Tommy H. Sanders

Direct Testimony and Exhibits

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF THE APPLICATION)
OF NEW MEXICO GAS COMPANY, INC.)
FOR APPROVAL OF REVISIONS TO ITS)
RATES, RULES, AND CHARGES PURSUANT)   Case No. 23-00255-UT
TO ADVICE NOTICE NO. 96)
)
NEW MEXICO GAS COMPANY, INC.)
)
       Applicant.)

DIRECT TESTIMONY AND EXHIBITS

OF

TOMMY H. SANDERS

September 14, 2023

DIRECT TESTIMONY OF
TOMMY H. SANDERS
NMPRC CASE NO. 23-00255-UT

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1   Q.   PLEASE STATE YOUR NAME, POSITION, AND BUSINESS ADDRESS.

2   A.   My name is Tommy H. Sanders. I am Vice President of Customer Service and Information

3   Technology with New Mexico Gas Company, Inc. ("NMGC" or the "Company"). My

4   business address is 7120 Wyoming Boulevard, NE, Suite 20, Albuquerque, New Mexico

5   87109. My resume is attached as NMGC Exhibit THS-1.

6

7   Q.   HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE NEW MEXICO PUBLIC

8   REGULATION COMMISSION ("NMPRC OR THE "COMMISSION")?

9   A.   Yes, please refer to NMGC Exhibit THS-1 for a list of docketed cases in which I have

10   provided testimony.

11

12   Q.   WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS CASE?

13   A.   In Section I of this Direct Testimony, I discuss the Company's customer information

14   system upgrade project; in Section II, I discuss the Company's proposal regarding the

15   recovery of credit card fee charges through rate base; in Section III, I discuss the impact

16   of the COVID-19 Pandemic ("COVID-19") on the Company's bad debt situation as part

17   of the Company's filing for recovery of a COVID-19 Regulatory Asset; and in Section IV,

18   I discuss the analysis of shared service costs incurred by the IT&T department.

19

20   I.   CUSTOMER INFORMATION SYSTEM (BANNER) UPGRADE

21   Q.   WHAT DO YOU ADDRESS IN THIS SECTION OF YOUR DIRECT

22   TESTIMONY?

1   **A.**   In this section of my Direct Testimony I discuss the Company's plan to upgrade its

2   Customer Information System (CIS), from its current Banner CIS (hereinafter "Banner 2.2

3   CIS" or simply "Banner CIS") to the upgraded version of Banner CIS provided by Hansen

4   Technologies ("Hansen CIS").[1]

5

6   **A.   NMC's Current CIS**

7   **Q.   WHAT IS A CIS AND WHY IS A CIS IMPORTANT TO OPERATION OF A**

8   **UTILITY SUCH AS NMGC?**

9   **A.**   Service, safety and the customer experience are key to our core values as New Mexico's

10   leading natural gas utility. A CIS is the primary system for accessing customer and account

11   information necessary for the provision of safe and reliable service to customers as well as

12   to enhance the customers' interactions with NMGC. A CIS is the primary source of

13   information relating to customer service/relationship management, obtaining meter

14   information, billing information, revenue, tax collection, tax reporting, and back-office

15   functionality. NMGC needs to quickly access information when our customers call or use

16   self-service functions and a CIS is the vehicle to do so. Whether the inquiry is related to a

17   move, a bill, or a service order, efficient access to accurate customer information is critical

18   to serving our customers and to efficient utility operations.

19

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[1] Hereafter I will be referring to NMGC's new CIS as the Hansen CIS. Although referred to hereafter as the Hansen CIS, it is in reality an upgrade to the Banner CIS (the Banner CIS having been acquired by Hansen) and is not an alternative system such as could be obtained from other providers such as SAP or Oracle. In this regard, the Hansen CIS is an upgrade to Banner CIS despite the name change.

1   **Q.**   **WHAT CUSTOMER INFORMATION SYSTEM DOES NMGC CURRENTLY**

2   **USE?**

3   **A.**   Since its formation in 2009, NMGC has used Banner 2.2 CIS.

4

5   **Q.**   **PLEASE DESCRIBE HOW THE BANNER CIS CAME TO BE THE CUSTOMER**

6   **INFORMATION SYSTEM CURRENTLY IN USE AT NMGC.**

7   **A.**   In 1998, Public Service Company of New Mexico ("PNM") acquired and implemented

8   Banner CIS for both its electric and gas services. When NMGC acquired the gas assets of

9   PNM in 2009, NMGC acquired the Banner CIS from PNM for use with the gas assets.

10   Since then, Banner CIS has remained in place as NMGC's CIS.

11

12 **Q.**   **WHAT IS NMGC PLANNING ON DOING WITH ITS CIS AS IT RELATES TO**

13   **THIS RATE CASE?**

14 **A.**   As detailed below, NMGC is upgrading its Banner CIS to the upgraded version of Banner

15   CIS, now called Hansen CIS, and is seeking recovery of this investment in this rate case.

16   NMGC Witness Tom C. Bullard covers the project in his discussion of the Company's

17   capital budget.

18

19 **Q.**   **SINCE 1998 HAS THE BANNER CIS VERSION 2.2 IN USE FOR THE GAS**

20   **UTILITY, BEEN UPGRADED?**

21 **A.**   No. While NMGC has customized the Banner 2.2 CIS on several occasions to meet its

22   needs, NMGC has not completed an upgrade such as is being proposed below.

B. Basis For NMGC's Decision to Upgrade its Banner CIS to Hansen CIS
Rather Than Replace it With a New Product From Another Vendor

Q.   **TO GET STARTED ON THIS SECTION OF YOUR DIRECT TESTIMONY, PLEASE BRIEFLY DESCRIBE THE EVOLUTION OF THE BANNER CIS AT NMGC.**

A.   In 1998, PNM installed and began using Banner CIS (for both Gas and Electric Services). Between 1998 and 2009, various modifications and customizations to the Banner CIS were implemented by PNM into and around the system for both gas and electric services. Since 2009, NMGC has made various modifications and customizations to the Banner CIS.

Q.   **PLEASE DESCRIBE SOME OF THE CUSTOMIZATIONS THAT HAVE BEEN MADE BY PNM AND/OR NMGC AND EXPLAIN THE REASON FOR, AND EFFECT OF, THE CUSTOMIZATION.**

A.   Over the years there were multiple customizations to NMGC's Banner CIS including:

- To the billing calculation module which calculates bill charges to customers to align Banner with New Mexico regulatory rules, rates, tax rules, business procedure and accounting policy;

- To NMGC's bill print modules to format the bill for specific bill printing requirements;

- To the part of the program that tracks and accounts for gas transportation transactions along with customizations made to adhere to regulatory requirements specifically related to customer notification of disconnection for non-payment, and handling medical certification;

4

1   •   For service order processing to allow for proper billing of connection fees, scheduling

2   and efficiency; and

3   •   To facilitate for the Company's adoption of the Gas Advantage Program ("GAP") in

4   2015.

5

6   **Q.**   **DOES A CUSTOMIZATION OR EVEN A SERIES OF CUSTOMIZATIONS**

7   **ACCOMPLISH WHAT AN UPGRADE OR REPLACEMENT OF THE CIS**

8   **ACCOMPLISHES?**

9   **A.**   No, and they never could. A customization amounts to making changes within the

10   framework of the existing system to meet an immediate need but does not change the

11   operating framework to facilitate or improve overall CIS performance. In short, after a

12   period of time, the CIS needs to be updated entirely or replaced to advance and improve

13   the CIS operating network.

14

15   **Q.**   **DID NMGC DETERMINE THAT IT NEEDED TO MODERIZE ITS CIS BY**

16   **EITHER UPGRADING OR REPLACING ITS BANNER CIS?**

17   **A.**   Yes. Beginning in 2012, NMGC began to evaluate whether it needed to modernize its

18   Banner CIS system by either upgrading or replacing it. Attached to this Direct Testimony

19   as NMGC Exhibit THS-2 is a detailed chronology of NMGC's activities while evaluating

20   its Banner CIS. As discussed in my Direct Testimony below, and as detailed in NMGC

21   Exhibit THS-2, NMGC considered and evaluated both options: upgrade or replacement,

22   and concluded this analysis with the decision in 2021 to upgrade its Banner CIS to the

1   latest version of Hansen CIS. As the Chronology shows, the upgrade to Hansen CIS is

2   intended to be completed with a go-live in-service date in October 2024.

3

4 Q.   **PLEASE DISCUSS THE REASONS BEHIND THE DECISION TO MODERNIZE**

5   **THE COMPANY'S CIS.**

6 A.   Throughout the period of this evaluation, while Banner remained functional, it became

7   more and more apparent that NMGC's version of Banner CIS presents operational risks,

8   customer service limitations and operational inefficiencies that necessitate its update or

9   replacement. I will now discuss these concerns in more detail:

10   1. Operational Risks with the current CIS – Both the age and customized nature of the

11   Company's Banner CIS increasingly put system operation at risk, make it increasingly

12   difficult to find support resources, and impairing the Company's ability to recover from

13   system disruptions. These risks are of paramount concern to NMGC and were the key

14   drivers for this decision to upgrade or replace its CIS. A utility such as NMGC cannot

15   operate without a reliable CIS so let me detail the heightened operational risks which

16   became increasingly concerning to NMGC:

17   a.   The current Banner CIS version used by the Company is 25 years old. Equally

18   important, as noted, the Banner CIS has been extensively customized which makes

19   it increasingly difficult to find and resolve system problems without triggering

20   failures in CIS operations. Because of the extensively customized nature of the

21   CIS, it has become increasingly harder and harder to make even simple changes

22   or fixes to the system without triggering unanticipated or unintended consequences

6

1 throughout the system. NMGC has experienced increasingly severe failures in the

2 CIS over the last several years and NMGC's IT&T Department foresees these

3 difficulties only increasing with time.

4 b. Few companies use the version of Banner CIS being used by NMGC and, as a

5 result, there are fewer and fewer IT&T companies with the knowledge to service

6 the 2.2 version of Banner. In part this is due to the age of the system, but because

7 the system is so customized, finding service providers capable of working on the

8 customized NMGC system has become increasingly difficult. This service

9 problem increases the risk of unanticipated or unintended consequences. In other

10 words, there are no easy fixes or changes and any fix or change to the system can

11 have far reaching consequences including up to system failure.

12 c. The current technology platform, both hardware and software, that NMGC's

13 Banner CIS 2.2 runs on is itself becoming minimally supported. Support for

14 specific software functionality ends in October 2025. Support for the report

15 software has already ended. The database servers have had manufacturer

16 engineering issues that have impacted stability and caused unscheduled downtime.

17 The aged nature of the software and platform software makes it increasingly

18 challenging to support the system. This increases the probability of more

19 unscheduled downtime.

20 d. In addition to the increasing shortage of outsourced service technicians (discussed

21 in b above), identifying and hiring NMGC employees who are experienced or

7

1 knowledgeable sufficient to support the current version of Banner CIS 2.2 is

2 increasingly challenging.

3 e. In addition to the system operational difficulties presented by the customized

4 nature of the CIS program itself (discussed in (a) above), the customized nature of

5 many of the business functions, such as billing, increase the probability of failure

6 or disruption in the system when instituting normal or special billing changes

7 through the CIS system.

8 2. Customer Service Limitations in current Banner CIS – NMGC's current Banner CIS

9 has operational limitations when it comes to customer interactions and meeting

10 changing customer service expectations. Here are a few examples of these customer

11 service limitations:

12 a. The Company's current version of Banner CIS does not support customer service

13 options that provide faster response to customer inquiries such as:

14 i. Advanced Screen Navigation tools which provide multiple ways to navigate

15 to screens allowing a customer service representative ("CSR") to navigate

16 through the system much faster when working with customers.

17 ii. Advanced Search Option tools available to CSRs that provide more effective

18 and configurable search capabilities.

19 iii. Customer Account Calendar of Event tools which provides a single screen to

20 show all the actions occurring on the account at a glance that can be drilled

21 down to the detail level.

1   b. The current version of Banner CIS does not support various payment arrangement

2   improvements such as the ability to update installment amounts without cancelling

3   the original payment arrangement.

4   c. The current version of Banner CIS does not support wizard functions which are

5   common business functions for other utilities. These functions allow for

6   streamlining common/standard business functions, by combining the needed fields

7   from multiple screens into a single Wizard. Wizards are configurable and allow

8   the utility to define what is needed for a particular function.

9   d. The current version of Banner CIS does not adequately support data encryption

10   and limits NMGC's ability to remain Personally Identifiable Information ("PII")

11   compliant. In contrast, modern CIS improves the ability to mask and encrypt PII

12   data.

13   3. Operational Inefficiencies in the current Banner CIS which affect Business Operations

14   – The current version of Banner CIS hinders efficient business operations of NMGC

15   which impacts customer interaction and satisfaction. Some examples include:

16   a. Billing: Making any changes to the Company's billing operations is difficult and

17   inefficient because of the complexity of making changes to this heavily

18   customized system. This is true for routine changes as well as the correction of

19   billing errors. Invariably, any change to billing practices triggers significant

20   manual billing requirements which limit the Company's ability to efficiently

21   adjust bills and correct errors. Even the simple act of enacting new rates, or

1   changing existing rates is inefficient and triggers multiple attempts to achieve the

2   correct results.

3   b. Customer interactions: Described above in section 2 of this answer are the adverse

4   impacts the current Banner CIS has on interactions with customers. Whereas the

5   focus above was about the impact on the Company's customers, here I focus on

6   the inefficiencies this presents for the Company's operations. The inability of the

7   Company's current Banner CIS to support advanced options including, search,

8   screen navigation, account calendars and wizards slows down the response time

9   of CSRs while increasing the time to handle customer concerns as well as the

10   chance for mistakes to occur.   This affects the overall efficiency of utility

11   operations.

12   c. Reports: The current version of Banner CIS does not have basic reporting tools

13   that allow employees to create and analyze self-service reports from the system.

14   In most instances employees must send a request to the IT&T department to

15   generate even normal and simple reports. Additionally, the ability of employees

16   to generate real time reports is limited.

17   d. Auditing Capabilities: The current Banner CIS has limited and restricted auditing

18   abilities.   For example, the ability to audit and determine the source of input of

19   data, changes to data, or removal of data is limited under the current system. This

20   is both inefficient and ineffective for good business practices.

21   e. Digitalization – The current version of Banner CIS does not have application

22   programming interfaces ("APIs") capability that unlock future digitalization

1   capabilities related to customer self-service features and improved

2   communications between CIS and other systems.

3

4   **Q.   HAVING CONCLUDED THAT IT NEEDED TO MODERNIZE ITS CIS, WHAT**

5   **DID NMGC DO NEXT?**

6   **A.**   As detailed in the attached Chronology, NMGC Exhibit THS-2, NMGC did two things:

7   first, in consultation with others, NMGC proceeded to evaluate the following options for

8   upgrading or replacing its CIS.

9   • Upgrade Banner – Upgrade Banner 2.2 CIS to the current version of Hansen CIS.

10   • Replace Banner with a new system; such as SAP or Oracle.

11

12   Second, in order to create the time needed to carefully perform the analysis necessary and

13   determine whether to upgrade or replace its Banner CIS, NMGC undertook to extend the

14   life of its Banner CIS while carefully considering which option to proceed with. As detailed

15   in paragraphs 10 – 11 of the Chronology, and summarized here, those efforts included the

16   following:

17   • In October 2017 and November 2017, NMGC worked with MAK Solutions to perform

18   a "Banner CIS Risk Assessment" to determine what risks were present in the current

19   system and evaluate options to extend the life of NMGC's existing Banner CIS.

20   • In November 2017, NMGC determined that a Technical Uplift, which is upgrading the

21   screen presentation software, database and servers, would mitigate risk and extend the

22   life of the system at least five more years.

1   • Between January 2018 and December 2018, NMGC and Hansen Technologies

2   completed a "Banner Technical Uplift" project to implement a new technology

3   platform, which eliminated various risks to operations, improved system performance

4   and extended the lifespan of our aging Banner CIS.

5   • Between January 2019 and December 2019, NMGC completed a "Banner Functional

6   Enhancements" project to provide much needed software improvements.   These

7   included the ability to mask Social Security numbers, meter testing software

8   enhancements, second responsible party to print on bills, Gross Receipts Tax changes,

9   automated return payment processing, plus many other efficiency improvements.

10   • Between March 2020 and December 2020, working with Centroid, NMGC installed

11   Oracle S7 Application Servers for efficiency and downtime reduction. Once installed,

12   these new servers provided more flexibility and reliability.

13   • Between November 2020 and May 2022, NMGC completed a "Banner Archive/Purge"

14   project. Using new software developed for this purpose, NMGC archived and purged

15   old data in its system. This improved and extended overall system performance of the

16   Banner CIS and set the groundwork for the upgrade of the Banner CIS.

17

18   **Q.   WHAT HAS BEEN THE EFFECTS OF THESE RECENT EFFORTS BY NMGC?**

19   **A.**   As noted, these efforts extended the life of NMGC's Banner CIS while we determined the

20   best strategy, and took necessary actions to upgrade or replace the CIS. These efforts did

21   not alleviate the need to upgrade or replace the Company's CIS but helped to stabilize the

22   system during the interim phase.

12

1 **Q.** **PLEASE DESCRIBE THE ANALYSIS PERFORMED BY NMGC TO**

2 **DETERMINE WHAT ACTION TO TAKE TO UPGRADE OR REPLACE ITS CIS.**

3 **A.** As detailed in the Chronology, NMGC Exhibit THS-2, and summarized here, NMGC

4 undertook the following efforts to specifically evaluate whether to replace its CIS with an

5 alternative product or upgrade its CIS to a more current version of the Banner CIS (the

6 Hansen CIS):

7 • Throughout 2016, NMGC worked with TMG Consulting ("TMG") to develop

8 Business Requirements for the possible implementation of a replacement or upgraded

9 CIS;

10 • Between April 2017 and July 2017, NMGC worked with Deloitte Consulting

11 ("Deloitte")[2] to facilitate a Fit-Gap and Pricing analysis to evaluate the ability of an

12 SAP CIS to meet NMGC's requirements for a CIS;

13 • In August 2017, having received the cost and requirements needs for a replacement

14 CIS, and being concerned with the high cost and resource needs of the replacement

15 system, NMGC met with its consultant to evaluate whether the price and resource

16 requirements of the replacement CIS could be reduced to make it a viable option. The

17 outcome was that the cost, resource requirements, and risks remained high;

18 • Between March 2021 and April 2022, NMGC performed additional analysis and

19 developed a Banner Upgrade Business Case to consider the options of either upgrading

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[2] Deloitte Consulting is a Solutions Integrator for SAP. A Solutions Integrator is a company focused on leading, architecting, developing and testing a solution that coordinates and communicates effectively with all other internal and external connected systems.

1   Banner CIS 2.2 to a newer version, implementing a new system, or even keeping the

2   existing Banner CIS.

3   •   In March 2021, NMGC consulted with TMG regarding estimates on what it would cost

4   to implement a new CIS solution versus the cost to conduct a Banner CIS upgrade.

5

6   All of this analysis culminated in the Business Case prepared by NMGC, and supported by

7   TMG, and led NMGC to the conclusion that the best, and most feasible, option was to

8   upgrade to the Hansen CIS.

9

10 **Q.**   **PLEASE DISCUSS IN MORE DETAIL THE BUSINESS CASE PREPARED BY**

11   **NMGC, AND DISCUSS SOME OF THE FACTORS CONSIDERED IN MAKING**

12   **ITS DECISION.**

13 **A.**   The Business Case is an analysis document that includes a statement of value, background,

14   current state, analysis of the options and a recommendation. The Banner Upgrade Business

15   Case identified the current state of the Banner CIS system as high risk. It then reviewed

16   three options: upgrade the Banner CIS, replace the Banner CIS with a new system, or

17   maintain the status quo. The advantages and disadvantages of each option were identified.

18

19   Keeping the current system was ruled out as a viable option. This was primarily due to the

20   aging system being higher risk related to system reliability and maintainability.

21   Additionally, as described above the Business Case discussed that the current CIS lacks

22   many customer efficiencies and business improvements built-in to the upgraded Hansen

1   CIS or a new system. The upgrade option had more advantages than implementing a new

2   system. Some of the advantages are lower initial and ongoing support costs compared to a

3   new system, lower number of internal resources needed to implement, less business process

4   change, less organizational change, and less training and thereby lower cost.

5

6   As discussed above and detailed in NMGC Exhibit THS-2, NMGC prepared a

7   Requirements document based on discussions throughout the Company and let its

8   requirements analysis drive its decision. When the Business Case compared the previously

9   determined requirements with the attributes of the Hansen CIS, the Company determined

10   in 2021 that the upgrade to the Hansen CIS would meet its needs.

11

12   One of the important considerations was awareness that the Hansen CIS is not as prevalent

13   as some to the other CIS from other better-known suppliers. The Business Case concluded

14   that despite this, there were more advantages in upgrading to the Hansen CIS than

15   implementing an entirely new system.

16

17   During its investigation into upgrading or replacing its CIS, NMGC worked with TMG to

18   conduct interviews with 3 different Hansen CIS customers that had upgraded from an older

19   Banner CIS version to the newer Hansen CIS version. All interviewees indicated favorable

20   results. Additionally, Hansen reports that 11 companies have upgraded to a newer version

21   of Hansen CIS over the last three plus years.

22

1   The document provides a recommendation to upgrade to the Hansen CIS and discusses the

2   economic feasibility of the selected option.

