05	$ 0.81	$ (1.54)	$ (1.59)	$ (1.56)	$ 3.08	$ 2.59	$ 2.35	$ -	$ -	$ - *
WAN Microwave Sys. Modernization	$ -	$ 3.60	$ 3.59	$ 3.59	$ 3.70	$ 3.65	$ -	$ 0.36	$ (0.00)	$ 0.01	$ (0.05)	$ 0.04	$ -	$ 3.96	$ 3.59	$ 3.60	$ 3.65	$ 3.69 *
WAN MPLS Transport Conversion	$ -	$ 2.57	$ 2.57	$ 2.56	$ 2.64	$ 2.61	$ -	$ 0.26	$ (0.00)	$ 0.00	$ (0.03)	$ 0.03	$ -	$ 2.83	$ 2.56	$ 2.57	$ 2.61	$ 2.64 *
Total Telecommunications	**$ 0.18**	**$ 7.88**	**$ 8.03**	**$ 8.07**	**$ 8.33**	**$ 8.20**	**$ 3.12**	**$ 1.66**	**$ 0.78**	**$ (1.55)**	**$ (1.70)**	**$ (1.51)**	**$ 3.31**	**$ 9.55**	**$ 8.82**	**$ 6.52**	**$ 6.63**	**$ 6.69**

* Discussed within PNM witness Hawkins' testimony

Telecommunications O&M

PNM Exhibit JCH-17

Is contained in the following page.

PNM Exhibit JCH-17
Telecommunications O&M
($ in millions)

	As of Application						Variance						Current Forecast						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
DA NAN Bridge O&M Annual Software Maint. Fees	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00	*
Telecom Engineering Employees	$ -	$ -	$ 0.76	$ 0.80	$ 0.83	$ 0.87	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.76	$ 0.80	$ 0.83	$ 0.87	*
Telecom Operations & Management Employees	$ 0.38	$ 0.40	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.38	$ 0.40	$ -	$ -	$ -	$ -	*
Total Telecommunications	**$ 0.38**	**$ 0.40**	**$ 0.77**	**$ 0.80**	**$ 0.83**	**$ 0.87**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 0.38**	**$ 0.40**	**$ 0.77**	**$ 0.80**	**$ 0.83**	**$ 0.87**	

* Discussed within PNM witness Hawkins' testimony

Program Oversight O&M

PNM Exhibit JCH-18

Is contained in the following page.

PNM Exhibit JCH-18
Program Oversight O&M
($ in millions)

	As of Application						Variance						Current Forecast						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
Grid Modernization Director	$ 0.26	$ 0.27	$ 0.28	$ 0.30	$ 0.31	$ 0.32	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.27	$ 0.28	$ 0.30	$ 0.31	$ 0.32	*
Proj. Mgmt. Office (Assoc Director) - Proj. Cost	$ 0.22	$ 0.23	$ 0.24	$ 0.25	$ 0.26	$ 0.27	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.22	$ 0.23	$ 0.24	$ 0.25	$ 0.26	$ 0.27	*
Proj. Mgmt. Office (Business Analysts) - Proj. Cost & Ongoing Support	$ 0.29	$ 0.30	$ 0.31	$ 0.33	$ 0.34	$ 0.36	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.29	$ 0.30	$ 0.31	$ 0.33	$ 0.34	$ 0.36	*
Proj. Mgmt. Office (Program Mgr.) - Proj. Cost	$ 0.07	$ 0.07	$ 0.07	$ 0.08	$ 0.08	$ 0.08	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.07	$ 0.07	$ 0.07	$ 0.08	$ 0.08	$ 0.08	*
Proj. Mgmt. Office (Project Mgr.) - Proj. Cost	$ 0.29	$ 0.30	$ 0.32	$ 0.33	$ 0.34	$ 0.36	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.29	$ 0.30	$ 0.32	$ 0.33	$ 0.34	$ 0.36	*
Proj. Mgmt. Office (Project Mgr.) - Resource Mgr.	$ 0.06	$ 0.06	$ 0.06	$ 0.07	$ 0.07	$ 0.07	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.06	$ 0.06	$ 0.06	$ 0.07	$ 0.07	$ 0.07	*
Proj. Mgmt. Office (Change Mgmt., Bus. Process Design, SME Support)	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.86	$ 0.91	$ -	$ -	$ -	$ -	$ 0.86	$ 0.91	$ -	$ -	$ -	$ -	*
Total Program Oversight	**$ 1.18**	**$ 1.24**	**$ 1.29**	**$ 1.35**	**$ 1.41**	**$ 1.47**	**$ 0.86**	**$ 0.91**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2.05**	**$ 2.15**	**$ 1.29**	**$ 1.35**	**$ 1.41**	**$ 1.47**	

* Discussed within PNM witness Hawkins' testimony

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF PUBLIC SERVICE COMPANY OF NEW MEXICO'S FIRST ANNUAL GRID MODERNIZATION REVIEW FILING PURSUANT TO THE COMMISSION'S FINAL ORDER	)	**Case No. 25-0004-UT**
PUBLIC SERVICE COMPANY OF NEW MEXICO,	)	
Applicant.	)	

AFFIDAVIT

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

JONATHAN C. HAWKINS, Associate Director of Grid Modernization for Public Service Company of New Mexico, upon being duly sworn according to law, under oath, deposes, and states: I have read the foregoing **Direct Testimony of Johnathan C. Hawkins,** and it is true and accurate based on my own personal knowledge and belief.

Dated this 19th day of June, 2025.

Jonathan Hawkins

Digitally signed by Jonathan Hawkins
Date: 2025.06.19 15:14:43 -06'00'

GCG # 533836