3

4   **Q.   WHAT ULTIMATELY LED TO NMGC'S DECISION TO UPGRADE ITS**

5   **BANNER CIS AS OPPOSED TO REPLACING IT WITH A PRODUCT FROM A**

6   **NEW PROVIDER?**

7   **A.**   The upgraded Hansen CIS was determined to be able to meet the Company's CIS needs.

8   The increased cost, increased internal staffing requirements, increased business process

9   changes, large organizational change, and enhanced future support costs of a replacement

10   CIS were determined to be unnecessary to accomplish what the Company sought to achieve

11   with a new CIS. All of these factors combined to lead NMGC to conclude that an upgrade

12   made more sense than the purchase of a new replacement system. Specific aspects of these

13   factors include:

14   • First, the price of a new system from another provider would cost approximately twice

15   the price of the Banner/Hansen CIS upgrade.

16   • Second, the upgraded Hansen CIS satisfied the Company's requirements from the

17   perspective of operational risk, operational limitation, and operational inefficiencies

18   currently being experienced by NMGC as described above.   These included:

19   o   ease of operation (including improved user and customer experience), enhanced

20   customer and user experience (increased ability to utilize future user and customer

21   experience improvements),

1   o   limited data conversion issues and costs (in-place database upgrade and reuse of

2   database upgrade scripts from 2014 upgrade reduces risk of conversion issues and

3   reduces cost of system),

4   o   reduced time to convert to the upgraded system (including reduced time to convert

5   for go-live and stage for testing due to data archive/purge),

6   o   technological improvements (including newer technology to provide more

7   flexibility to self-manage system rules and screens, and reducing the need for code

8   customizations), and

9   o   more stable technical support services (acquisition of inhouse and outside resources

10   and training, and system vendor support.)

11

12 **Q.**   **PLEASE DISCUSS THE ADVANTAGES TO NMGC AND ITS CUSTOMERS OF**

13   **UPGRADING TO HANSEN CIS.**

14 **A.**   There are many.

15   •   First and foremost, an upgrade to Hansen CIS provides NMGC with a CIS that its

16   consultants recommend but at a cost significantly less than a newly acquired competing

17   CIS. For example, the estimated capital cost estimate to implement an SAP CIS is

18   approximately $76 million compared to the cost estimate to implement the Hanson CIS

19   which is $31.2 million. Ongoing licensing and support costs are also lower. It is

20   estimated that annual licensing and support costs for an SAP CIS are approximately

21        $5.5 million compared to approximately $2.3 million for the Hansen CIS.

1   • The upgrade provides more familiar data to our users and customers. NMGC will not

2   be needing any major data conversion activities and three full years of historical

3   information will remain in the system. Account, customer and transaction data will

4   remain the same.

5   • A lower number of additional staff is required for implementation and ongoing support

6   of an upgrade, compared to a higher number of additional staff for a new system

7   implementation.

8   • The upgraded Hansen CIS will enable our internal support team to provide new

9   functions and screens without actually performing software development. In some

10   instances, the system allows for providing new screens and functions within the base

11   system instead of developing new software using an external software development

12   platform. Using these new features is advantageous by making it easier to perform

13   future vendor-supplied system upgrades.

14   • The upgrade to Hansen CIS is using a "back to base" approach. Using this approach

15   will reduce the number of customizations in the software application. In other words,

16   the upgraded system already has many of the customizations made to NMGC's system

17   as part of its base system. Once implemented to the currently supported version,

18   Hansen Technologies will support the Hansen CIS as part of our licensing agreement

19   with Hansen. Since technological resources are challenging to find and retain, this will

20   be a more reliable support method moving forward.

21   • The base Hansen CIS System functions in a similar way to Banner CIS. The base

22   system data fields remain the same, therefore there is less business process re-

1   engineering and training required compared to a new system implementation which

2   would require a high amount of business process re-engineering and training.

3   • There should be a limited amount of organizational change that will take place

4   compared to a new system implementation as users are comfortable with the base

5   Banner system.

6   • The base system data will remain the same, there are no changes to account numbers,

7   meter numbers or base transaction data. There will be a limited amount of data

8   conversion needed. With a new system there would be a large data conversion needed.

9   With the upgrade to Hansen CIS the database will be upgraded to work with the Hansen

10   CIS. The Call Center should be able to use the upgraded system to retrieve historical

11   customer information and transactions. There is also less impact on the systems that

12   Hansen CIS communicates with. This includes the many internal systems and external

13   interfaces that are connected to Banner CIS.

14   • NMGC's Gas Transportation system is built into the current Banner CIS. Our plan is to

15   use the same or similar vendor customized functionality in the Hansen CIS system for

16   this capability. Base Hansen CIS functionality will be used, plus some vendor

17   customization will be needed to provide this capability. Gas Transportation is not

18   normally part of a vendor offering, using the Hansen CIS for this solution, with some

19   vendor customization would be a lower risk approach than building this into a new

20   system. The current Banner CIS database already contains the fields needed to support

21   Gas Transportation, however there may be some data conversion required.

1 • Hansen CIS provides all the latest Hansen business functionality and technology

2 improvements that have been added or changed over the last 20 plus years.

3 • The base software application will be supported by the vendor. This will be less costly

4 over time compared to the status quo option or the new system option.

5 • The updated Hansen CIS is less dependent on some third-party tools such as Oracle

6 WebLogic Form/Reports and Micro Focus COBOL. Oracle WebLogic Forms/Reports

7 has been in existence since Banner CIS was implemented in 1998. Oracle is providing

8 Premier Support for this product through 2025, however, its future is uncertain. Both

9 Oracle Weblogic and Micro Focus COBOL have been replaced in Hansen CIS.

10 • NMGC has a new custom meter testing system that's built into the existing Banner CIS.

11 This system will be brought over from the existing Banner CIS and built to the

12 upgraded Hansen CIS. There would be more effort needed to build this into a new

13 system.

14 • Currently in Banner CIS NMGC has custom software development for the GAP, our

15 new approach will be to use the base Hansen CIS for this capability.

16 • Hansen has a user group for Hansen CIS that provides suggestions for system

17 improvements. NMGC will have an opportunity to suggest system improvements to

18 Hansen Technologies that may be incorporated into future versions of the Hansen CIS.

19 • There are many new functions in the Hansen CIS that NMGC will not use upon initial

20 implementation. This is primarily to reduce the risk of the upgrade and complete the

21 project in a timely manner. There are many future opportunities to improve our

22 customer's digital experience once this upgrade is completed.

1   •   The upgraded Hansen CIS will provide functional and technical improvements related

2   to business efficiency, thus enhancing our customers' experience. Some of the

3   improvements are Account-at-a-Glance, Account Calendar of Events, move-in/out

4   wizards, multiple browsers, enhanced business intelligence tools, enhanced security,

5   data auditing and APIs that will enable future customer experience initiatives related

6   to digitalization.

7

8   **C.**   **Details Surrounding Upgrade Project**

9 **Q.**   **WHAT IS THE CONTEMPLATED TIMEFRAME FOR COMPLETION OF THIS**

10   **PROJECT?**

11 **A.**   - Project start date was September 14, 2022

12   - Proposed go-live date is October 14, 2024

13   - Proposed hyper-care (enhanced support, stabilization) date is three months following

14   implementation with an additional three months of warranty support.

15

16 **Q.**   **PLEASE EXPLAIN THE ACTIONS TAKEN BY THE COMPANY TO HELP**

17   **ENSURE A SMOOTH TRANSITION TO THE UPGRADED HANSEN CIS?**

18 **A.**   While there are always risks associated with implementing an upgrade such as

19   contemplated here, and while anticipating all such issues and risks is difficult, NMGC has

20   been engaged with its consultants, and focused internally to identify and mitigate risks.

21   Here are some of the major risks we have identified and are working to mitigate:

1   •   NMGC has reviewed Project Lessons Learned from the TECO Energy, Inc. ("TECO")

2   SAP implementation and is working with Cognizant to follow Project Management

3   Institute ("PMI") standards for project management.

4   •   NMGC has set up a robust project governance and advisory structure. Team members

5   from Emera, TECO, Nova Scotia Power, and NMGC are on the Advisory Board and

6   Steering Committee.

7   •   We have been working with TMG to advise us on methods of implementation, risks

8   that commonly arise during implementation, and generally regarding implementation

9   procedures. NMGC has also contracted with TMG for Independent Quality Assurance

10   services to monitor the project and report on any risks and issues arising from unknown

11   risks, challenges, process issues and project management issues that arise as the project

12   moves forward.

13   •   To mitigate the risk of exceeding the projected timeframe for implementation, NMGC

14   decided to minimize any software customizations. This approach will also enable

15   NMGC to upgrade the system more easily in the future.

16   •   NMGC has also staffed the project with expert-level resources including appropriate

17   internal resources and external consulting resources.

18   •   To mitigate the risk arising from the age and number of customizations in our current

19   CIS, NMGC decided to work with the vendor of the product, Hansen Technologies, on

20   this upgrade.

21   •   NMGC has contracted with Cognizant, a Solutions Integrator, to facilitate

22   communication and coordination between the multiple vendors working on the project.

1   Cognizant has experience working with the Banner CIS system. Cognizant was

2   engaged to supplement Hansen Technologies' role in this implementation.

3 • Cognizant is working with NMGC to mitigate risks of transferring to the upgraded

4   system including addressing user acceptance, possible slow-down in call center call

5   handling due to the new user interface and non-familiarization with new business

6   processes, system stabilization and resiliency.

7 • NMGC has onboarded an Organizational Change Manager to work hands-on with the

8   team and provide extensive training to mitigate the risk that CIS users may not readily

9   adopt the upgraded CIS; and to provide internal and external communications to project

10   stakeholders to facilitate their buy-in on this upgrade.

11 • NMGC has contracted with Centroid for their infrastructure expertise related to Oracle

12   Cloud Computing to reduce the risk of server hardware issues.

13

14 **Q.** **WHAT ARE THE ESTIMATED CAPITAL COSTS FOR THIS PROJECT?**

15 **A.** $31,241,270. These costs are detailed in NMGC Exhibit THS-3.

16

17 **Q.** **WHAT ARE THE ESTIMATED OPERATION AND MAINTENANCE ("O&M")**

18   **COSTS FOR THE PROJECT?**

19 **A.** $2,273,632. These costs are detailed in NMGC Exhibit THS-4. This amount is primarily

20   for training employees in the use of Hansen CIS. It includes training existing employees

21   on the new system, and having trainers train new employees in the use of the old Banner

22   system so new employees can support the call center as existing employees learn the new

1   system. The cost is necessary to implement Hansen CIS without disrupting current

2   operations and is included in this case as a regulatory asset.

3

4   **Q.   WHAT IS THE LIFE EXPECTANCY OF THE SYSTEM AFTER THE UPGRADE?**

5   **A.**   Life expectancy is estimated to be 15 years based upon currently available information.

6   The useful life of the upgraded Hansen CIS can be extended by keeping base products

7   updated with the latest product releases.

8

9   Q.   **ARE THERE ANY OTHER ASPECTS OF THE BANNER UPGRADE GOING**

10   **LIVE THAT YOU WOULD LIKE TO DISCUSS?**

11   **A.**   Yes. The Company is proposing that the new rates requested in this case become effective

12   for services rendered after October 1, 2024. The Company is working out the best way to

13   implement the Banner upgrade to facilitate the implementation of these new rates.

14

15   **II.   CREDIT CARD FEE RECOVERY PROPOSAL**

16   **Q.   WHAT DO YOU ADDRESS IN THIS SECTION OF YOUR DIRECT**

17   **TESTIMONY?**

18   **A.**   In this section of my Direct Testimony, I provide the Company's proposal to move service

19   fees from individual customers when they choose certain payment options into base rates.

20   As described below this change in practice aligns the Company with utility best practices,

21   meets customer expectations, and will be beneficial to Company operations.

22

1   **Q.**   **PLEASE PROVIDE DETAILS ON HOW MANY NMGC CUSTOMERS**

2   **CURRENTLY PAY THEIR NMGC GAS BILLS BY CREDIT/DEBIT CARD OR**

3   **ACH WHERE A SERVICE FEE IS ASSESSED.**

4   **A.**   In 2022, NMGC customers made a total of 5,683,712 payments, and 12.34% (701,104) of

5   these payments were made via a credit/debit card or electronic fund transfer (a.k.a. ACH)

6   through NMGC's authorized third party vendor, where a service fee is assessed.

7

8   **Q.**   **PLEASE EXPLAIN THE BASIS FOR THE FEES PAID BY CUSTOMERS WHEN**

9   **PAYING THEIR BILLS.**

10   **A.**   NMGC utilizes ACI/Speedpay, to process payments via credit card. ACI/Speedpay also

11   has the capability to process a payment via ACH, if a customer chooses to do so. When

12   customers pay by credit card or ACH regardless of whether they pay in-person at a payment

13   center operated by the Company, or by phone, or on-line, they do so through ACI/Speedpay

14   and are currently charged a $1.95 convenience fee per payment which is assessed by

15   ACI/Speedpay. Likewise, if they pay through Western Union, they pay a convenience fee

16   of $1.00 per cash or check payment to Western Union. These types of arrangements are

17   standard in the industry. The convenience fee is a pass along charge from the third-party

18   for processing expenses, also known as a "pay-to-pay" fee by the Consumer Financial

19   Protection Bureau, a U.S. Government agency that ensures banks, lenders, and other

20   financial companies treat consumers fairly. NMGC does not receive any portion of the

21   convenience fees collected by ACI/Speedpay or Western Union.

22

1 **Q.** **WHAT IS NMGC PROPOSING?**

2 **A.** NMGC is aware that another utility in New Mexico, PNM, which operates payment options

3 similar to NMGC, is proposing in its pending rate case a program whereby the convenience

4 fees paid by their customers will be moved from the individual to the base rates to be paid

5 by all customers. As set forth in this Direct Testimony, NMGC is in a similar position with

6 regard to convenience fees charged to certain customers. NMGC is therefore proposing

7 that in the event PNM prevails on its argument for moving all or part of their customer's

8 convenience fees from the individual making payment into the base rates that NMGC be

9 allowed to work with its providers to determine the amount of convenience fees incurred

10 by its customers in paying their bills for the period covered by the Commission's order in

11 the PNM rate case, accrue that cost and relieve the individual bill payer from their

12 convenience fee obligations, and create a regulatory asset for filing and recovery in

13 NMGC's next rate case.

14

15 **Q.** **HOW WOULD NMGC ACCOUNT FOR THIS RELIEF IN THIS RATE CASE**

16 **AND IN ITS NEXT RATE CASE.**

17 **A.** First, there would be no rate impact of this decision in this rate case. Between this rate

18 case and the next rate case, NMGC would work with the companies charging NMGC

19 customers a convenience fee, specifically ACI/Speedway and Western Union, and work

20 out an arrangement where the convenience fees charged to NMGC customers would be

21 paid by NMGC instead of the individuals making the payment. NMGC would pay and

22 record these amounts in a regulatory asset for later recovery.

26

1   In its next rate case, NMGC would file for a regulatory asset and recovery for costs incurred

2   as part of that process as well as put the estimated fees, based on historical data, into base

3   rates and recover those costs.

4
5   **III. IMPACT OF COVID-19 ON NMGC'S LEVEL OF BAD DEBT**
6   **AND BAD DEBT WRITE OFF**
7
8   **Q.   NMGC IS SEEKING A REGULATORY ASSET IN THIS CASE FOR RECOVERY**

9   **OF INCREASED BAD DEBT COSTS INCURRED BY THE COMPANY DURING**

10   **THE COVID PANDEMIC. PLEASE DISCUSS YOUR INVOLVEMENT WITH**

11   **THE COMPANY'S EFFORTS TO DETERMINE AND LIMIT THE AMOUNT OF**

12   **BAD DEBT INCURRED BY THE COMPANY DURING THE COVID-19**

13   **PANDEMIC.**

14   **A.**   Throughout the COVID-19 Pandemic, I was the Vice President over the billing and

15   collections departments at NMGC. As such, I have first-hand knowledge of the impact the

16   COVID-19 Pandemic had on the Company's billing and collection efforts, and the resulting

17   impact on the Company's level of bad debt losses during this period.

18

19   **Q.   WHAT IS BAD DEBT AND WHAT IMPACT DOES IT HAVE ON COMPANY**

20   **OPERATIONS?**

21   **A.**   Bad debt refers to money owed to the Company by customers that has been written off or

22   that we expect to be written off as uncollectible.   Bad debt can affect the operations of

23   NMGC in several ways.

24   1.   Financial loss to the Company.

27

1   2. Reduced cash flow to the Company for other business operations.

2   3. Increased operational expenses to the Company in dealing with bad debt and in efforts

3   to follow-up with delinquent customers, negotiate payment arrangements, and work

4   with third party collection agencies.

5

6 **Q. PLEASE DESCRIBE WHAT THE COMPANY NORMALLY DOES TO ASSIST**

7   **CUSTOMERS WITH PAYING THEIR UTILITY BILLS AND THEREBY**

8   **CONTROLLING AND LIMITING BAD DEBT WRITEOFFS BY THE**

9   **COMPANY.**

10 **A.** The Company takes many actions to assist customers to pay their utility bill in an effort to

11   minimize bad debts. These efforts include:

12   • Encouraging participation in the Company's budget billing program which levelizes

13   customer payments over a 12-month period to avoid spikes in bills during the winter

14   months;

15   • Promoting and contributing to the Heat NM assistance program;

16   • Encouraging participation by customers in payment plans to pay outstanding bills;

17   • Placing reminder calls to customers after final bill to prompt payment;

18   • Working with customers to forward final bill from previous address to new address to

19   avoid unpaid bills; and

20   • Encouraging customer participation in LIHEAP and other payment assistance

21   programs when eligible.

22

1 Q. **DURING THE PERIOD OF THE COVID-19 PANDEMIC, DID NMGC**

2 **UNDERTAKE ADDITIONAL EFFORTS TO ALLEVIATE THE INCREASE IN**

3 **ARREARS IN AN EFFORT TO MINIMIZE BAD DEBT?**

4 A. Yes. NMGC increased its contributions to Heat NM, and hired additional temporary

5 personnel to work with customers in arrears and assist them applying to Heat NM for

6 assistance with other programs.

7

8 Q. **WHAT IMPACTS DID THE COVID-19 PANDEMIC HAVE ON THE**

9 **COMPANY'S ABILITY TO ASSIST CUSTOMERS TO PAY THEIR BILLS?**

10 A. The COVID-19 Pandemic greatly impacted some customers' ability to pay their bills. We

11 saw this statewide and primarily with residential and small commercial accounts. The

12 pandemic adversely impacted customers who previously struggled to pay their bills but

13 also those who had previously had excellent payment history. From what we can tell, this

14 was a result of the overall economic impact of the pandemic on customers' finances and

15 what we saw was that many customers stopped paying their bills. The Company worked

16 with customers facing hardship by extending and negotiating payment terms, assisting

17 customers in applying for payment assistance, and working directly with government

18 entities and other organizations offering payment assistance.

19

20 Q. **IN YOUR OPINION DID THE COVID-19 PANDEMIC INCREASE THE LEVEL**

21 **OF BAD DEBT LOSSES INCURRED BY NMGC?**

1   **A.**   Yes. Our experience was that during the Ppandemic, and despite our best efforts to work

2   with customers, the level of bad debt losses incurred by the Company increased

3   dramatically. The amount of loss is identified in the testimony of NMGC Witness

4   Buchanan.

5

6   **Q.**   **HAS NMGC RETURNED TO NORMAL BILLING AND COLLECTION**

7   **EFFORTS?**

8   **A.**   No, not completely. NMGC is still processing a large number of aged accounts receivable

9   (accounts in arrears) that could turn into bad debt in the foreseeable future. NMGC is also

10   continuing efforts to help customers pay their bills as described above.

11
12
13   **IV.   REVIEW OF SHARED SERVICE COSTS INCURRED**
14   **BY NMGC'S IT&T GROUP**
15
16   **Q.**   **PLEASE DESCRIBE YOUR ROLE IN REVIEWING AND APPROVING THE**

17   **IT&T AFFILIATE SHARED SERVICE CHARGES INCURRED BY NMGC.**

18   **A.**   As the Vice President of Information Technology for NMGC, I am primarily responsible

19   for reviewing the shared services charged to the Company by its affiliates. I work with the

20   employees in my department who report to me to review these charges, including NMGC

21   Witness Kevin I. Farr, as well as with the other Executives at NMGC, to approve these

22   affiliate shared service charges.

23

24

25

30

1 **Q.** **PLEASE DESCRIBE THIS PROCESS.**

2 **A.** Pursuant to the Cost Allocation Manual ("CAM"), costs generally are collected and

3 charged using three different methods. Costs are either charged as direct costs ("Direct

4 Charges"), assessed to more than one affiliate using one or more formulas for assessment

5 ("Assessed Charges"), or allocated to multiple affiliates ("Allocated Charges") using the

6 Modified Massachusetts Method ("MMM"). IT&T charges are typically assessed to

7 affiliates from the shared services provider on a per capita basis of users. Affiliate charges

8 to NMGC in the IT&T area are mostly charged to NMGC under an assessed formula based

9 on the number of employees, or users of the service.

10

11 **Q.** **WHAT DOES NMGC DO WHEN REVIEWING IT&T CHARGES FROM TAMPA**

12 **ELECTRIC COMPANY ("TEC") OR ANY OTHER AFFILIATE?**

13 **A.** NMGC evaluates the cost effectiveness of the IT&T shared service, and also ensures it is

14 complying with the terms of the Emera Stipulation (discussed below). This evaluation

15 entails consideration of the alternative costs and qualities of the service to determine if it

16 should be provided locally or from an affiliate. Each service is reviewed independently to

17 make this determination.

18

19 **Q.** **APPLYING THIS GENERAL FRAMEWORK, HAVE YOU MADE THE**

20 **DETERMINATION THAT THE IT&T SHARED SERVICES NMGC RECEIVES**

21 **FROM TEC ARE MORE COST EFFECTIVELY RECEIVED FROM TEC THAN**

22 **IF NMGC PROVIDED THE SAME SERVICES?**

31

1   A.   Yes. First, without access to these shared services, NMGC would have to either provide

2   these services, or contract with third parties for these services. Since TEC has resources

3   on hand, and provides these services to NMGC and other affiliates, it can do this more

4   effectively with better expertise than NMGC could do on its own or by contracting with a

5   third party. Economies of scale work in favor of TEC acquiring the equipment, program,

6   or service, and then assessing a share of that cost to each affiliate. It is more efficient to

7   stand these common support capabilities up once, along with the software and processes

8   necessary to deliver the services, and then spread the costs across affiliates. Creating a

9   separate infrastructure and functionality to provide the capabilities of the shared services

10   provider would not be cost effective to a company like NMGC. For all these reasons, we

11   have determined that we cannot provide these same services cost effectively. NMGC

12   Witness Farr provides testimony in support of the technical expertise TEC and its

13   employees bring in these areas, and the value of the shared services to NMGC from his

14   perspective.

15

16   Q.   **AS IT RELATES TO IT&T SHARED SERVICES CHARGES, PLEASE**

17   **DESCRIBE HOW NMGC HAS COMPLIED WITH THE STIPULATION**

18   **ENTERED INTO IN NMPRC CASE NO. 15-00327-UT (“EMERA**

19   **STIPULATION”).**

20   A.   In paragraphs 28a, 28b, and 28c of the Emera Stipulation in NMPRC Case No 15-00327-

21   UT, NMGC agreed to three commitments related to the affiliate charges. First, in

22   paragraph 28a of the Emera Stipulation NMGC agreed to “control and annually determine

1   which if any services it will obtain from [the Shared Services Company]." In compliance

2   with 28a, all proposed IT&T shared services and shared services charges are first reviewed

3   and approved by the appropriate IT&T management team members, and then by the

4   executive team. Then, throughout the year, as charges are billed to NMGC by affiliates,

5   each invoice is reviewed before being approved and paid.

6

7   In paragraph 28b of the Emera Stipulation NMGC agreed, consistent with good

8   governance, to show a preference for services to be performed in New Mexico. In

9   compliance with paragraph 28b, NMGC considers what IT&T services can be provided in-

10   house as opposed to being provided by an affiliate. We provide services within New

11   Mexico where feasible and cost effective. The services provided by TEC are those that are

12   common to affiliates and for which there are economies associated with a central provision

13   of those services. Rather than developing redundant systems and resources to provide these

14   services, NMGC has chosen to participate in the cost-sharing benefits and receive the value

15   of a deeper resource pool. NMGC still retains a large and active IT&T presence in New

16   Mexico.

17

18   In paragraph 28c of the Emera Stipulation, we agreed to make shared service charges,

19   assessments, or allocations transparent, and to the greatest extent possible, use direct

20   charges, as opposed to assessments or allocations. In compliance with paragraph 28c, as

21   reflected in detail in this Direct Testimony and in the attached exhibits, we are providing

22   transparency and detail as to all assessed shared services charges to NMGC for IT&T

1   services. In most instances regarding IT&T charges, assessments under the CAM as

2   opposed to direct charges are more cost effective for NMGC and a better way for NMGC

3   to receive value while still receiving high quality services.

4

5 **Q.**   **DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

6 **A.**   Yes.

NMGC Exhibit THS-1

Qualifications of Tommy H. Sanders

EDUCATION AND PROFESSIONAL AFFILIATIONS
Bachelor of Accountancy, New Mexico State University
Certified Public Accountant, New Mexico
American Institute of Certified Public Accountants
New Mexico Society of Certified Public Accountants
New Mexico Independent Producer Association

EMPLOYMENT HISTORY

2022-Present	Vice President, Customer Service and Information Technology	New Mexico Gas Company
2015-2022	Vice President, Customer and Support Services	New Mexico Gas Company
2011-2015	Vice President, Gas Supply	New Mexico Gas Company
2009–2011	Director Gas Supply and Transmission Operations	New Mexico Gas Company
1998–2009	Director Gas Supply and Transmission Operations	PNM Gas Services
1995-1998	General Manager, Gas Acquisitions, Transportation and Administration	PNM Gas Services
1991-1994	Director, Gas Acquisitions, Transportation and Marketing	PNM Gas Services
1990-1991	Director, Gas Acquisitions and Contract Management	Gas Company of New Mexico
1988-1990	Manager, Gas Acquisitions	Gas Company of New Mexico
1984-1988	Manager, Gas Contracts and Prorations	Gas Company of New Mexico
1983-1984	Supervisor, Gas Contracts Administration	Gas Company of New Mexico
1982-1983	Office Manager, Carlsbad, New Mexico	Gas Company of New Mexico
1981-1982	Office Manager, Roswell, New Mexico	Gas Company of New Mexico
1978-1981	Public Accounting, Carlsbad, New Mexico	McKinney, Friesan and Firtschy

PROFESSIONAL
Certified Public Accountant-License 2008 State of New Mexico 1980 to Present

LITIGATION TESTIMONY
Unicon vs. PNM
Southern Union vs. PNM
Meridian and EPNG vs. PNM
Robert R. Click et. al. vs. PNM
Conoco and Amoco vs. PNM
Caulkins et. al., Dreyfus and Marathon vs. PNM

NMPRC CASE TESTIMONY
Case No. 2445
Case No. 2147
Case No. 2521
Case No. 2759
Case No. 04-00234-UT
Case No. 06-00210-UT
Case No. 08-00191-UT
Case No. 11-00039-UT
Case No. 11-00042-UT
Case No. 12-00186-UT
Case No. 21-00267-UT

NMGC Exhibit THS-2

Banner Chronology

- 2.1 – TMG Consulting CRM Requirements Report
- 2.2 – Deloitte Fit-Gap and Pricing Analysis
- 2.3 – MAK Solutions Banner CIS Risk Assessment
- 2.4 – NMGC Banner Upgrade Business Case

NEW MEXICO GAS COMPANY, INC.

CHRONOLOGY OF EVENTS RELATING TO THE BANNER CIS UPDATE ("BANNER CHRONOLOGY")

1   1.   In 1998, Public Service Company of New Mexico ("PNM") installed and began

2   using a Banner Customer Information System version 2.2 ("Banner CIS") for both its gas and

3   electric services.

4   2.   Between 1998 and 2009 various modifications and customizations to the Banner

5   CIS were programmed by PNM into and around the CIS for both gas and electric services.

6   3.   In 2009 the assets of PNM Gas Services were sold and New Mexico Gas Company

7   Inc. ("NMGC" or "the Company") came into existence. As part of this asset acquisition, the

8   Banner CIS was acquired and implemented by NMGC.

9   4.   Between 2012 and 2014, NMGC worked with Hansen Technologies ("Hansen")[1]

10 to consider a possible upgrade of NMGC's then-existing Banner CIS from version 2.2 to version

11 4.3 to provide new business functions, fixes, technology changes, enhanced security and improved

12 support. In 2014, this upgrade was paused to consider whether NMGC should alternatively obtain

13 a replacement CIS from SAP[2], in lieu of upgrading NMGC's Banner CIS.

14 5.   Throughout 2016, NMGC worked with TMG Consulting ("TMG")[3] to develop

15 Business Requirements for the possible implementation of a new or upgraded CIS. As detailed in

16 this Banner Chronology and in the Direct Testimony of NMGC Witness Sanders, between 2014

17 and 2021, NMGC and its owner and sister companies (together "NMGC") were considering

---

[1] Hansen Technologies is the software company that owns, provides software upgrades, licenses and supports Banner CIS 2.2 and the upgraded Hansen CIS which will be referred to throughout this testimony and Chronology. Hansen has owned the Banner CIS platform since approximately 2014.

[2] SAP is a German multinational software company.

[3] TMG Consulting, Inc. is a consulting firm that focuses on working with utilities to plan, develop, implement and manage CIS systems.

NEW MEXICO GAS COMPANY, INC.

CHRONOLOGY OF EVENTS RELATING TO THE BANNER CIS UPDATE ("BANNER CHRONOLOGY")

1   whether it made sense for NMGC to either upgrade to another version of Banner/Hansen CIS or

2   replace Banner CIS with another vendor's product. Such vendors include companies such as

3   Oracle and SAP. The Business Requirements Project referred to in this paragraph consisted of

4   working with business units at NMGC to determine what requirements NMGC would need to

5   address through an upgraded or replacement CIS. This initial engagement of TMG resulted in

6   TMG creating a document entitled CRM Requirements Report dated December 2016 which

7   defined the functional needs of NMGC and their importance to NMGC's business operations. A

8   copy of this Report, dated December 14, 2016, is attached as NMGC Exhibit THS-2.1. This Report

9   was provided to NMGC and used by NMGC to help determine whether a proposed CIS would

10 meet the functional and business needs of NMGC.

11   6.   In 2016 and 2017, NMGC monitored the implementation of an SAP CIS at its

12 affiliate utility in Florida, Tampa Electric and Peoples Gas.

13   7.   Between April 2017 and July 2017, NMGC worked with Deloitte Consulting

14 ("Deloitte")[4] to facilitate a Fit-Gap and Pricing analysis to evaluate the ability of an SAP CIS

15 (referred to by SAP as a Customer Relationship Management & Billing ("CRMB") to meet

16 NMGC's requirements for a CIS as determined in the Project discussed in the previous paragraph.

17 A copy of this analysis is attached as NMGC Exhibit THS-2.2. As used in this Chronology and

18 as discussed in the Direct Testimony of NMGC Witness Sanders, a "fit-gap analysis" is an

---

[4] Deloitte Consulting is a Solutions Integrator for SAP. A Solutions Integrator is a company focused on leading, architecting, developing and testing a solution that coordinates and communicates effectively with all other internal and external connected systems.

NEW MEXICO GAS COMPANY, INC.

CHRONOLOGY OF EVENTS RELATING TO THE BANNER CIS UPDATE ("BANNER CHRONOLOGY")

1   undertaking wherein a proposed CIS ("Software") is compared with the requirements and needs

2   of the business (here NMGC), and discrepancies between the two are reconciled by either

3   modifying the proposed software or the businesses operations. Invariably a software package and

4   a Company's requirements and needs do not initially match perfectly and adjustments to the

5   software or the Company's operations are required.

6   8.   In August 2017, after the SAP fit-gap and pricing analysis was completed, NMGC

7   reviewed the analysis and determined that the price (approximately $80 million) and number of

8   internal resources needed to implement SAP was prohibitive. NMGC and Deloitte then met to

9   facilitate what were referred to as "SAP deep-dive price and internal resource reduction meetings".

10   These were meetings to determine whether the price and resource requirements of the SAP CIS

11   could be reduced to make it a viable option. The conclusion was that to reduce the price and high

12   number internal staff required NMGC would need to reduce the project timeline from 24 months

13   to 21 months, reduce Hypercare Extended Support (stabilization period) from 6 months to 3

14   months, and augment NMGC internal staff with Deloitte resources. These changes would reduce

15   the cost of the SAP CIS by ~$4M and reduce some of the internal staffing issues; however, this

16   approach increased the overall project risk by cutting the amount of time required to do the same

17   amount of work and reduced support levels during the stabilization period.

18   9.   In August 2017, NMGC determined that even with the price reduction reference in

19   the previous paragraph, acquiring a new SAP CIS was too resource and cost prohibitive for a utility

20   the size of NMGC to implement.

NEW MEXICO GAS COMPANY, INC.

CHRONOLOGY OF EVENTS RELATING TO THE BANNER CIS UPDATE ("BANNER CHRONOLOGY")

1   10.   In October 2017 and November 2017, while NMGC continued to evaluate upgrade

2   or replacement options for its existing Banner CIS, NMGC worked with MAK Solutions[5] to

3   perform a Banner CIS Risk Assessment to determine what risks were present in the current Banner

4   CIS and help NMGC evaluate options to extend the life of NMGC's existing Banner CIS. A copy

5   of this Banner CIS Risk Assessment entitled "Banner CIS Version 2.1.5 Risk Assessment is

6   attached as NMGC Exhibit THS-2.3. Extending the life of Banner CIS was intended to allow

7   more time to carefully evaluate next steps for long-term strategic planning to replace or upgrade

8   the Banner CIS. In sum, the Banner CIS Risk Assessment determined:

9   a.   Staying on the current version of Banner CIS without a technical uplift presents a

10   high level of risk including potential for failure and a threat to the longevity of the

11   application.

12   b.   Extending the current version of Banner CIS through a technology and supporting

13   systems uplift ("Technical Uplift") is a viable low risk option that maintains

14   functionality and customer service expectations and allows for continued strategic

15   analysis and planning.

16   11.   In November 2017, based upon the findings of the Banner CIS Risk Assessment

17   (NMGC Exhibit THS 2.3), NMGC concluded that the existing Banner CIS needed to be replaced

18   and/or upgraded sooner than later but that interim measures could be taken to extend the life of the

19   Banner CIS while decisions to upgrade or replace were made NMGC began working with Hansen

---

[5] MAK Solutions is an independent consulting firm that specializes in Banner Systems

NEW MEXICO GAS COMPANY, INC.

CHRONOLOGY OF EVENTS RELATING TO THE BANNER CIS UPDATE ("BANNER CHRONOLOGY")

1   (owner of the Banner CIS) on a series of actions to extend the life of Banner CIS and prepare

2   NMGC for the eventual upgrade or replacement of its Banner CIS. These actions included:

3   a.   Between January 2018 and December 2018, NMGC and Hansen completed the

4   Banner Technical Uplift project which entailed upgrading the screen presentation

5   software, database and servers, to mitigate risk and extend the life of the system at

6   least 5 more years. A majority of the priority technical risks from the Banner CIS

7   Risk Assessment were addressed and system performance was also significantly

8   improved.

9   b.   Between January 2019 and December 2019, NMGC interviewed NMGC's internal

10   business units and determined what software improvements would provide the

11   highest value. Working with Hansen, NMGC completed the Banner Functional

12   Enhancements project to provide much needed software improvements.   For

13   example, Social Security number masking, meter testing software enhancements,

14   second responsible party to print on bills, Gross Receipts Tax changes, automated

15   non-sufficient funds returns processing plus many other efficiency improvements.

16   c.   From March 2020-December 2020, working with Centroid[6], NMGC implemented

17   Oracle S7 Application Servers for efficiency and downtime reduction. Once

18   installed, these new servers provided more flexibility and reliability to NMGC.

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[6] Centroid is an information technology infrastructure company that focuses on computer hardware and platforms. They are an Oracle Service Partner that focuses on Oracle products and services such as Oracle Servers, Oracle Cloud Infrastructure and Oracle Databases.

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CHRONOLOGY OF EVENTS RELATING TO THE BANNER CIS UPDATE ("BANNER CHRONOLOGY")

1   d.   Between November 2020 and May 2022, NMGC and Hansen worked on and

2   completed the Banner Archive/Purge project. In this project, new software was

3   developed to purge and archive 20+ years of gas and electric data. The benefits of

4   the data archive/purge were two-fold: first, improve overall system performance

5   and second, take the first step toward the ultimate upgrade or replacement of the

6   existing Banner CIS. Benefits to the upgrade or replacement project includes

7   reducing database upgrade time, making it more efficient to prepare data for testing,

8   and making go-live weekend more efficient.

9   12.   In March and April 2021, NMGC performed additional analysis which resulted in

10 the development of the New Mexico Gas Company Banner Upgrade Business Case ("Business

11 Case"). A copy of this Business Case, dated April 7, 2021, is attached as NMGC Exhibit THS 2.4.

12 The Business Case examined the options of either upgrading NMGC's existing Banner CIS to a

13 newer version, implementing a new system (SAP, Oracle), or even keeping the existing Banner

14 CIS and continuing on our current path. The Business Case findings are discussed in NMGC

15 Witness Sanders Direct Testimony. In sum, the Business Case determined that the Banner

16 Upgrade to the Hansen CIS was the most cost-effective, least resource intensive, and lowest risk

17 option that met NMGC's requirements as discussed above and in the Business Requirements

18 analyses prepared by the Company.

19 13.   In March 2021, at NMGC's request, TMG provided project estimates on what it

20 would cost to implement a new tier 1 CIS solution for NMGC, a tier 2 CIS solution for NMGC,

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CHRONOLOGY OF EVENTS RELATING TO THE BANNER CIS UPDATE ("BANNER CHRONOLOGY")

1   and the cost to conduct a Banner upgrade. TMG opined to NMGC that the Hansen CIS was a

2   viable CIS solution.

3   14.   In March 2021, NMGC considered TMG's pricing estimates and opinion as

4   summarized in NMGC Exhibit THS-2.4 and affirmed its decision to move forward with the

5   Banner Upgrade Project.

6   15.   In March 2021, NMGC Leadership approved NMGC IT's decision to move

7   forward with the Banner Upgrade.

8   16.   In March 2022, NMGC, with the help of TMG, and through an RFP process,

9   selected Cognizant[7] to provide services as a Solutions Integrator (SI) to manage the project and

10 provide upgrade services to supplement Hansen upgrade services. Among other things, Cognizant

11 is responsible to lead the Project Office, integrate and interface the new Hansen CIS with all the

12 other connected systems, redesign business processes, and test technical architecture and systems.

13   17.   In May 2022, the Banner CIS upgrade to Hansen CIS ("Banner Upgrade Project")

14 was approved by the NMGC Board of Directors and contracts were negotiated with external

15 product and service providers.

16   18.   In September 2022, the Banner Upgrade Project began.

---

[7] Cognizant Technology Solutions is working with NMGC as its Solutions Integrator. Cognizant was selected through the NMGC Request for Proposals (RFP) process to serve as the lead technology solutions integrator. Cognizant is one of the few companies other than Hansen that have experience supporting and maintaining Banner CIS systems.

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CRM
Requirements
Report

A Design Blueprint Submitted by:

TMG Consulting
Where Business and
Technology Intersect

December 14, 2016

Transmittal Letter

Mr. Tommy Sanders
Vice President, Customer Support Services

Ms. Denise Wilcox
Director, CRM Strategic Solutions and Human Resources

TMG Consulting is pleased to present this CRM Requirements Report (Design Blueprint) to New Mexico Gas Company. This report will provide an overview of requirements as well as a detailed list, supplemented by the methodology used to arrive at these requirements and their respective uses. Ultimately, we will provide considerations for New Mexico Gas as it moves forward in its process of replacing its current Banner CRM system with that of a new SAP CRB.

Should you have any questions, please don't hesitate to contact us.

It has been our pleasure to facilitate this process and hope that we will have the opportunity to continue working together.

Sincerely,

Mario Bauer
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- High Level Requirements from Workshops
  - Vision & Strategy
  - Business Environment
  - Technical Environment
  - Interfaces and Integration
- Detailed Requirements Summary Analysis
- Suggested SI Procurement Process
- SAP CRB Implementation Considerations
- Closing

Introduction

Why and how the Requirements Development project was initiated, and the resulting benefits.

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Background

TMG Consulting was engaged by New Mexico Gas Company (NMGC) in October 2016 to assist in the completion of a requirements analysis. This requirements analysis was for a modern Customer Information System (CIS) to replace NMGC's legacy Banner system, referred to as CRM. NMGC had previously made the decision to implement SAP's CIS, named Customer Relationship and Billing, or CRB, as their new system.

TMG utilized elements from the first step in its comprehensive Solution Procurement methodology, the Design Blueprint, to facilitate this requirements analysis.

The following report is a summary of the results of that effort, and a blueprint or roadmap of NMGC's next steps for the selection of a System Integrator (SI) in order to implement the SAP CRB system.

NMGC Decides to Replace Banner with SAP CRB → Development of CIS Requirements → Fit Gap Analysis → Selection of a System Integrator → Implementation of the SAP CRB System

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Requirement Development Process

NMGC's CIS Requirements were developed through several different processes.

- NMGC's executives participated in a Vision and Strategy workshop.

  - This workshop was designed to seek input on where NMGC is headed, and what functionality and capabilities will be needed in the future, with a new CIS.

- The Core Team, comprised of Denise Wilcox, Jackee Verhulst and Janelle Callahan, invited subject matter experts from the Business and IT units, to participate with them in a Business Environment workshop, and a Technology Environment Workshop.

  - These workshops consisted of brainstorming sessions on what NMGC felt is needed in a new CIS with directed discussions on the various functional areas of that CIS.

- Key IT resources participated in an Interface/Integration Workshop where the existing Banner interfaces were discussed.

  - Team provided an updated listing and schematic of all current interfaces and prospective interfaces.

- TMG's baseline Functions and Features Checklist of over 1,700 items were reviewed and prioritized by large groups of key NMGC employees over a six-day period. They were then finalized in two additional days of intensive meetings.

- The SAP pre-sales team provided a four-day demo of the CRB system to provide insight and clarification of the base functionality that would be included with the new system. Requirements were clarified with a few addendums.

6

Benefits of the Requirement Development Process

The TMG Methodology and processes were deployed to provide the following benefits:

- **NMGC's executives provided the vision and strategy that was needed** for the foundation of the CIS requirements.

- The **business and technical subject matter experts are aware of the issues they see,** the bottlenecks they live with, the frustrations they face every day, and the struggles they have working with and supporting Banner. They **can easily identify what is needed in a new system.**

- NMGC **does not want to lose any functionality or any connectivity that currently exists.** The detailed listing and schematic of the current (and future) interfaces, will ensure that all of these are considered. As part of the SAP CRB implementation, decisions will be made as to their continued need, and the best way to integrate the NMGC systems and processes.

- TMG's baseline Functions and Features were developed through engagements with other utilities over the last several years. They include what other utilities are seeking in a new CIS and what the leading product vendors are adding to their systems. By reviewing these and optimizing the requirements to the relevant NMGC terminology, **NMGC now has its own personalized list of nearly 1,800 functional and technical requirements.**

- The SAP CRB product demonstration covered the same 14 key functional and technical areas, in addition to other features such as how a consumer application would work and how NMGC would be provided Business Intelligence functionality. SAP also reviewed the benefit for querying and writing reports.

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Use of the Developed CIS Requirements

NMGC's CIS (CRM) Requirements will be used in several different ways:

Fit Gap
- Requirements are essential in the process to compare CRB functionality with what NMGC needs in a new CIS

RFP
- Requirements will be included with the RFP for the SAP CRB SI's to review, to scope out those requirements that will require additional work during the implementation, and to arrive at their price for the implementation

SOW Scope
- After the SI is selected, the NMGC team will go through their entire list of requirements with the SI to fully provide insight into what is needed. The SI, in turn will provide NMGC with the understanding as to how they will implement SAP CRB

Traceability Matrix
- The requirements will be a governing document during the implementation project and the source for the traceability matrix, ensuring that the functionality of the system is delivered as expected

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High Level Requirements from Workshops

High level requirements coming from the Vision and Strategy, Business Environment, Technical Environment, and the Interface/Integrations workshops

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Vision & Strategy Workshop

October 17, 2016

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Vision and Strategy Workshop – Customer Centric

- The NMGC executives **shared what they felt is needed in a new CIS through discussions on how the business strategy is dependent upon the company's existing technology**. The executives understand that the waves of CIS technology driving the industry today require an understanding of risk – risk that can be partially mitigated through improved technology.

- The group participated in a Customer Care Test that showed while the company faces no critical areas, and in fact no real problem areas, **aspects such as the company's strategy, its structure, its systems and its employees all contribute to potential concerns in its efforts to enhance its customers' experience.**
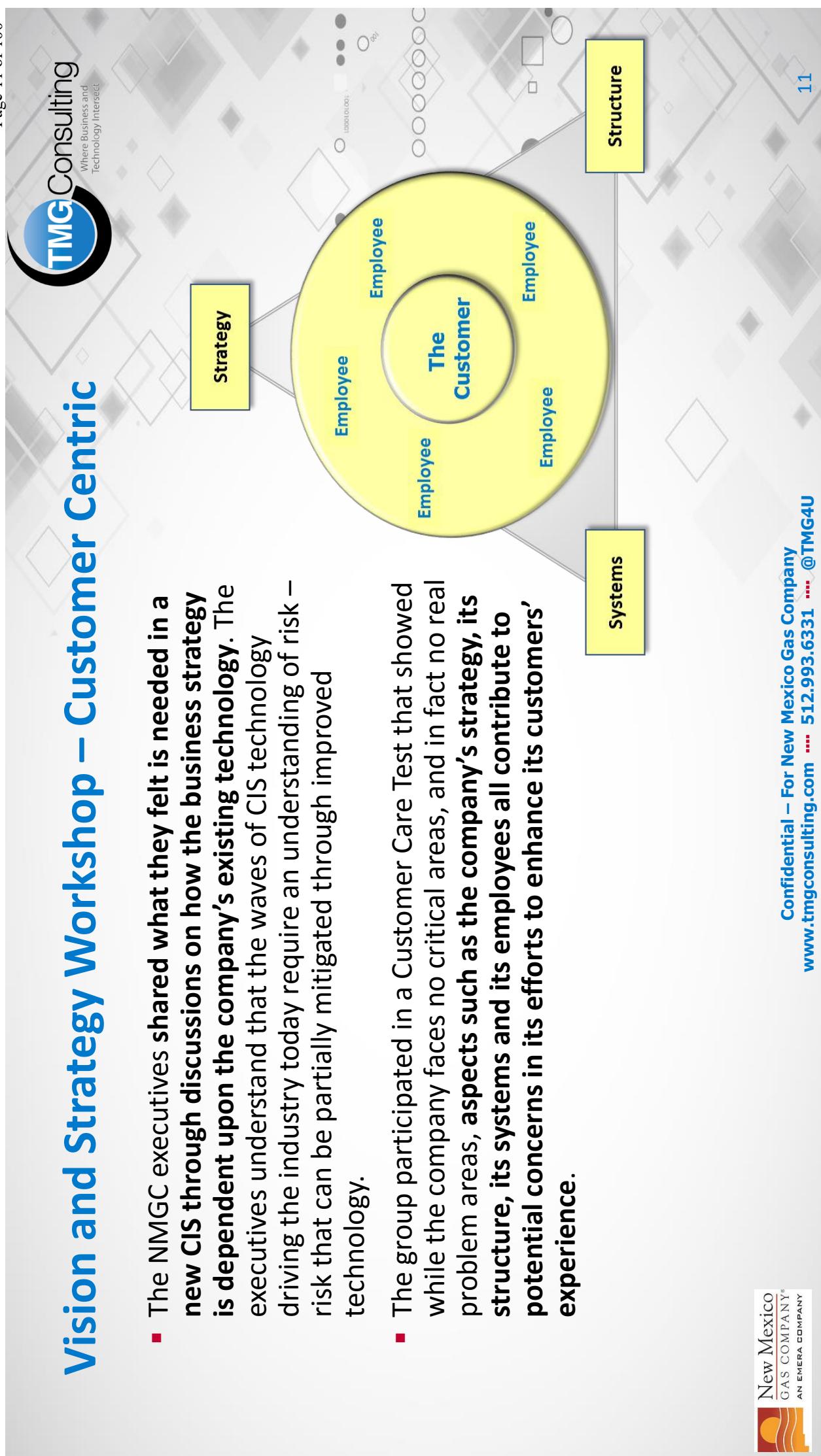
Vision and Strategy Workshop – Customer Service and Marketing Strategy

- The NMGC executives also discussed core and extended (or caring) customer service, and the fact that it is nearly impossible to obtain a high customer satisfaction grade from core customer service. Instead, only **extended customer service, where the customer's expectations are exceeded, will yield a superior customer satisfaction rating.**

- The executives determined that while NMGC has traditionally had a "Follow the Customer" marketing strategy, **would be important to have a "Meet the Customer" strategy in the future.** This will require more emphasis on marketing as well as a system that is adaptable and flexible, where new programs can be added within a four month timeframe.

Customer Grade

Outstanding A

Exceeds Expectations B

Satisfactory C

Unsatisfactory D

Failing F

Perceived Value

Customer Expectation

Extended Service Delights

Perceived Value

Customer Expectation

Core Service Satisfies

TIME

Meet the Customer.

CUSTOMER

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Vision and Strategy Workshop – Customer Service Strategy

- The executives stated that NMGC should convey to its customers that it is:

  ❖ **Service Oriented.** *"We are customer-focused, reliable, responsible people who are there when you need us, understand your needs, and are easy to do business with. We provide one call customer service, quick installation of new service, and prompt follow-up on customer problems."*

  ❖ **Home Town Provider.** *"We are established, trustworthy, and local. We are focused on people and the community."*

  ❖ **Environmentally Friendly.** *"We are environmentally focused and aware of our actions and the impact on our environment and the safety of our community."*

- NMGC's secondary message should be that it is:

  ❖ **Service Provider.** *"We provide your utility needs through a strong infrastructure, a reliable delivery system and dependable service, you can count on us."*

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Vision and Strategy Workshop – Market Driver Impacts

- The executive group rated the impact the following market drivers have on NMGC:

Market Driver	Critical Reactive	Critical Proactive	High Impact	Low Impact	No Impact
1. Customer Growth Initiatives					
Support an aggressive growth strategy through further acquisition				●	
Support a changing organizational philosophy & structure			●		
Support a multi-company environment			●		
2. Customer Marketing and Sales Initiatives					
Focus on potential customers			●		
Focus on existing customers				●	
3. Customer Care					
Provide Numerous Paths to interact	●				
Provide a single point of contact for the customer	●				
Ultimately position for customer self-service with limited human interaction		●			
Know you customers when they call		●			
Provide exceptional levels of customer service	●				
Provide comprehensive services from registration through termination			●		

continued . . .

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Vision and Strategy Workshop – Market Driver Impacts

■ Impacts of Market Drivers - continued:

Market Driver	Critical Reactive	Critical Proactive	High Impact	Low Impact	No Impact
4. Customer Revenue					
Technology issues may impact current revenue				●	
Technology issues may impact vision revenue			●		
Utilize technologies to optimize staff		●			
Technology is costly to operate and support		●			
5. Customer Choice					
Provide mechanics associated with choice		●			
6. Customer Offerings					
Support an aggressive branding strategy		●			
Support a launch period of 0 to 4 months		●			
Offer natural gas based products and services				●	
Offer "other" non-gas products and services				●	
Must be able to bill to have other products and services				●	

continued . . .

15

Vision and Strategy Workshop – Market Driver Impacts

- Impacts of Market Drivers - continued:

Market Driver	Critical Reactive	Critical Proactive	High Impact	Low Impact	No Impact
7. Customer Billing					
Accommodate complex billing		●			
Offer unbundled billing			●		
Offer summary billing across customer accounts		●			
Offer third party billing		●			
8. Other					
Eliminate islands of customer information		●			
Flexibility to make changes in a timely manner		●			
Provide more customer based information		●			
Better access, manipulation, and reporting of data		●			
Better support with online help, scripting and workflows		●			

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Vision and Strategy Workshop – Market Driver Impacts

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- Summary of Impacts of Market Drivers:

Critical Reactive - Immediate	Critical Proactive - Long-term	High Impact
Customer Care • Provide Numerous Paths to interact • Provide a single point of contact for the customer • Provide exceptional levels of customer service	**Customer Care** • Ultimately position for customer self-service with limited human interaction • Ultimately position for customer self-service with limited human interaction **Customer Revenue** • Utilize technologies to optimize staff • Technology is costly to operate and support **Customer Choice** • Provide mechanics associated with choice **Customer Offerings** • Support an aggressive branding strategy • Support a launch period of 0 to 4 months **Customer Billing** • Accommodate complex billing • Offer summary billing across customer accounts • Offer third party billing **Other** • Eliminate islands of customer information • Flexibility to make changes in a timely manner • Provide more customer based information • Better access, manipulation, and reporting of data • Better support with online help, scripting and workflow	**Customer Growth Initiatives** • Support a changing organizational philosophy & structure • Support a multi-company environment **Customer Marketing & Sales** Focus on existing customers • Customer Offerings **Customer Care** • Provide comprehensive services from registration through termination **Customer Revenue** • Technology issues may impact vision revenue\ **Customer Billing** • Offer unbundled billing

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Vision and Strategy Workshop – Conclusions

- The Executive Vision and Strategy Workshop yielded the following high-level requirements for a new CIS:

  ➢ Ability to provide greater friendly, caring service to our customers

  ➢ A more flexible system

  ➢ Assistance with problem solving (more information, decision support)

  ➢ A system easier for our customers to use (self service)

  ➢ Basic marketing capabilities and a system that allows for "quick to market" of new programs and services

  ➢ Greater ability to convey that NMGC is service oriented, established, trust worthy and loyal, and environmentally friendly

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Business Environment Workshop

October 18, 2016

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Business Environment Workshop – High Level Requirements

- The following high-level requirements came from the brainstorming session of the Business Environment workshop:

  ➤ Ability to better manage Gas Advantage Program (GAP) accounts

  ➤ Ability to bill for transported gas

  ➤ Improved management, billing and collection of master summary accounts

  ➤ Ability to provide better customer service

  ➤ More access channels and communication choices for our customers
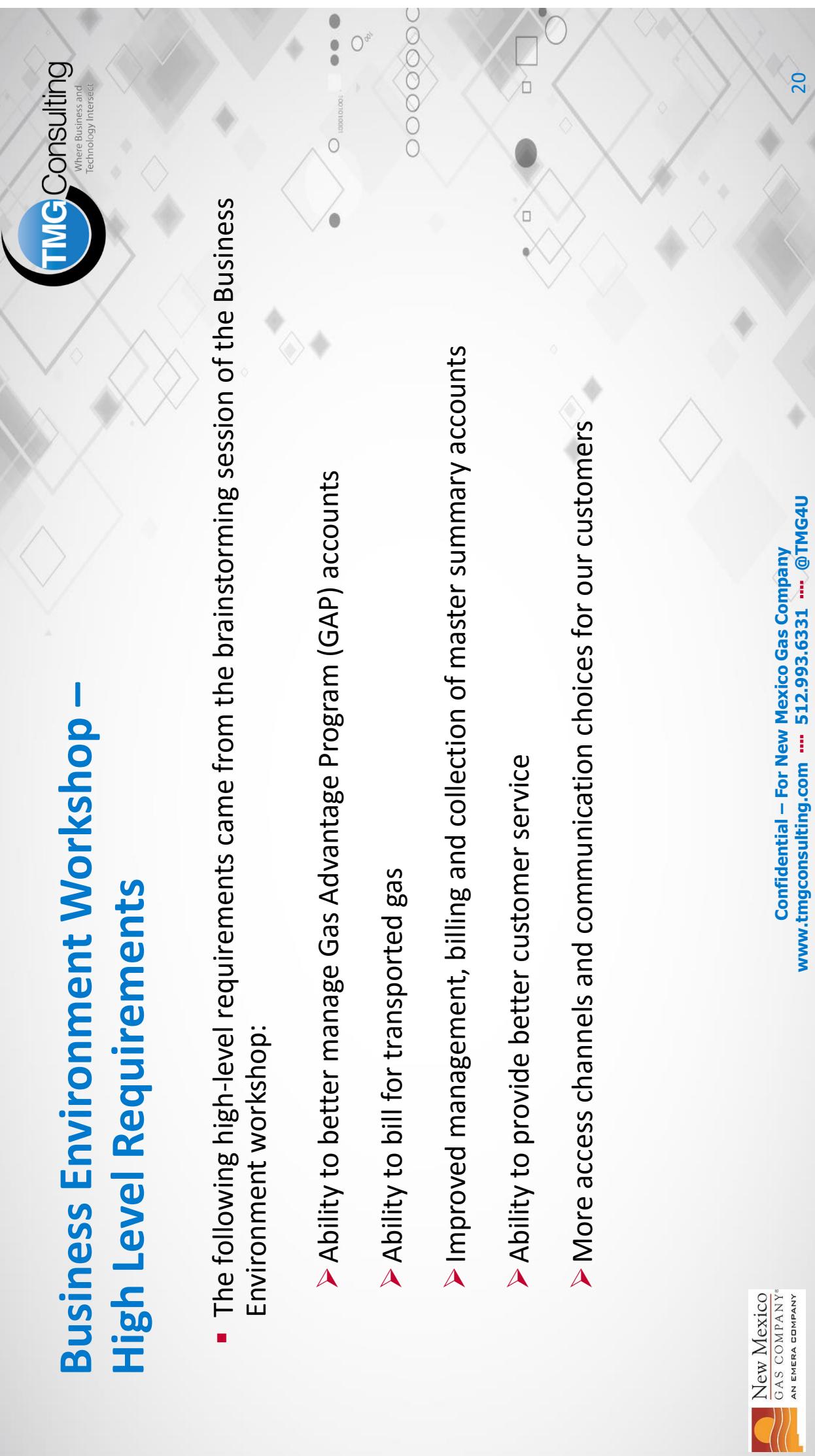
20

Scope of Functions & Features Review

- The below functional categories in a CIS domain were discussed with NMGC team members throughout a series of Functions and Features workshops over a six-day period. A more complete description of each of these 14 categories follows:

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Business Environment Workshop – Account Management

> Identify an account's rate and cycle on the front (home) screen

> Improvements in how Gas Advantage Program (GAP) accounts are handled

> Ability to transfer balance from an inactive account to a new account in real time

> Ability to associate, disassociate and locate/view subordinate accounts in a master summary billing situation

22

Business Environment Workshop – Billing Management

- Ability to bill gas transport customers (chart billing, FlowCal)

- Allow cancel rebill in just a few steps, and over multiple months in a single instance

- Real time adjustments for accounts on budget billing

- Ability to bill transported gas customers

- Notify customers when their budget billing true-up date is approaching

- Allow for tax exemptions at both the customer level and the premise level

- Show customer information, amount paid and balance remaining on the printed payment receipts

- Provide ability to email or text a payment receipt

- Ability to enter in the check number on multiple payments to assist in locating the check

- Interface or provide an easy way to load tax rates for all the jurisdictions

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Business Environment Workshop –
Credit and Collections Management

➤ Provide for credit scoring to assist in determining deposit amount

➤ Search for all accounts with bad debts

➤ More flexible and improved payment arrangements

➤ Automate final notice acknowledgements

➤ Provide automation to flag inactive consumption - provide process to accurately bill for inactive consumption when it is identified
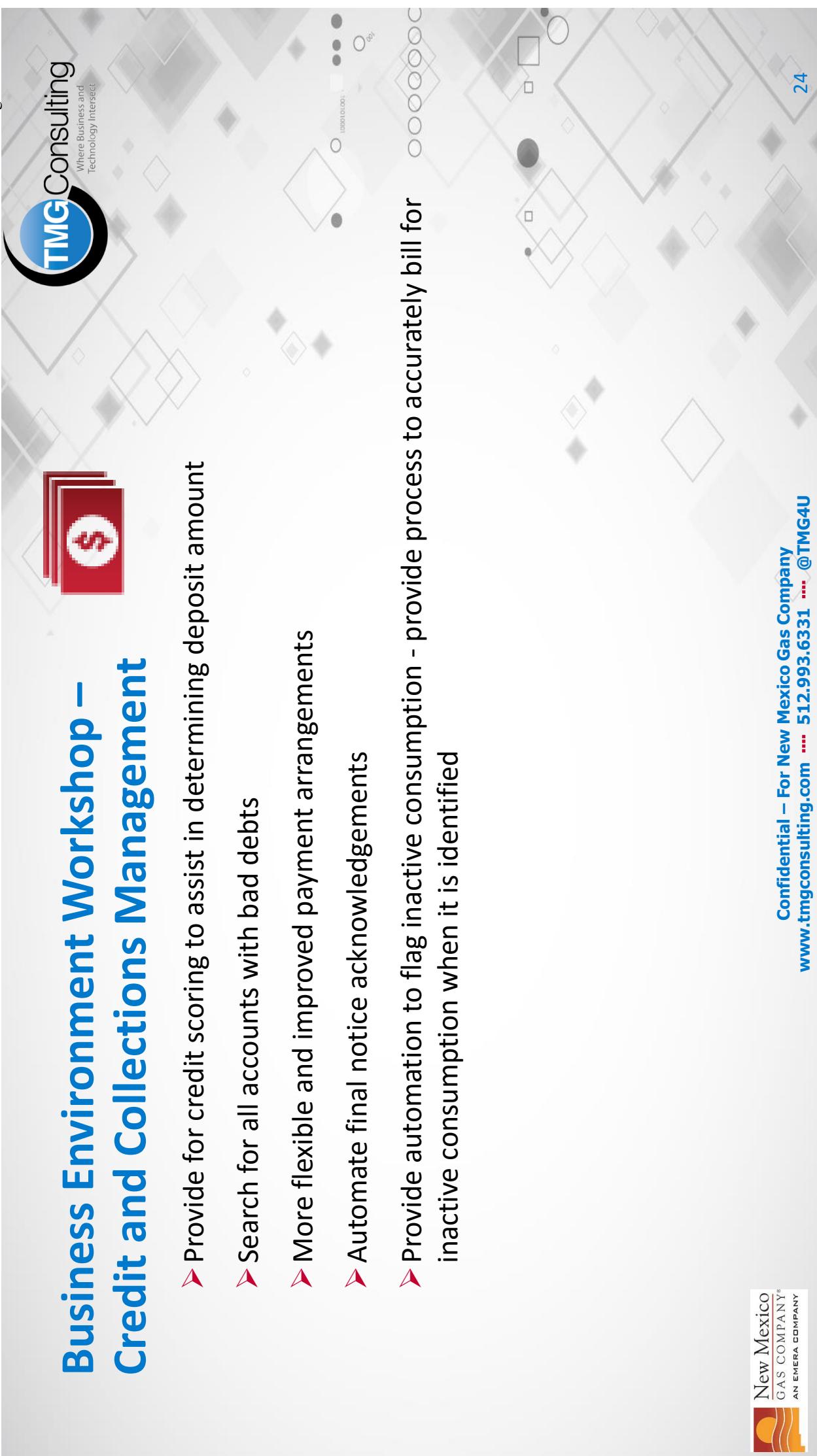
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Business Environment Workshop – Customer Management

➢ Allow all accounts belonging to the same customer to have the one federal ID number

➢ Provide fields to capture email address(es)

➢ Ability to enter and see the actual mailing address when entering it

➢ Validation of zip codes for mailing address with 3rd party mailing program

➢ Prevent multiple customer numbers for the same customer

➢ Improved identification and tracking of customers on the Gas Advantage Program (GAP)

➢ Identify additional responsible parties on an account (spouse, Power of Attorney, business manager, etc.) and the permissions that they each have

➢ Longer field length for customer names

➢ Ability to scan a picture of the customer or their ID into the system for customer identity and security

➢ Allow customers to do move in requests online

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Business Environment Workshop – Customer Service / Care

➢ Improved ability to record customer contacts

➢ Ability to record outbound customer contacts

➢ Provide for unlimited note size

➢ Provide capability for a mobile application

➢ Provide for multiple contact information – emails, cell phones, etc., and allow for customer communication preferences

➢ Provide ability to send text alerts

➢ Allow for a chat function
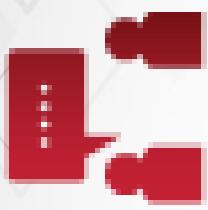
26

Business Environment Workshop – Financial Management

- Real time posting of all payments in offices (do not need to use an interface)

- Improvements to payment posting allocations

- Improve posting of payments on master accounts (statement can now become out of balance)

- Deposit payments should post directly to the account without manual intervention

- Validation of payments made online to ensure customer is paying a valid account

- Ensure that when online payments made through MMA (website) that the customer's balance is updated accordingly in real time

- Update past due amount immediately when payments are posted

- Allow monthly payments via credit card (not just bank account)

- Provide validation of customers' bank account number (for auto pay)

- Provide the option to the customer to make their payment via credit card

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Business Environment Workshop –
Financial Management (continued)

➢ Provide CSRs the ability to set up customers on automatic bank draft (not just through the internet)

➢ Allow for deposits on inactive account to be applied or refunded to the customer

➢ Provide flexibility in payment allocation so that deposits are a higher priority when payments are posted

➢ Provide greater flexibility in granting deposit installments
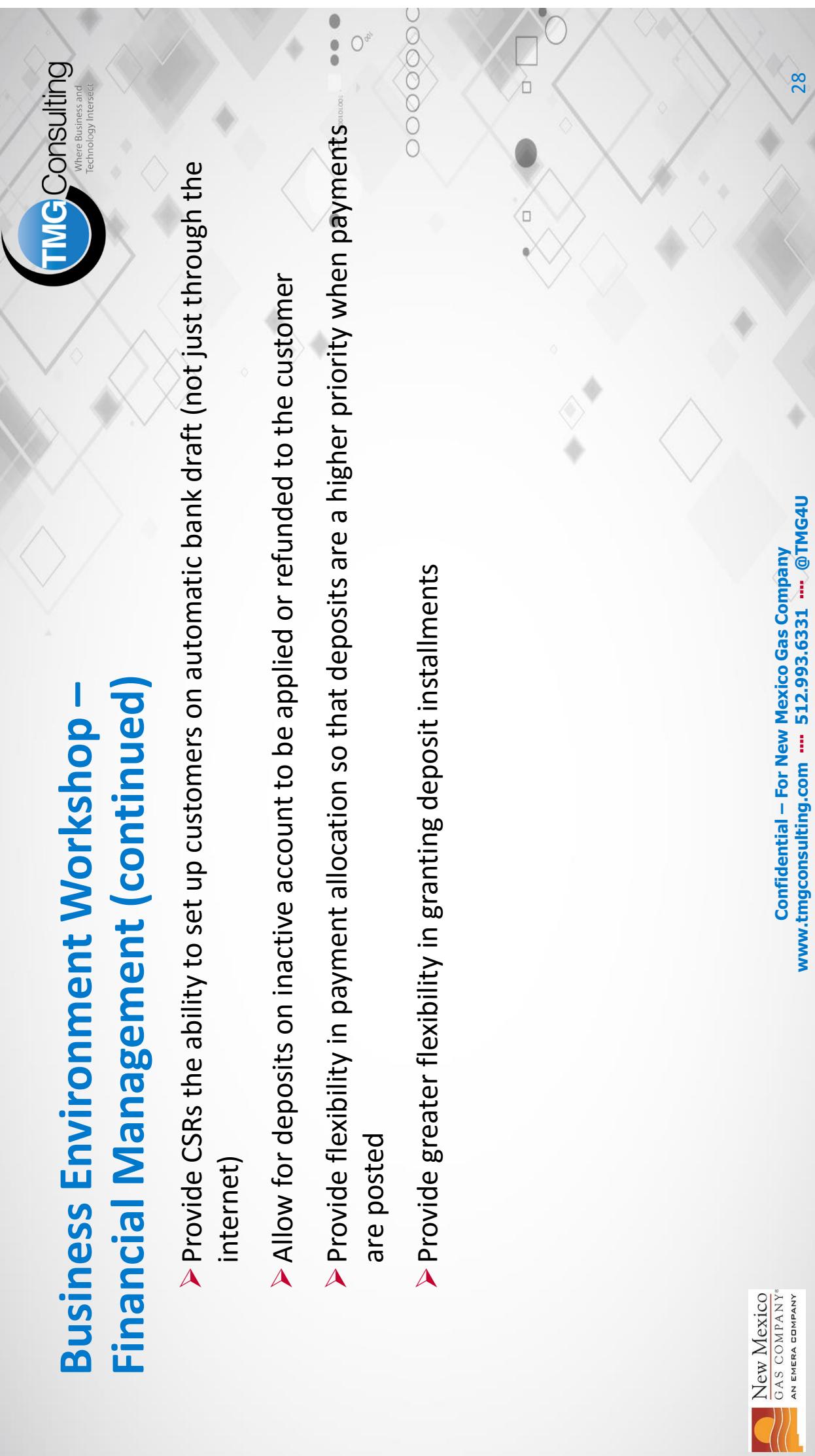
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Business Environment Workshop – Inventory Management

- Provide for more automation for program to routinely test meters

- Prevent duplicate ERT numbers

- Provide history of where an ERT device has been set

- Provide for mass load of data for meters

- Ability to view all premises at which a meter has been set

- Provide a more flexible and robust routine meter testing program

- Ability to view meter test results (on a single screen)

- Track the pressure factors (constants) that have been set for the meter at each location it has been set

- When a meter is removed from a service location, the register within the system should be automatically set back to "1" instead of the last reading at the last location

- Allow a meter number to be deleted if the information was entered incorrectly

continued . . .

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Business Environment Workshop – Inventory Management (Continued)

➢ Provide validation of ERT information

➢ Provide validation for the number of dials on a meter

➢ Provide tracking of who worked on a meter

➢ Provide for entry of pressure when the service order has been worked and the tech is leaving the premise
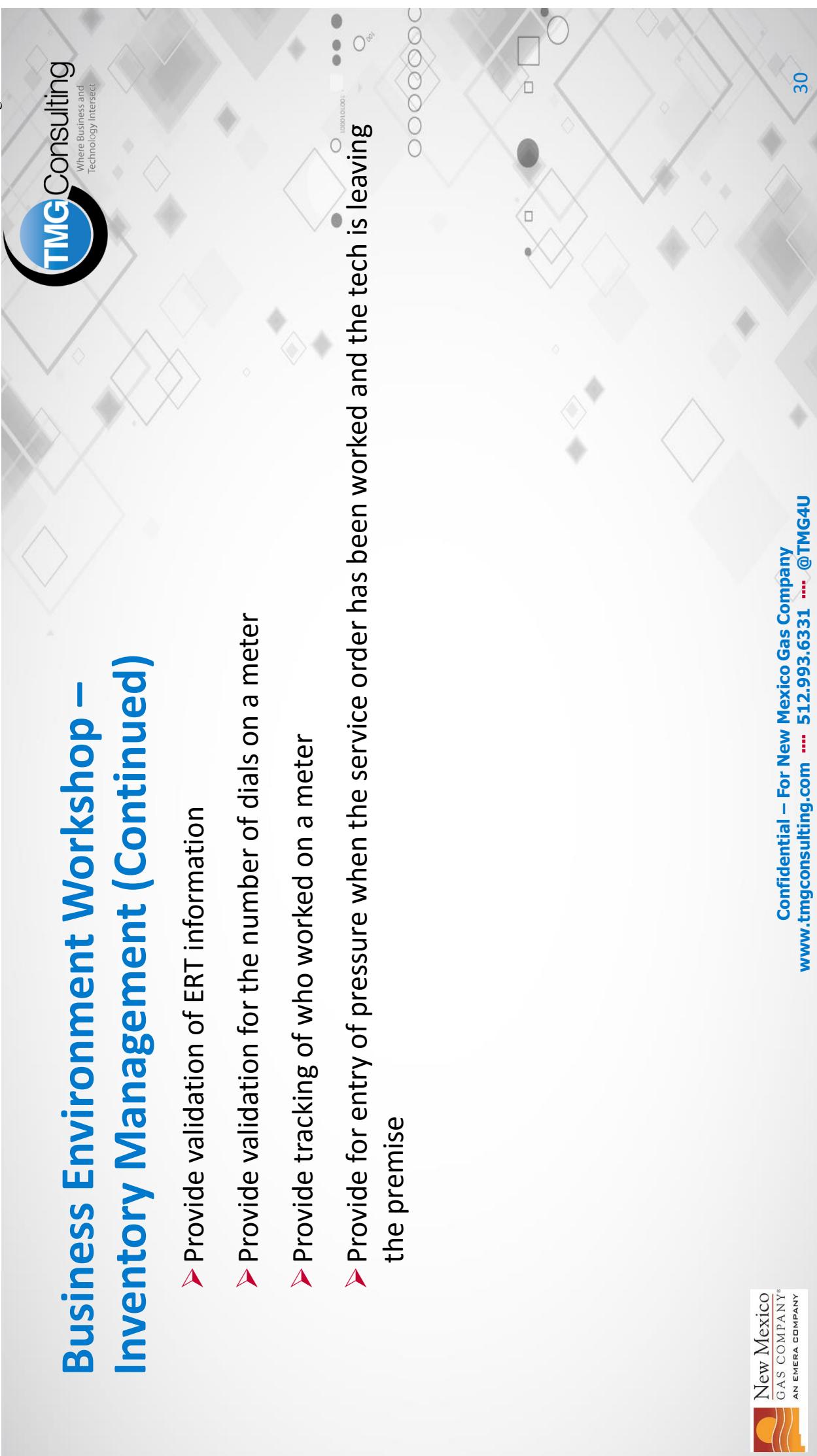
30

Business Environment Workshop –
Portfolio Management

➤ Provide for greater set up and monitoring customers on the Gas Advantage Program (GAP) – each GAP customer should have their own contract

➤ Provide flexibility in establishing conditions for various rebate programs

➤ Improve management of the Landlord Standby program

31

Business Environment Workshop – Rates Management

> System should provide default rate for new buildings

> Assigned rates for new accounts are validated against GIS

> Improved sorting and filtering through rates to provide information to customers

> Rates on the online schedules and on customer accounts show code and description

> Rates are validated against usage at the premise or for the account

> Improved functionality for assistance with development of new rates
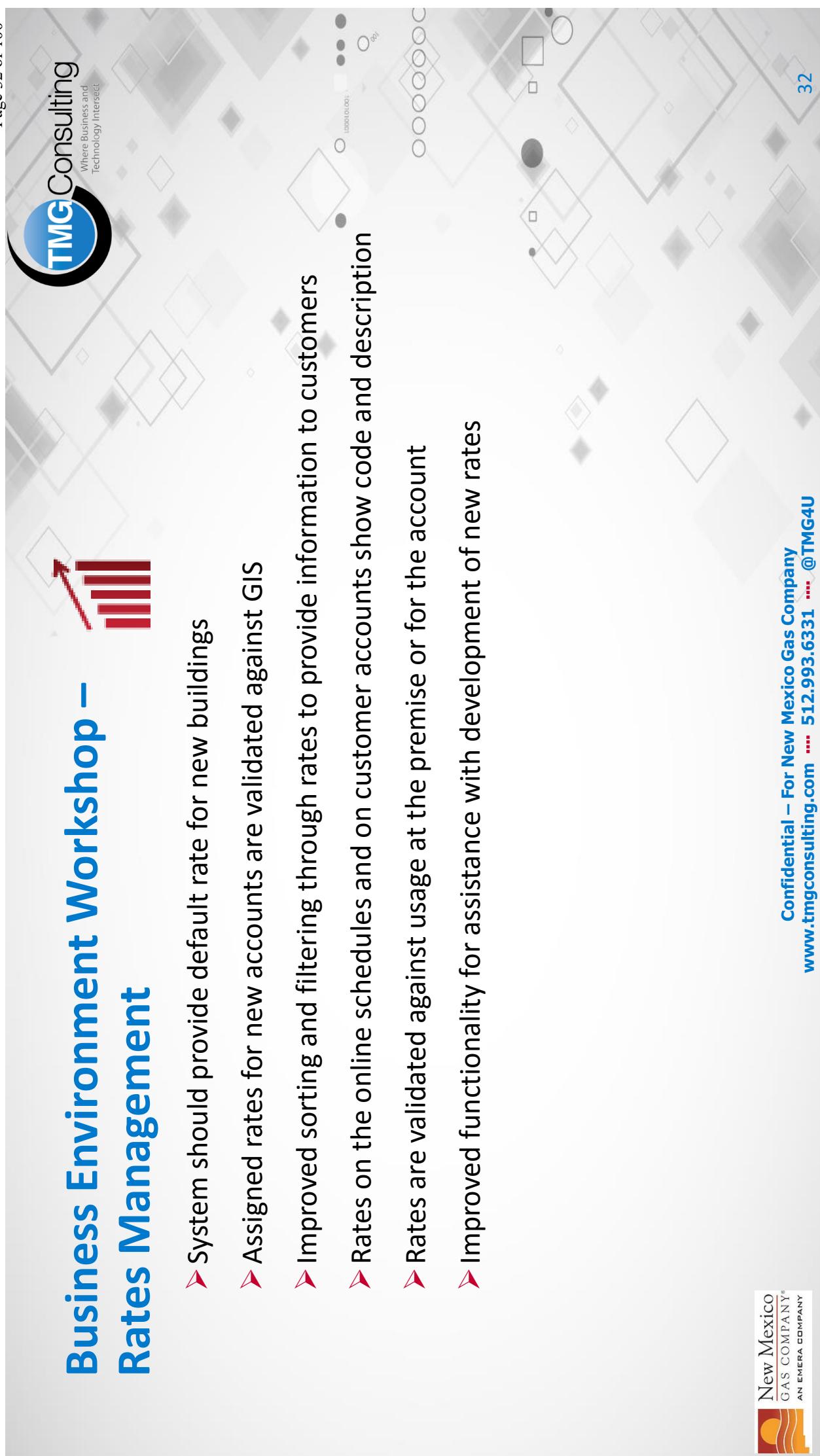
32

Business Environment Workshop – Service Address (Location) Management

➤ Prevent the same house from having two service addresses

➤ Interface with municipalities (or postal service) to validate zip codes

➤ Auto populate service address attributes from the GIS system

➤ Improved and more frequent interface with GIS

➤ Allow for a premise to be created at the time of the initial contact with the customer/contractor

➤ Allow a premise to be established without attaching a customer

➤ Meter location information can be seen clearly in the system

➤ Provide ability to view if the premise is attached to a master summary account

➤ Ability to view and then drill down on all meters at a premise

➤ Ability to determine if there is a farm tap and if the meter is on or off

33

Business Environment Workshop –
Service Order Management

➢ Provide ability to view service order exceptions as a whole or by date range

➢ Provide for simpler methods to complete a service order (greater choices in list of values, additional characteristics)

➢ Provide for a premium charge fee for reconnect after a cut off for non-payment, for after-hours fees, etc.

➢ Provide validation on ERT readings like is done for meter readings

➢ Display the number of service orders in the queue to be worked by area (user defined search)

➢ When orders are flagged in the field to be reviewed, do not allow anyone to remove that review flag until the order is properly reviewed

➢ Provide an audit trail of all changes to an order

➢ Allow comments on service orders to be changed/corrected with audit trail of all changes

➢ Improved order closing process, increase efficiency

continued . . .

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Business Environment Workshop – Service Order Management (Continued)

➤ Provide ability to view service order exceptions as a whole or by date range

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Business Environment Workshop – System Mechanics

➤ Provide for universal search capability

➤ Ensure improved transaction response time

➤ Search by ERT number

➤ Provide ability for users to print reports on individual accounts – account history, etc.

➤ Provide greater ability to pull (query) data based on user-defined fields and characteristics

➤ Improved electronic work queue (EWQ) providing less choices or more automation of which queue items should go

➤ Provide for configurable alerts for each data entity – customer, service address, etc.

➤ Provide for search by driver's license

➤ Provide the ability to search by tax jurisdiction

➤ Ability to prioritize and categorize comments and notes

➤ Terminology used is consistent throughout the system

➤ Ability for key users to query and extract information from the system for import into other systems

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Business Environment Workshop – Usage Management

➤ Interface with FlowCal for consumption in CRB

➤ Easier (more automated) process for mass add of new meters

➤ Interface with Network Analysis software

➤ Provide ability to capture, view and use for billing 40-day reads in the system (being tested for gas transportation)

➤ Provide for more validation of readings for commercial accounts and gas transportation, including seasonal adjustments

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Business Environment Workshop – Business Objectives

- The business area subject matter experts provided their opinion of NMGC's business objectives. The green highlighted reflects the team's choices:

Uninterrupted Revenue Stream	**Critical**	Significant	Not Important	Other
Time to Implement for Board / Regulatory Directives	**Minimal (0 to 4 months)**	Moderate (4 to 9 months)	Lengthy (9 to12 months)	Other
Time to Market for Utility Initiatives	Minimal (0 to 4 months)	**Moderate (4 to 9 months)**	Lengthy (9 to12 months)	Other
Centralized Billing Back Office	**Totally Centralized**	Minimal Distributed	Totally Distributed	Other
Collection Leverage Across Products and Services (i.e. if they are late on appliance will they be late on gas)	Total Leverage	**Partial Leverage**	No Leverage	Other
Single Customer Statement for all products and services	A Single Combined	**Combined with Some Individual**	Individual Statements	Other

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Business Environment Workshop – Business Objectives (Continued)

Business Objective				
Full Service Walk-in Locations	No Walk-in Locations	A Single Walk-in Location	Multiple Walk-in Locations	Other
One-Stop Shopping (i.e. how to establish contact with customer)	A Single Contact Point	A Few Contact Points	Numerous Contact Points	Account Mgrs for large accts
Customer Contact	Total Electronic	Face-to-Face & Electronic	Total Face-to-Face	Other
Customer Access to Account Information	Internet Interactive	Phone Interactive	Face to Face Interactive	Combination
Customer Service Availability	Self Service 24 by 7	Extended Workday 7 to 8	Work day 8 by 5	Combination
Monitor Customer Contact Quality	Extensive QA Program	Moderate QA Program	No QA Program	Other

Business Environment Workshop – Business Objectives (Continued)

Business Objective				
Service Provider for Other Companies (i.e. provide billing for other opportunities)	Position as Provider	If Opportunity Presents	No Interest	Other
Driving Customer service through lower cost options (i.e. online)	Critical	Significant	Not Important	Other
Single Business Entity	Operate As A Single Co.	Operate As Individual Cos	Operate With Multiple Jurisdictions	Other
Call Center Does Marketing	Markets To Potential Customers	Markets to Existing Customers	Does Not Do Sales or Marketing	Other
Full Blown Sales/Marketing	Extensive Sales & Marketing	Extensive Sales Function	Some Marketing & Sales	No Marketing & Sales
Single View Of The Customer	Single View Of Customer	Multiple Views Single System	Multiple Views Multiple Systems	Other
Supports Multiple Channels	All Customer Channels	Internet Channels	Telephone Channels	Fax Channels
Participate In Market	Function As A Distribution	Function As A Retailer	Other	Other

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Technical Environment Workshop

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Technical Environment Workshop – High Level Requirements

- Technical workshop summary of the high level requirement:

  ➤ Lack of consistency – for the past 20 years, NMGC has made modifications to their data structure, creating an extensive lack of organization

  ➤ The system is sitting on old technology – this results in the integration challenges and the disability to update their database

  ➤ There is no upgrade path available, no patching, limited security and no real test environment

  ➤ It is difficult to recruit individuals with the skill sets needed to maintain the current system – in most situations support is only one deep

  ➤ There are data quality issues that can result in billing errors

  ➤ It takes a long time to make changes to the system

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Technical Environment Workshop – Technology Considerations

- Summary of the Technology considerations:

  ➤ Ability to consistently upgrade to the latest versions of the database software

  ➤ A three or multi-tier server environment

  ➤ A true web-browser front end

  ➤ The use of APIs and modern integration methods

  ➤ A configurable system, with no need to make modifications to the base code (use of user exits)

  ➤ Database provides for referential integrity

  ➤ Ability to delete old electric data, and archive (with retrieval) on a regular basis

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Technical Environment Workshop – Technology Objectives

- The IT area subject matter experts provided their opinion of NMGC's technology objectives.

Server Hardware Platform	IBM	HP	Sun	Virtual	Other	
Server Operating System	UNIX AIX	UNIX HP-UX	UNIX Solaris	Windows	Linux	
Database Environment	RDBMS Oracle	RDBMS DB2	RDBMS SQL Server	MYSQL	SAP HANA	
Application Server	WebSphere	Oracle WebLogic	SAP NetWeaver	Other	Windows	
Client User Interface	Mobile Platform	Browser Only	Browser & Mobile	Graphical (Thin Client)	Other	
Application Code	SAP ABAP	C / C++	Java	.NET	PL/SQL	

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Technical Environment Workshop – Technology Objectives (Continued)

Development Environment	Vendor Supplied Tools	Vendor Supplied SDK	In-house tools (code only)	Doc Only (data dictionary, etc.)	Other
Application Approach	Custom Development	Configure Only	Essential Mods + Config	Extensive Mods	Other
Ongoing Support	Vendor - Releases	Client – Enhance	Third Party – Enhance	Other	Other
Ongoing Operation	Vendor Operates	In-house Operates	Third Party Operates	SaaS	Other
IT Infrastructure Support	High Availability	Virtualization	Cloud	Clustering	Other

Interfaces and Integration Workshop

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Interface & Integration Workshop

- The NMGC IT team updated a schematic of the current interfaces to Banner (CRM).

- In the workshop, the IT subject matter experts discussed the detailed spreadsheet that listed the aspects of each interface.

- The team then updated the spreadsheet, deleting those that are no longer used and adding prospective new interfaces and integrations.

- TMG then prepared a summary listing of each current and future interface.

  ➤ The schematic is shown on the following page and is also available in a larger printed document.

  ➤ The listing of the interfaces is provided following the schematic.

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Interface & Integration Workshop – Interface Schematic

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Interface & Integration Workshop – Interface Listing

Interface		Source System	Target System	1 or 2 Way	Method of Transfer	Description/Purpose
Number	Name					
BNR1	Scheduler	Service Suite	Banner	2	TCP/IP sockets real time and DBMS.pipes	Tech scheduling
BNR2	Banner_Service Suite	Banner	Service Suite	2	TCP/IP sockets real time	Orders from Banner to Service Suite. Complete codes etc. back to Banner
BNR3	Customer Refunds	Banner	SAP - AP	2	Biztalk	Banner updates the Banner NMGRFND table with accounts that are to get refund checks.
BNR4	Customer Refunds	SAP - AP	Banner	2	Biztalk	SAP sends check information back to the Banner NMGRFND table for Banner processes to add notes to accounts.
BNR5	Western Union to Banner - Confirm	Banner	Western Union	1	FTP	A file to confirm customer information (account number, balance due)
BNR6	Western Union to Banner - Note	Western Union	Banner	1	Webservice	Web Service that allows Western Union to put a note on the account that a payment has been made
BNR7	Western Union to Banner - Payments	Western Union	Banner	1	FTP	File (listing) of payments received that are now manually processed
BNR8	USPLETR	Banner	TPSI	1	SFTP	File of letters for TPSI (3rd party vendor) uses to print letters
BNR9	Banner_LIHEAP	Banner	State of New Mexico	2	Email	File of Liheap payments from the State, Banner jobs verify and post to account.
BNR10	Banner_LIHEAP	Banner	State of New Mexico	2	Email	File returned to the State with Liheap payment validation pass/fail status.
BNR11	Unaccounted for Gas	Banner	FlowCal	1	FTP	File of gas consumption from Banner into FlowCal for comparison and reporting
BNR12	Banner_TSI_External	Banner	Total Solutions (TSI)	1	SFTP	A file of customers to 3rd party vendor to have a credit score assigned
BNR13	Banner_TSI_Internal	Banner	TSI Behavior Attribute Scoring Engine (BASE)	1	FTP	Extracts Banner data and sends file to server running TSI BASE (Risk Assessment Software) File is sent back and score is uploaded into Banner.

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Interface & Integration Workshop – Interface Listing continued

Number	Interface Name	Source System	Target System	1 or 2 Way	Method of Transfer	Description/Purpose
BNR14	Collection Agencies - Med Alert	Banner	Collection Agencies (3)	1	SFTP	Medical certificate customer write off information sent to collection agency. A payment file is sent from the Collection Agencies at a later time. Changed Transfer Method to SFTP for these outside vendors.
BNR15	Collection Agencies - Write-off	Banner	Collection Agencies (3)	1	SFTP	Customer write off information sent to collection agencies. A payment file is sent from the Collection Agencies at a later time. Changed Transfer Method to SFTP for these outside vendors.
BNR16	UZEBLPT (Bills)	Banner	TPSI	2	SFTP	File of bills to be printed sent to 3rd party bill print vendor. Copies of bills returned to NMGC and loaded into DM
BNR17	UZEMBIL (Bills)	Banner	TPSI	2	SFTP	
BNR18	UZPHDNL	Banner	Itron	1	FTP	File of meters to be read
BNR19	UZPHUPL	Itron	Banner	1	FTP	File of meter reading data uploaded to Banner
BNR20	Outbound Call Campaign - Hang Notice	Banner	Cameo Express Dialer	1	FTP	Listing of customers (phone numbers and amount due) to be called notifying them of 2-day disconnect notice. Method from DBLink to FTP.
BNR21	Inbound Hang Notice Call Results	Cameo Express Dialer	Banner	1	FTP	Log of customers who have been notified
BNR22	Outbound Call Campaign - Outage/Restoration	GIS Mapped with Banner Data	Banner	1	Email in Excel	Listing of customers (phone numbers) to be called for outages and restoration
BNR23	Outbound Call Campaign - Final Bill, Inactive AR	Banner	Cameo Express Dialer	1	FTP	Listing of customers (phone numbers and amount due) to be called notifying of final bill
BNR24	Wells Fargo to Banner Payments	Wells Fargo	Banner	1	FTP	ACH file of payments which is then manually processed
BNR25	Bank of Albuquerque to Banner Payments	Bank of ABQ	Banner	1	FTP	ACH file of payments which is then manually processed

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Interface & Integration Workshop – Interface Listing continued

Number	Interface Name	Source System	Target System	1 or 2 Way	Method of Transfer	Description/Purpose
BNR26	Salvation Army to Banner Payments	Salvation Army	Banner	1	FTP	Excel spreadsheet of payments which is then manually processed
BNR27	Journal Printers / Slip Printers	Banner	Terminal Server to Printers	1	Oracle Form via LPT Port	Generate a customer receipt for payments received through walk-in locations, and to print
BNR28	Bank Draft to Wells Fargo - UAPCBDD	Banner	Wells Fargo Website	1	Manual	File of customers and amounts to be drafted. UAPCBDD is ACH regular Bank Draft.
BNR30	Meter Testing Information - UZPSNAP	KGM - Belen Meter Shop	Banner	1	FTP	Meter testing results
BNR31	EBMGR.NMG_WEB	Web MMA	Banner	2	SQLNet	Oracle package that MMA uses to communicate with Banner-updates. The packages provides about 100 procedures and functions for MMA to use. Package includes Account, Budget, Credit, Bank Draft information, and create letters among others.
BNR32	UZEBA13 (I077) GL Data to SAP	Banner	SAP - BizTalk	1	Oracle Form via LPT Port	Transfer customer data to SAP
BNR33	UZEBA14 (I077) GL Data to SAP	Banner	SAP - BizTalk	1	Oracle Form via LPT Port	Transfer customer counts to SAP
BNR34	UZEBA15 (I077) GL Data to SAP	Banner	SAP - BizTalk	1	Oracle Form via LPT Port	Transfer bill consumption data to SAP
BNR35	UZEBA16 (I078) GL Data to SAP	Banner	SAP - BizTalk	1	Oracle Form via LPT Port	Transfer no-bill revenue data to SAP
BNR36	UZEBA17 (I078) GL Data to SAP	Banner	SAP - BizTalk	1	Oracle Form via LPT Port	Transfer billed revenue data to SAP
BNR37	UZPDMLR - Data Mart	Banner	Banner Datamart	1	DB Links, Shell Scripts, Load is done by SQL*LOADER (tm) from Oracle	Extract and transfer revenue data from Banner to Banner Datamart

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Interface & Integration Workshop – Interface Listing continued

Number	Interface Name	Source System	Target System	1 or 2 Way	Method of Transfer	Description/Purpose
BNR38	UZPDMLC - Data Mart	Banner	Banner Datamart	1	B Links, Shell Scripts	Extract and transfer consumption data from Banner to Banner Datamart
BNR39	UZPDMLS - Data Mart	Banner	Banner Datamart	1	B Links, Shell Scripts	Extract and transfer service data from Banner to Banner Datamart
BNR40	ETL_CUST_CNT_DET - Data Mart	Banner	Banner Datamart	1	ETL	Transfer Customer Count data from Banner to Banner Datamart
BNR41	UZPBLD 1, 2, and 3 - Data Mart	Banner	Banner Datamart	1	B Links, Shell Scripts	Copy non-zero physical balances as of the run date from Banner to Banner Datamart for reporting.
BNR42	UZRGASF - Data Mart	Banner	Banner Datamart	1	DB Links, Shell Scripts, Load is done by SQL*LOADER (tm) from Oracle.	Gas Rate Fctr Sum Report
BNR43	ETL_BANNER_TOPX - Data Mart	Banner	Banner Datamart	1	ETL	Monthly A/R Aging Report for Top 10 Accounts
BNR44	UZR120D - Data Mart	Banner	Banner Datamart	1	DB Links	PNM 120 Day A/R Report
BNR45	Gas Ad-Hoc Creation - Data Mart	Banner	Banner Datamart	1	FTP	Transfer data from Banner to Banner Datamart Monthly for Kevin Konetzni and Linda Shirley. This was the driving force behind the creation of the Datamart, and must be replicated before Datamart can be decommissioned.
BNR46	UZEDEMO - Data Mart	Banner	Banner Datamart	1	B Links, Shell Scripts	Transfer demographic data from Banner to Banner Datamart

Interface & Integration Workshop – Interface Listing continued

Number	Interface Name	Source System	Target System	1 or 2 Way	Method of Transfer	Description/Purpose
BNR47	Host Inquiries - Service Suite	Service Suite	Banner	1	TCP/IP sockets and DBMS.pipes	Called from Service Suite to Banner and information is returned to Service Suite: *Request for Service Order create *High Bill (Consumption History) *Service Order History *Service Order pending *Meter detail *Service history *Note information
	UZETREX - Extract	Banner		1	FTP	File of all gas consumption FTP'd directly to the PGAS Server. No Target system was identified so the FTP of the file has been disabled. The UZETREX file is still used in producing the UFGA file for interface BNR11
Future 1	All Connect	Banner	PNMOneConnect	1	URL	Direct Transfer program that provides convenience to moving customers by enabling a one-stop shop for connecting local phone, long distance, intranet high-speed access, cable television or satellite entertainment, newspaper or other services.
Future 2	GIS_GPS	GPS	Banner	1	FTP	Provide GPS service point Lat/Long
Future 3	Banner_USPS	US Postal Service	Banner	1	FTP	Address validation
Future 4	Banner_IVR_Web	Application servers running IVR and Web applications	Banner	2	JDBC connection	Call procedures within Banner from IVR and Web to display information and provide new data back to Banner
Future 5	Screen popup - USIMLOC	IVR	Banner	1		Use telephone or other customer data to bring customer account up in Banner
Future 6	PMTR Meter Data Transfer					Mobile interface with crew bringing real-time data to CRM
Future 7	External Customer Mobile Interface					Provide customers with a mobile app for MMA

Interface & Integration Workshop – Interface Listing continued

Number	Interface Name	Source System	Target System	1 or 2 Way	Method of Transfer	Description/Purpose
Future 8	ACT! Interface	Banner	ACT!	1		Pull CRM data into ACT! for large customer/marketing interactions and maintenance
Future 9	Energy Efficiency Interfaces					Marketing campaigns
Future 10	Asset Suite Interfaces	Asset Suite	Banner			Work order information in relation to GAP accounts
Future 11	GIS ESRI interface	ESRI GIS	Banner			Mapping, Lat/Long, Tax jurisdictions, meter locations
Future 12	SCADA/FlowCal Consumption	FlowCal	Banner			Used for billing and reporting purposes (see requirements item 357)
Future 13	KorTerra interface	KorTerra	Banner			Mainline and service line – emergency line locates
Future 14	Quorum Interface	Quorum	Banner			Transportation shippers information and billing
Future 15	New Account Interface	Work Management System	Banner			For new service and GAP - Allows for the customer to be quoted a price for new service or extensions on existing service. From requirement number 121.
Future 16	Credit Bureau Interfaces	Banner	Credit Bureaus	2		Automated interface with various credit bureaus. System will provide a mechanism for transferring and receiving various information pertaining to customers. From requirement number 369.
Future 17	NSF Interface	Banks	Banner	1		File of payments from banks and other payment sources where there was insufficient funds. From requirement number 445.
Future 18	Bar Code Readers	Bar Code Readers	Banner	1		To read meter numbers as an access mechanism into Banner. From requirement number 904.
Future 19	Product Inventory	Banner	SAP Inventory	1		A view into product inventory in order to see products and merchandise. From requirement number 1160.
Future 20	Network Analysis	Banner	Gregg Engineering			From requirement number 1389.
Future 21	Outage	Outage Management System	Banner	1		Provide outage information, or a view of the information, into Banner. From requirment number 1390.
Future 22	Work Optimization					For routing and scheduling of service orders. From requirement number 1546.

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Detailed Requirements Summary Analysis

Summary and Analysis of NMGC's Detailed CRM Requirements

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Comparison View: Banner vs SAP CRB

- Below is a comparison view of banner CSR front end vs. SAP front end:

Banner:

SAP:

23-00255-UT-2023-09-14-NMGC-2023-Rate-Case

Comparison View: Banner vs SAP CRB - continued

- NMGC's **Banner screens are considered a second generation User Interface design.** NMGC's current CRM is an improvement over the original text-based (or what some would call the old green screens) of the legacy systems designed in the 1970s and 1980's. NMGC's CRM has a graphical user interface (GUI) which allows the end users to click on boxes and fields to navigate and manipulate the data. But **that GUI technology is now outdated.**

- **SAP's CRB screens are browser-based,** allowing for more customization of screens by user role and the ability to drill down to obtain more detailed information on a data entity or a transaction. Additionally, **SAP has done extensive research to determine the information that is most needed by a typical end user** and allows for more of that information, or at least links to that information, to be shown all on one primary page.

- When NMGC's end users first migrated to the Banner system, many had to learn how to use a mouse and click on fields instead of entering a code to move to a new screen or a new transaction. This was likely difficult for many of the experienced users. However, when NMGC now moves from the Banner GUI screens to the SAP CRB browser-based screens, that learning curve should be much shorter. The **largest benefit will be for those individuals who use the system occasionally because the navigation is much more intuitive.**

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Scope of Functions & Features Review

- Throughout a series of Functions and Features workshops over a six-day period, the below functional categories in a CIS domain were discussed with NMGC team members. A more complete description of each of these 14 categories follows:
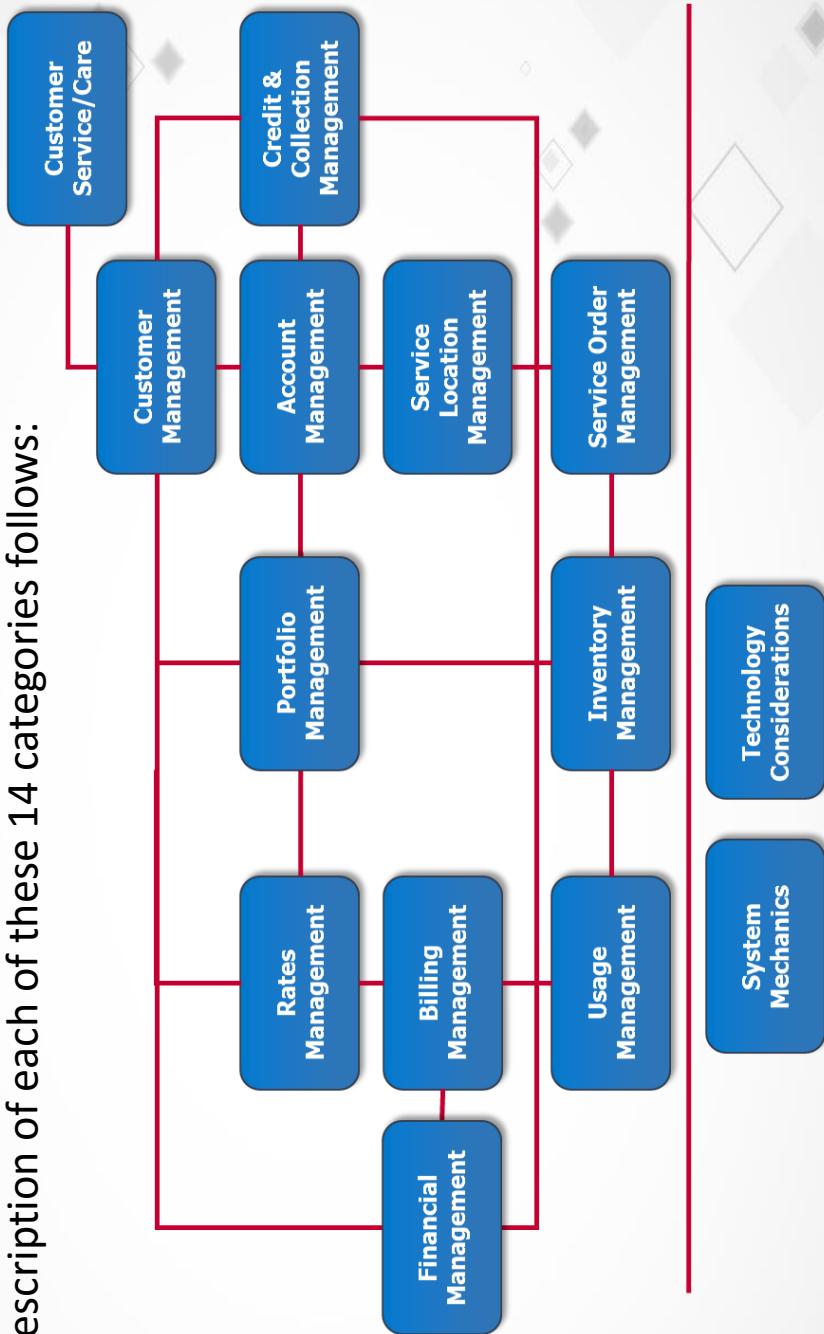
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Functions & Features Review Categories – Account Management

An account is created to reflect the establishment of a financial agreement for the provision of a product or service. Being defined as a single, master, or temporary, the account will act as the primary path for accessing and viewing customer account information. Offerings of service, product, equipment, and programs may be found here through a wide array of tabs spanning everything from account transactions to the final billing and payments.

Account Management is divided into the following sections:

- **Account Entity**
  - Account Status
- **Account Views**
- **Account Types**
  - Account Classification
  - Master Accounts
  - Temporary Accounts
- **Account Processing**
  - Account Transfer
  - Account Setup
  - Account Adjustments
  - Tax & Penalty Exemptions

- **Account Offerings**
  - Service Offering
  - Product Offerings
  - Equipment Offerings
  - Program Offerings
- **Account Management Interfaces**

Functions & Features Review Categories – Customer Management

The capability of identifying and tracking customers in the system independent of the account. This module allows for the identification of existing customers and the input of extensive profile and demographic information. A customer may have a single account or multiple accounts with the ability to track specific information at the customer level across all of the customers accounts.

Customer Management is divided into the following sections:

- **Customer Entity**
- Customer Processing
- Customer Attributes
- Customer Transfer
- **Customer Types**
- Potential Customers
- Special Conditions/Special Assistance

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Functions & Features Review Categories – Customer Service and Care

The management of customer contacts received through various media including: the telephone, integrated voice response, computer telephone integration, fax, email, the Internet, customer correspondence, the bill, and various payment mechanisms. The system will allow for recording, scripting and management of the contact via notes and remarks queued by automated response and necessary correspondence. This module will provide for the identification and measurement of user performance, customer satisfaction and the determination of program effectiveness.

Customer Service & Care is divided into the following sections:

- **Handling Customer Contacts**
  - Customer Contact Management
  - Customer Service User Interface
  - Customer Conversation Scripting and Workflow
- **Customer Marketing**
- **Notes/Remarks**
- **Customer Correspondence**

- **Automated Work Queue**
- **Customer Follow-up**
  - User Performance Measurement
- **Customer Self Service**
  - Internet Access
  - Interactive Voice Response
  - Outbound Dialer
  - Customer Self Service – Fax on Demand

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Functions & Features Review Categories –
Rates Management

A flexible pricing structure to accommodate rates, charges, fees, surcharges, taxes, adjustment clauses, rate determinants and dynamic rate assignments. This module will also provide for rate development activities.

Rate Management is divided into the following sections:

- **Rate Types**
- Rate Components
- Rate Schedule Information
- Special Rates
- Charges and Fees
- Surcharges
- Taxes
- Exemptions
- **Rate Processing**
- Rate Determinates
- Dynamic Rate Assignment
- Automatic Rate Assignment
- **Rate Development**

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Functions & Features Review Categories – Billing Management

Support of cycle driven, date driven and event driven billing schedules. The process will input time based and volume based consumption and will provide for consumption validation and estimation algorithms. The process will identify appropriate contract clauses and utilize associated rate schedules and pricing plans. The billing process will provide for flexible billing periods and accommodate proration. In addition to batch billing the system will provide for on-line account billing for "what-if" analysis and adjusted billing.

Billing Management is divided into the following sections:

- **Billing Management and Scheduling**
  - Cycle Driven Billing Schedule
  - Date Driven Billing Schedule
  - Event Driven Billing Schedule
- **Consumption**
  - Time-Based Billing
  - Volume Based Consumption
  - Real Time Consumption
  - Estimating
- **Consumption Usage**

- **Contracts**
- **Pricing**
- **Billing Periods**
  - Flexible Periods
  - Proration
  - Billing Adjustments
- **Billing Types, Programs and Calculations**
  - Bill Gas Services
  - Bill Products
  - Bill Equipment

- Bill Programs
- Subscription Billing
- Budget Billing
- Fees, Charges, Taxes & Surcharges
- Tax and Penalty Exemptions
- Online Account Billing
- What-If Billing
- Adjusted Billing
- Account Bill
- Summary or Master Bill

- One-Time or Miscellaneous Bill
- **Billing Controls and Reporting**
  - Billing Controls
- **Bill Production**
  - Bill Formatting
  - Bill Messages
  - Special Handling and Bill Delivery
  - Mailing Address Certification
  - Bill Printing

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Functions & Features Review Categories – Usage Management

The capability of capturing consumption based upon a passage of time as well as a measured flow. The creation of a route with automatic rerouting features. The initiation of readings and an interface with the hand-held or other meter reading devices. The validation of consumption, the processing of reads, and the tracking of unauthorized usage.

Usage Management is divided into the following sections:

- **Consumption Types**
  - Passage of Time
  - Measured Flow
- **Reading and Consumption View**
- **Route Features**
  - Route Structure
  - Routing
- **Reading Schedule**

- **Reading Methods, Measurements & Entry**
- **Reading Interfaces**
  - Hand-held Interface
  - AMR Interface
  - Other Consumption Interfaces
- **Consumption Validation**
- **Unauthorized Usage**

Functions & Features Review Categories – Portfolio Management

Portfolio Management involves the ability to view all available programs, products and services (the portfolio) that the utility can provide to the customer. This module will support a wide variety of implied and special negotiated service contracts while associating various rates and pricing plans with each portfolio item.

Portfolio Management is divided into the following sections:

- **Service Offerings**
- Utility Based Services
- **Equipment Offerings**
- **Program Offerings**
- **Products and Merchandise**
- **Contract Management**
- **Loans**
- **Gas Advantage Program (GAP)** (additional requirements)

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Functions & Features Review Categories – Credit & Collection Management

The establishment of an extensive customer credit profile. Credit checking, credit reference, credit bureau interface and a flexible credit scoring process. Accommodation of third party, guarantor and co-signer relationships. The ability to quickly view outstanding account balances, transfer of account balance across accounts and the freezing of an account for dispute resolution. A flexible collection process regarding notification and cutoff activities, collection agency interface, and public assistance agency interface. The processing of late payment penalties, returned checks and the creation and management of payment arrangements. The processing of bad debt accounts.

Credit & Collection Management is divided into the following sections:

- **Customer Credit**
- Credit Profile
- Credit Scoring Process
- Credit Checking
- Credit Bureau Interface
- Collection Agency Interface
- Credit References
- Third Party/Guarantor/Co-Signer

- Cash Only Account
- **Account Balance**
- Outstanding Account Balance
- Freezing an Account
- **Collection Processing**
- Notification and Collection Activities for Non-Payment

- Public Assistance Agency
- Late Payment Penalty
- Returned Checks/NSF Processing
- Payment Arrangements
- **Bad Debt Collection Processing**
- Bankruptcy
- Deceased/Executor
- Liens

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Functions & Features Review Categories –
Financial Management

Any activity associated with revenue is accommodated through this module. Processing for deposits, payments, returned checks and refunds occur here as well as the financial managing systems for the general ledger, accounts payable, and accounts receivable.

Financial Management is divided into the following sections:

- **Deposits**
  - Deposit Assessment
  - Deposit Types
  - Multiple Deposits
  - Deposit Transfers
  - Deposit Billing
  - Deposit Review
  - Deposit Interest

- **Payments**
  - Payment Sources
  - Outstanding Account Balance
  - Misapplied Payments
  - Payment Allocation
  - Cash Balancing and Reconciliation
  - Payment Posting
  - Payment Transfers
  - Payment Adjustments
  - Payment Discounts
  - Voluntary Contributions

- **Refund Processing**
  - Deposit Refunds
  - Overpayment Refunds
  - Credit Refunds
  - Credits on Final Accounts
  - Check Writing
  - Unclaimed Property Refunds
  - Rebates

- **Financial Management Interfaces**

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Functions & Features Review Categories – Inventory Management

The identification, access and management of meter, equipment and product inventory. The function supports meter based billing activities, inventory based activities and meter testing programs with applicable interfaces to external meter inventory systems.

Inventory Management is divided into the following sections:

- **Meter Inventory**
  - Meter Types
  - Meter Attributes
  - Meter Status
  - Gas Meter Attributes
  - Meter Notes
- **Meter Processing**
  - Meter Based Inventory Activities
  - Meter Based Billing Activities

- **Meter Testing**
  - Testing Identification
  - Testing Results
- **Meter Identification and Access**
  - Online Meter Identification
  - Meter Location Information

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Functions & Features Review Categories –
Service Location Management

The identification of legal parcel information and the service address for purposes of account management. A process to support the establishment of new service for both permanent and temporary addresses with the ability to associate current and historic information (i.e. meters, customers, equipment) with the address. If multiple service points are associated with a service address, these points may be metered or unmetered.

Service Location Management is divided into the following sections:

- **Service Location / Premise Entity**
- Service Location / Premise Processing
- Service Location / Premise Attributes
- Service Address Components
- Service Location / Premise Search
- **Service Address Information**
- **Service Address History**
- **Service Points**
- **Land Based Interface**

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Functions & Features Review Categories –
Service Order Management

The processing of requests to initiate service based and meter based work orders. A pending order process, the update of orders, the dispatching and closing of orders and the viewing of historical orders is accommodated.

Service Order Management is divided into the following sections:

Service Order Types
- Service On / Off Orders
- Field Investigation
- Meter Orders
- Equipment Orders
- Product Orders
- Collection Orders
- Field Orders
- Emergency Orders
- Multiple Sources
- Controls

Service Order Access
- Order Access
- Order Status
- Order Modification

Service Order Scheduling
- Order Scheduling
- Order Rescheduling

Service Order Distribution
- Order Routing
- Order Grouping
- Order Viewing / Printing
- Order Information

Service Order Completion
- Order Completion
- Order Tagging
- Service Charges
- Meter Tampering
- **Completed Orders**
- **Service Order Interfaces**

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Functions & Features Review Categories – System Mechanics

The functions involved with navigating the system, associated controls, security, help, training and system documentation. The characteristics to support a multi-company environment and the structure and tools to support advanced reporting and query capabilities are also in this section.

System Mechanics is divided into the following sections:

- **System Access**
- **System Mechanics**
- System Security
- Approvals
- Auditing
- **System Navigation**
- Data Entity
- Documentation
- Training Materials
- Computer Based Training
- Online Help

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Functions & Features Review Categories – Technology Considerations

The functions involved with the inherent technology of the system, database design, development and design tool sets, management of data on and off the live environment as well as backup and recovery capabilities.

Technology Considerations has only one category, Application Considerations.

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Developing NMGC Specific Requirements

- A total of 1,722 typical gas utility CIS domain functions and features were reviewed by NMGC team members to develop a **detailed list of 1,775 requirements**. Requirements were prioritized into 5 areas:

Weight	Description	# of Requirements
Critical	The most critical features which are the primary drivers for this replacement effort.	251
Mandatory	Features which are mandatory, the system must provide for within the base automation.	918
Required	These features are required however, the utility is flexible in how the system implements the feature (automation / manual workaround).	408
Future	These features will be required at some time in the future and can be provided in a future product release.	179
Desired	These features are nice to have but are not a required component of the new system.	19

- The complete listing of all 1,775 requirements is an attachment to this report.

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Requirements Prioritized by Functional Area

- The following table summarizes NMGC's assigned priority by function and category

Checklist Summary

Functional Area	Total Points	Total Requirements	Critical	Mandatory	Required	Future	Desired
TOTALS	**450,650**	**1,775**	**251**	**918**	**408**	**179**	**19**
Percentage of overall requirements			*14%*	*52%*	*23%*	*10%*	*1%*
Account Management	31,925	127	14	82	10	18	3
Billing Management	59,150	232	26	143	61	2	0
Credit & Collection Management	39,750	126	32	64	30	0	0
Customer Management	20,350	68	14	40	12	1	1
Customer Service & Care	44,025	132	42	53	35	2	0
Financial Management	41,850	153	23	91	36	3	0
Inventory Management	35,500	209	11	71	28	98	1
Portfolio Management	28,800	137	10	63	41	22	1
Rates Management	24,500	105	11	55	22	14	3
Service Order Management	32,125	147	12	66	59	10	0
Service Location Management	19,875	76	13	35	21	4	3
System Mechanics	37,150	132	25	70	30	2	5
Technology Considerations	18,300	58	15	30	11	0	2
Usage Management	17,350	73	3	55	12	3	0

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Requirements Prioritized by Functional Area

- Below is a pictorial bar chart of the assigned priorities by function and category
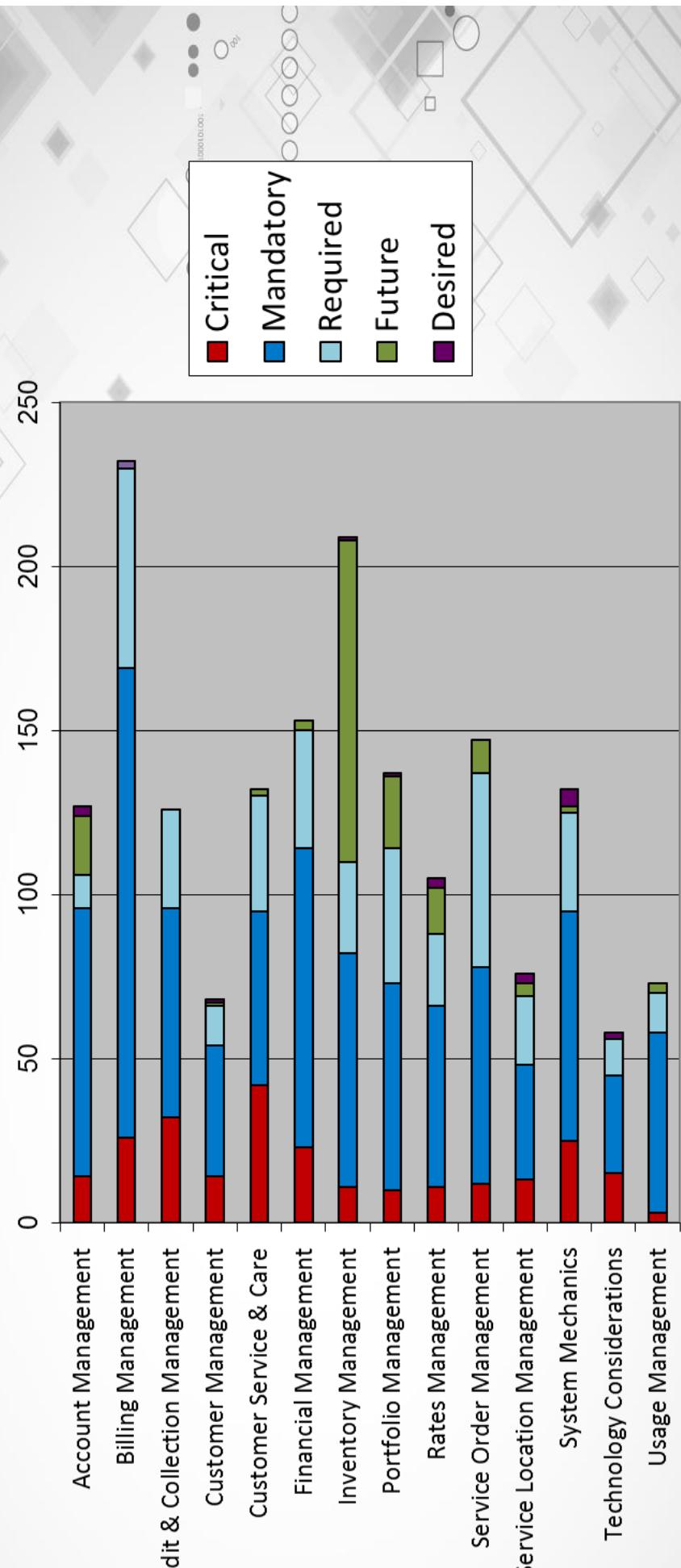
Legend:
- Critical
- Mandatory
- Required
- Future
- Desired

Overall Requirements % by Category

- The pie chart below breakdowns the requirements percentage by priority.
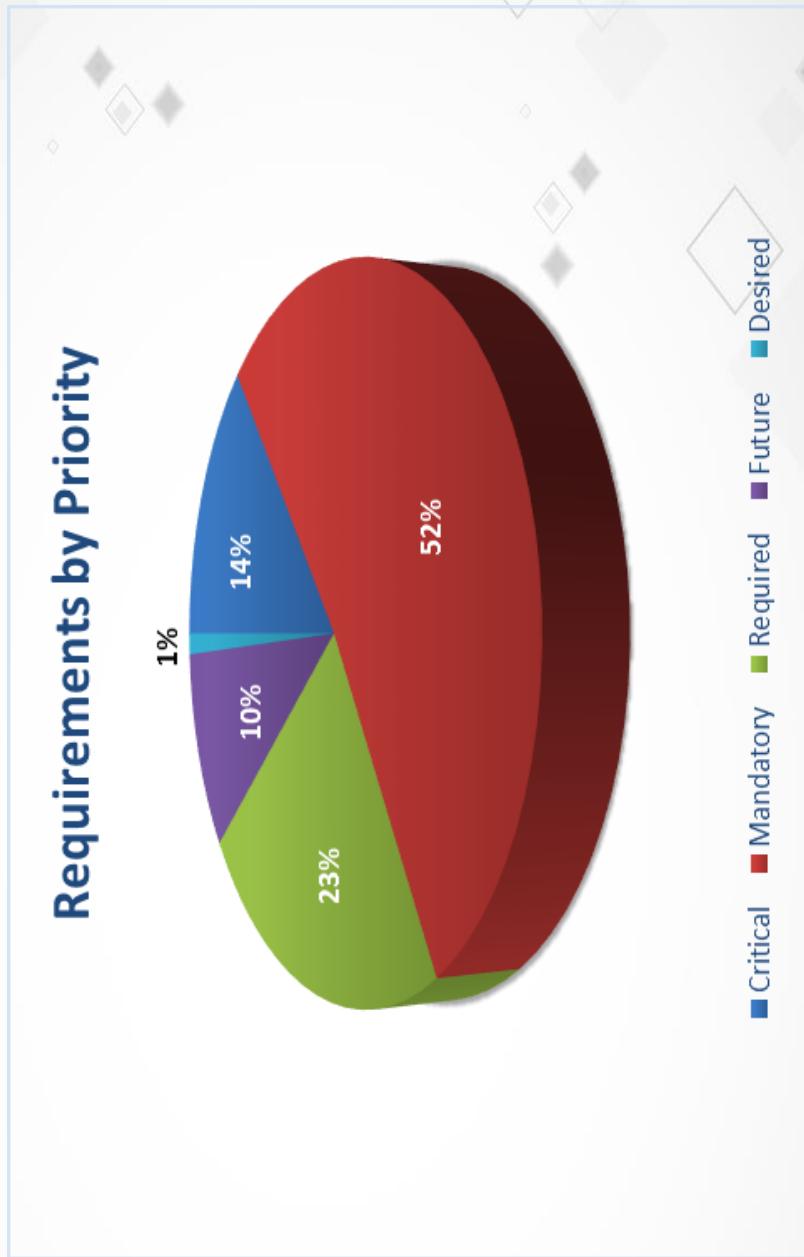
Requirements by Priority

1%		
14%		
52%		
23%		
10%		

Critical ▪ Mandatory ▪ Required ▪ Future ▪ Desired

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NMGC Requirements Compared to other Gas Utilities

- Below is a comparison on the number of requirements and the categories for 3 other gas utilities in the US.

Requirements Summary

Utility	Functional Area	Total Requirements	Critical	Mandatory	Required	Future	Desired
New Mexico Gas Company	# of Requirements	1,775	251	918	408	179	19
	Percentage of overall requirements		**14%**	**52%**	**23%**	**10%**	**1%**
Gas Utility A: Approx. 660,000 customers	# of Requirements	1,825	99	1,135	325	57	209
	Percentage of overall requirements		**5%**	**62%**	**18%**	**3%**	**11%**
Gas Utility B: Approx. 1 million customers	# of Requirements	1,664	533	933	59	86	53
	Percentage of overall requirements		**32%**	**56%**	**4%**	**5%**	**3%**
Gas Utility C: Approx. 1.9 million customers	# of Requirements	1,639	89	1,328	38	180	4
	Percentage of overall requirements		**5%**	**81%**	**2%**	**11%**	Less than 1%
Average % from Utility A, B & C			14%	66%	8%	6%	7%

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Critical Requirements

- The **4 main areas where requirements were identified as drivers to replace Banner with SAP** were Customer Management, Customer Service & Care, Credit & Collection Management and Technology Considerations.

- These drivers are due to **growing expectations** regarding the ability for a CIS to handle interactions with customers, **since the implementation of Banner** at NMGC.

Functional Area	Critical	Mandatory	Required	Future	Desired
Total Requirements by Category	251	918	408	179	19
Account Management	11%	65%	8%	14%	2%
Billing Management	11%	62%	26%	1%	0%
Credit & Collection Management	25%	51%	24%	0%	0%
Customer Management	21%	59%	18%	1%	1%
Customer Service & Care	32%	40%	27%	2%	0%
Financial Management	15%	59%	24%	2%	0%
Inventory Management	7%	46%	30%	16%	1%
Portfolio Management	5%	34%	13%	47%	0%
Rates Management	10%	52%	21%	13%	3%
Service Order Management	8%	45%	40%	7%	0%
Service Location Management	17%	46%	28%	5%	4%
System Mechanics	19%	53%	23%	2%	4%
Technology Considerations	26%	52%	19%	0%	3%
Usage Management	4%	75%	16%	4%	0%

Summary of NMGC's Critical Requirements

The NMGC team arrived at **251 "Critical" requirements,** or those items that are the primary drivers for this replacement effort. These are functions and features that the company does not have at this time. Some of those high-level requirements include:

- Improved set up, billing, management and collections of master summary accounts
- Easier access to and greater search for customer, account and premise information
- Improved management and processing of Gas Advantage Program (GAP) accounts
- Billing for company's largest customers, including the gas transportation customers (including contract management)
- Accommodations for billing adjustments and cancel/rebilling of accounts
- Improved credit determination and management of customer deposits, handling of outstanding account balances
- Customer conversation scripting and workflows
- Customer communication preferences and the management of other customer attributes
- Greater flexibility for payment posting
- Improved management of the meter Encoder, Receiver, Transmitter (ERT) modules
- Routine meter test functionality
- Improved rate modeling capabilities
- On-line help functionality
- A product solution with an upgrade path
- Easier to interface with other NMGC systems

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Suggested SI Procurement Process

The cornerstone of TMG's ability to identify the right solution for our utility clients is TMG's unbiased Procurement Methodology.

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Procurement Methodology

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01	02	03	04	05	06	07
REQUIREMENTS	REQUEST FOR PROPOSAL	VENDOR PROPOSALS	SOLUTION EVALUATION	SOLUTION SCOPE	SOLUTION CONFIRMATION	CONTRACT NEGOTIATIONS

TMG's proven **seven step** Solution Procurement Methodology to select a Solution Implementer or "SI".

✓ **Completed**

- **Step 1**: TMG's proven approach begins with the Requirements Definition step - gathering information about the Utility, developing specific technical and functional requirements, and arriving at the complete requirements and specifications for the Request for Proposal.

- **Step 2 & 3**: TMG then develops the RFP, and assists the Utility with the evaluation criteria so that when SI proposals are received, the Utility's team is prepared to evaluate them.

- **Step 4**: During the next step in the process, the solutions are evaluated and a finalist is selected.

- **Step 5 & 6**: This is followed by project scoping and the additional due diligence steps practiced by TMG.

- **Step 7**: The last step, Contract Negotiations, includes Statement of Work and contract negotiations, and the outline of the Utility's responsibilities during the project. This includes assisting the Utility's team in creating a staffing plan and understanding the costs associated. This final step includes assisting the Utility's team as necessary in presenting the selected SI and the plan to the Utility's management, and achieving approval to proceed with the implementation.

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Solution Scoping and Confirmation

- TMG's Procurement Methodology incorporates two additional steps that many procurements miss – **Step 5, Solution Scope and Step 6, Solution Confirmation.**

- When the SI of choice is identified, the **work is focused on due diligence activities to further investigate and confirm the solution scope.** The SI (SAP personnel can be included as well) is invited to participate in a multi-day Detailed Solution and Implementation Review. The SI is asked to review all 1,775 requirements in-depth and to discuss the implementation services that it will provide. **TMG works with NMGC to understand the gaps that the solution does not address and then works through those gaps with the SI.** TMG also begins to formulate the roles and responsibilities of each party (NMGC and SI) based on tasks and responsibilities of each party. Finally, the SI submits a Best and Final Offer, which contains the scope of services that will be provided along with any additional solution customizations that have been identified by NMGC, and the associated costs associated with any changes from the SI's original proposal.

- When the SI's Best and Final Offer (BAFO) has been received, final evaluation, clarification and activities take place. This work builds upon the due diligence activities to ensure that all solution components have been identified, priced accordingly and that **NMGC has confirmed that the SI remains the optimal choice to move forward with into contract negotiations.**

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SI Procurement Timeline

- NMGC and TMG have already completed step 1 (CIS Requirements Definition) in the SI procurement timeline. The chart below represents a high level timeline for the remaining six tasks:
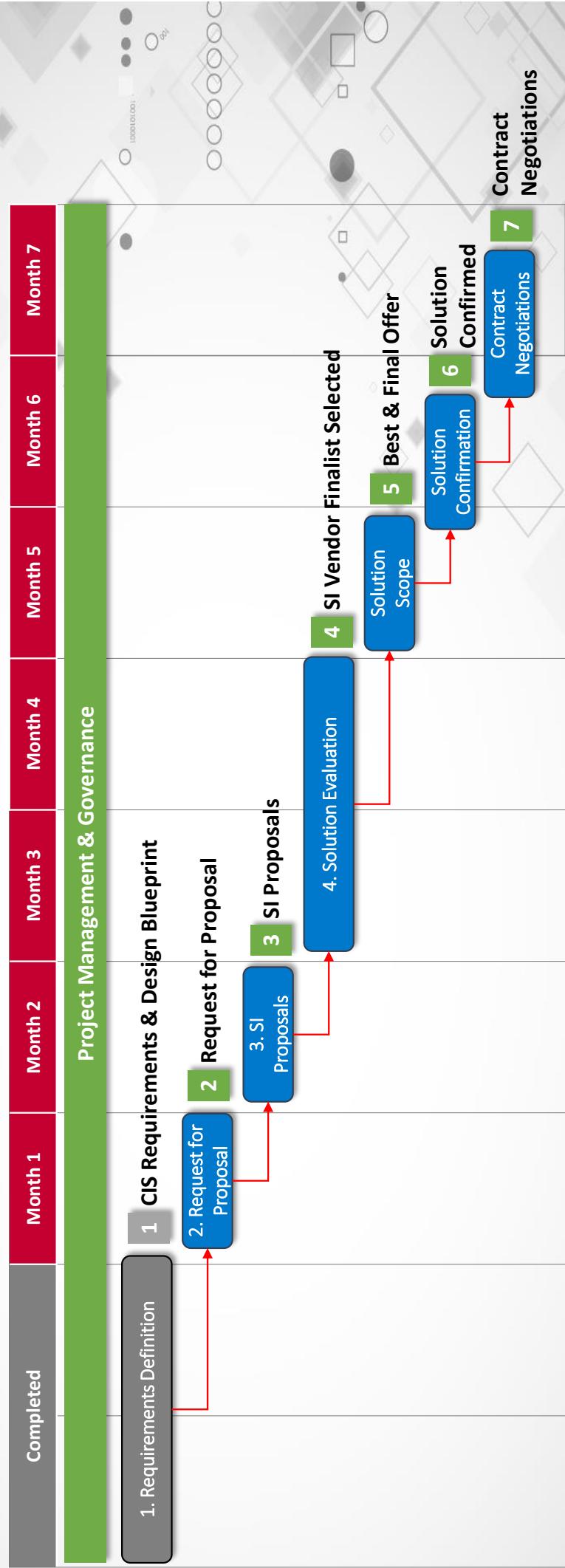
Key NMGC Roles Needed for SI Procurement

TMG Consulting

Mario Bauer
Client Executive

Responsible for overall success of the project

Gary Weseloh
Lead Consultant

Responsible for day-to-day project activities and leads major portions of work plan

Ed Sapiega
Secondary Consultant

Participates in all aspects of the project

Jennifer Baldwin
Secondary Consultant

Nasir Khan
Functional Expert

Provide input during various stages of the project as required

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Executive Sponsor or Steering Committee

Project Manager

Administrative Coordinator *(Optional)*

Core Team
Leaders from various areas of the business

Business Community
Subject Matter Experts

Technical Community
Subject Matter Experts

Provide input into during various stages and reviews deliverables

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SI Considerations

- Many of the SAP CRB SIs will be interested in responding to NMGC's RFP for Implementation Services. **All will have some merit in implementing the CRB solution** and each will have its own particular strengths and weaknesses. NMGC should **expect to have several viable responses from which to choose.**

- NMGC's goal in selecting a Solution Implementer is to **select the firm that will prove to be the best partner in the long run.** The selected SI must be experienced in implementing the latest release of the software. They must understand a natural gas utility with an extensive service territory in the Southwestern US, and the associated issues which comes with that.

- The selected SI **must have a proven methodology, with demonstrable experience** in using that methodology within the quoted timeframe.

- The firm must have **referenceable SAP CRM clients,** and the team the SI names as the key team members for the NMGC implementation must have referenceable experience in the positions for which they are being slated.

- The SI firm must **not be in any litigation or have any litigation pending,** including potential conflicts of interest, that could jeopardize the NMGC project.

- In TMG's view, the **most important consideration should be the strength and experience of the SI's named team,** particularly its key team members such as the project manager, solution architect, functional (business) lead, technical lead and integration lead.

- The following page lists some of the more detailed items that NMGC may wish to consider as it evaluates potential SIs.

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SI Considerations - continued

■ **Named SI Team Members**

- Demonstrated experience (from resume and from references) of the key personnel
- Can the NMGC project team work well with these individuals over the next few years?
- NMGC's confidence that the named individuals will remain with the NMG project

■ **Methodology**

- Thoroughness of approach and methodology
- Does the SI's methodology jive with NMGC's culture – can you live with it?
- Has it been executed previously for a utility similar to NMGC and within the stated timeframe?

■ **Project Management Proficiency/Governance/Risk Mitigation**

- NMGC's confidence that the SI project management approach will be effective
- Are the tools, reports, and other deliverables adequate?

■ **SI Firm Strength and Viability**

- Can the SI Firm support this project both from a financial and a resource perspective?
- Are there risks associated with the selection of this SI firm?

■ **Tools and Templates Brought to the Project**

- Does the SI bring strong tools, templates, accelerators, etc. to the project to enhance productivity and effectiveness?

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SAP CRB Implementation Considerations

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High Level Timeline

- Below is a high level timeline of a typical 24-month CIS implementation.

Area	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	5th Quarter	6th Quarter	7th Quarter	8th Quarter
Project Governance & Business Readiness	Project Management & Governance							
	Work Stream Management							
			Communication and Business Readiness					Business and IT Acceptance
Business Process Analysis, Reporting & Bill Print	Business Process Analysis		Functional Design					
				Reporting & Business Intelligence				
				Bill Print & Correspondence				
Technical & Data Migration	Implementation Architecture						Production Architecture	
				Technical Design				
			Software Configuration					
				Development				
			Interfaces & Integration					
				Data Conversion				
Testing & Training						Test Planning and Execution		
						Training and Performance Support		

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Implementation Work Streams

■ TMG's experience demonstrates that **organizing large projects by key work streams is the optimal approach for successfully managing these complex implementations.** Shown below are the eleven work streams TMG typically recommends to our clients to organize their CIS implementations. We recommend that **each of these work streams be staffed with a resource to lead the effort.**

Business Process Analysis	Software Configuration & Development	Test Planning, Development & Execution	Training & Performance Support	Communications & Business Readiness
Interfaces & Integration	Reporting & Business Intelligence	Bill Print & Correspondence	Implementation & Production Architecture	Organizational Change Management
Data Conversion				

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Key NMGC Roles Required for SAP Implementation

- Assuming the implementation will be approx. 24 months, the chart below identifies some of the **key NMGC roles** that need to be evaluated. **Many other NMGC personnel will be needed to participate in workshops, to test and train, and in other supporting roles.**

Resource	FTE	Duration	Role Profile
Project Manager	1.0 FTE	24 Months	The Project Manager leads, coordinates and monitors all key activities on the project from initiation through delivery. The Project Manager interfaces with each Work Stream lead and the SI Project Manager to ensure that the project is progressing efficiently and timely. The project manager reports to the NMGC Steering Committee. This role is one of the **most critical positions on the NMGC implementation team.**
Business Readiness Lead	1.0 FTE	18 Months	Supports the Project Manager and is responsible for working with NMGC's operational management team to ensure transfer of knowledge from the SI to NMGC. Leads the Business Analysts. Obtains sign off from NMGC that the operation is ready to move to full operational go-live.
Business Analyst	1.0 FTE – from Each Business Areas	18 Months	Provide business functional expertise to define the business operating model that the solution will satisfy. This will involve key users from: Collections; Marketing; Billing; Finance and other departments as needed. Responsible to work with the SI for the development of processes and feeding into the development of training materials for those processes for which training materials do not exist.

Key NMGC Roles - continued

Resource	FTE	Duration	Role Profile
Data Migration Lead	1.0 FTE	24 Months	Responsible to work with NMGC and the Project Manager and the SI's Data Migration Lead to lead the input to the key data migration work stream activities. Will provide direction on the Extract-Transform-Load (ETL) including transformation and business rules.
Cutover Manager	1.0 FTE	8 Months	Works with the NMGC's Project Sponsor, Project Manager and the SI Project Manager to approve the cutover plan and manage the actual cutover weekend.
Training Lead	1.0 FTE	12 Months	Coordinates the delivery of the end user training to NMGC's employees.
Testing Lead	1.0 FTE	12 Months	Responsible for coordinating User Acceptance Testing (UAT)
Technical Lead	1.0 FTE	15 Months	Responsible to lead NMGC's IT input and approval of deliverables during the project.

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Key NMGC Roles – Supplemented from Outside

- CIS implementation efforts are typically the **largest technology projects** a utility will undertake.

- **Very seldom does a utility have personnel qualified for all of the previously mentioned key rolls.** NMGC is a very lean organization and while its employees are very good at what they do, very few have the experience to manage and lead some of the implementation work streams.

- It is very rare that a utility company does not have to go outside and **bring in experienced personnel to fill the roles for which they are responsible.** There are professional services firms, TMG Consulting being one of them, that provide knowledge experts that will blend into the NMGC team and provide the skills necessary to ensure a successful implementation.

- Among the positions that NMGC may wish to fill from outside consultants include:

  - Project Manager and other PMO Support
  - Solution Architect
  - Organizational Change and Transformation Manager
  - Technical Lead
  - Testing Lead
  - Training Lead
  - Business Analysts

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Quality Assurance

- NMGC should also consider **employing third party project oversight,** or what TMG calls Quality Assurance (QA). QA provides an independent perspective in key project areas on a consistent, periodic basis. TMG's Quality Assurance Manager will measure the effectiveness of your governance process and ensure that senior management is appropriately involved in your project. With periodic reviews, **NMGC will be able to react to problems that are identified and make needed adjustments quickly.** The TMG Quality Assurance approach encompasses the elements illustrated in the figure below:
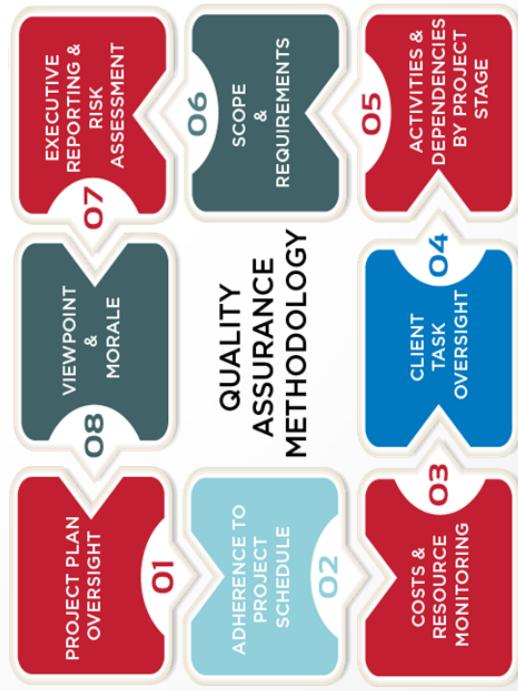
NMGC will **benefit from the independent verification and validation** built into TMG's QA methodology. The experience of 23+ years of overseeing large utility technology projects that our consultants exhibit, paired with the proven QA processes ensures the smooth implementation of the software to the specifications and timeline contracted by the SI.

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Organizational Change Management

- Another extremely important area for consideration is Organizational Change Management. The new SAP CRB system will result in considerable change for NMGC. TMG highly recommends a devoted focus to determine what the changes will be, what their impact will be, and what the organization has to do to embrace the changes.

Change Program Management
- Identify & Preparing for the Change
- Managing the Change
- Reinforcing Change

Communication
- Communication & Stakeholder Engagement
- External communication planning
- Integration to the Customer Experience Roadmap

HR Policy & Practice Alignment
- Change Impact Analysis
- Role Verification
- Capacity Planning Models

Training
- End User Training
- Technical Training
- Knowledge Transfer Plans

Business Readiness
- Business Impact Analysis

Change Strategy and Vision

Customer Experience *(Both Internal & External)*

New Ways of Working

Job Organization Design

Culture

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Closing Summary

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Top 10 Reasons Why Projects Fail

- NMGC must be fully cognizant of why projects fail. TMG's research shows the following reasons:

PLANNING

1. Insufficient Executive Leadership
2. Unclear expectations

SELECTING

3. Inexperienced SI personnel selected
4. Poor solution due diligence

IMPLEMENTING

5. Inadequate project staffing by utility
6. Insufficient governance and project/program management by utility
7. Too much customization versus configuration
8. Operational Change Management (OCM) is light and/or afterthought
9. Poor data conversion
10. Premature go-live

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Top 10 Reasons Why Projects Fail

- The **first 2 reasons have already been addressed**. NMGC's executives are aware, committed, have been involved in this planning phase, and will be visible and involved in the selection of the SI and the implementation of the SAP CRB system. This Requirements Development process is an integral step in establishing clear expectations.

- Reasons 3 and 4 fall into the SI selection phase. The suggested **Solution Procurement approach discussed previously will ensure that the best SI for NMGC is selected**. The solution evaluation, the solution scope and the solution confirmation steps of the Solutions Procurement methodology provides comprehensive due diligence.

- Reasons 5 through 10 typically **occur during the implementation process** covered previously in this report. NMGE executive management and project management **will need to keep these items foremost in focus while considering supplementation of the implementation team.** Experts that can be provided by TMG or other consulting companies such as solution architects, training and testing leads, and an organizational change management specialist as well as retaining third-party project oversight or quality assurance.

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Conclusion

- TMG Consulting appreciates this opportunity to work with NMGC on this effort. **CIS projects are arguably one of the most complex, risky and high profile projects any utility will undertake.** Preparation for these projects, which is a critical part of the selection process, is crucial to success.

- TMG is proud of our reputation and our work. **Our clients won the awards for "best CIS implementations" in both the large utility and small utility categories for the last two years.** These awards demonstrate that TMG understands the complexities of these large CIS replacement efforts and how to ensure our clients' successes.

- **TMG hopes to continue working with New Mexico Gas Company on this Banner replacement and SAP CRM implementation project.** It is our intention that NMGC continue the tradition we have started of our clients winning the "Best CIS Implementation" at an upcoming CS Week conference.

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Why TMG?

EXPERIENCE 1

METHODOLOGY 2

INDUSTRY IP 3

PROVEN SUCCESS 4
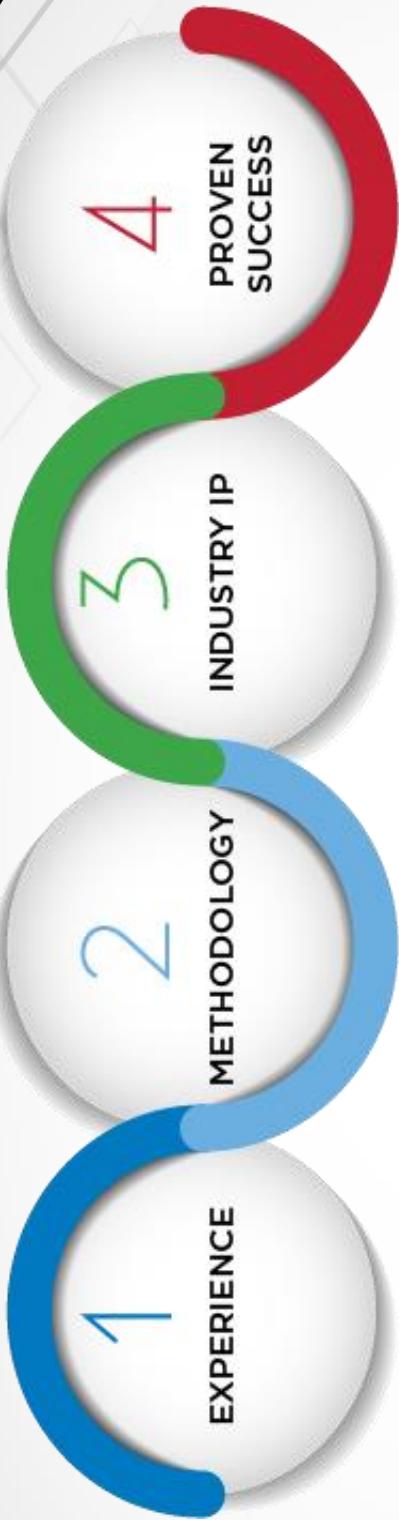
1. Experience:

- 400 projects and 250+ customers
- Average consultant CIS experience is 20+ years
- Most Electric, Gas and Water experience in the industry.
- Recent Gas projects include: **Southwest Gas, Northwest Natural, ATMOS, Fortis BC, UGI, Washington Gas, Piedmont Gas**
- Most IOU experience in the industry by far

2. Methodology:

- The industry standard
- Deepest, thorough and proven

3. Industry IP:

- Largest data in the industry
- Functional and technical detail on every SI and Product vendor
- Contract terms with all vendors
- Project details on almost all CIS projects in the last 10 years

4. Proven Success:

- Won the last 4 projects of the year
- All projects are referenceable

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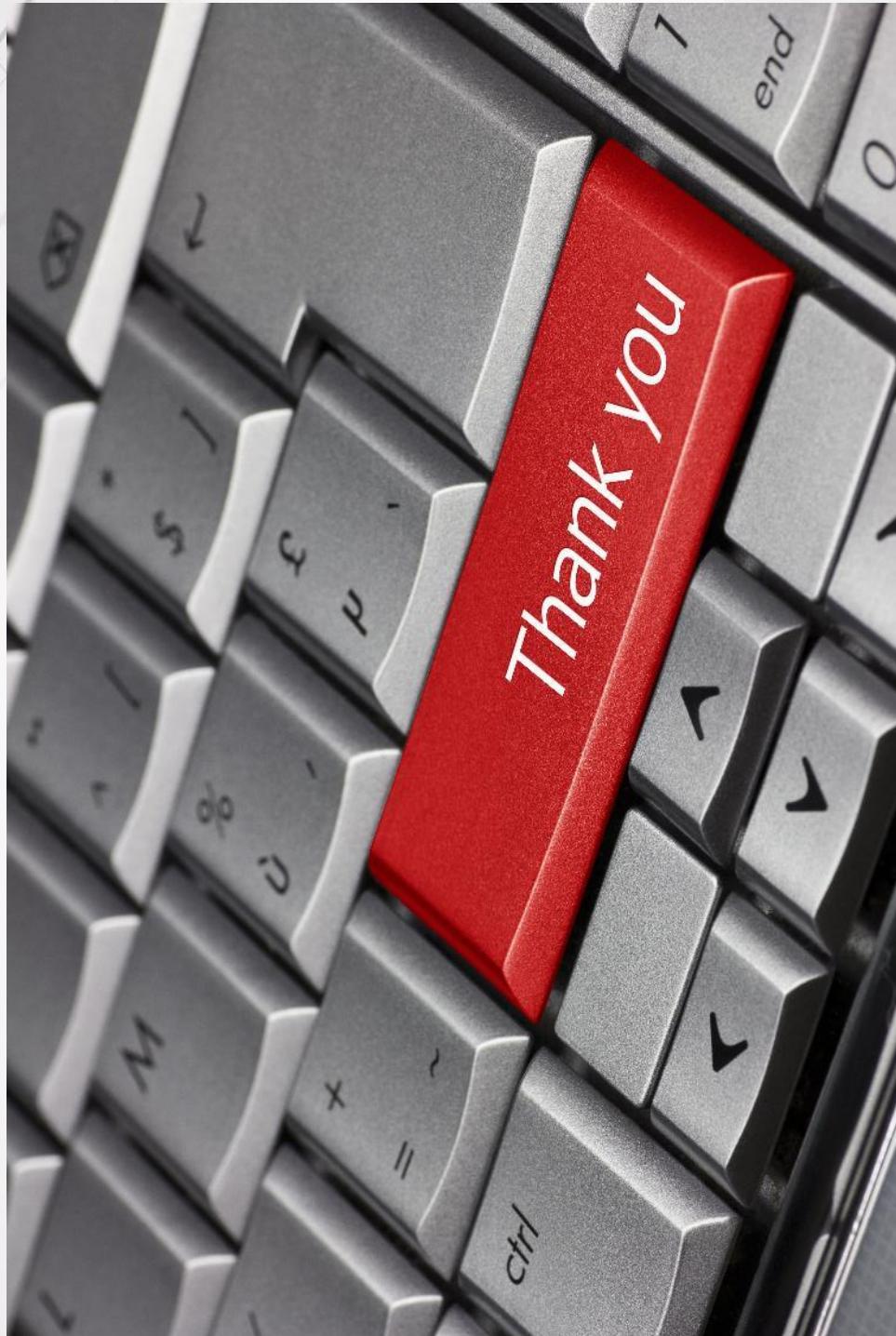
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NEW MEXICO GAS COMPANY (NMGC) CUSTOMER RELATIONSHIP MANAGEMENT & BILLING (CRMB)

FIT GAP

May 17th, 2017

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Deloitte.

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Agenda

Introduction

Fit Gap Approach

Summary of Findings

Technical Environment

Additional Comments

Next Steps and Questions

Background

- Customer Information System (CIS) is aged and highly customized

- CRMB System will:

  – Provide foundation for future growth

  – Enhance customer experience expectations

  • Ensure customers are served when, where, and how they want to be served including web and mobile self-service

  – Support new technology and services

  – Realize operational efficiencies and information flow across the organization

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Objectives

- Evaluate effort required to replace Banner with SAP CRM and Billing (CRMB) solution

- Perform fit-gap analysis of NMGC requirements against:

  1. Standard SAP CRMB solution

  2. SAP CRMB as implemented at TECO (live on Jan 4, 2017)

- Determine timeline, resources for SAP and non-SAP efforts

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APPROACH

What We Did
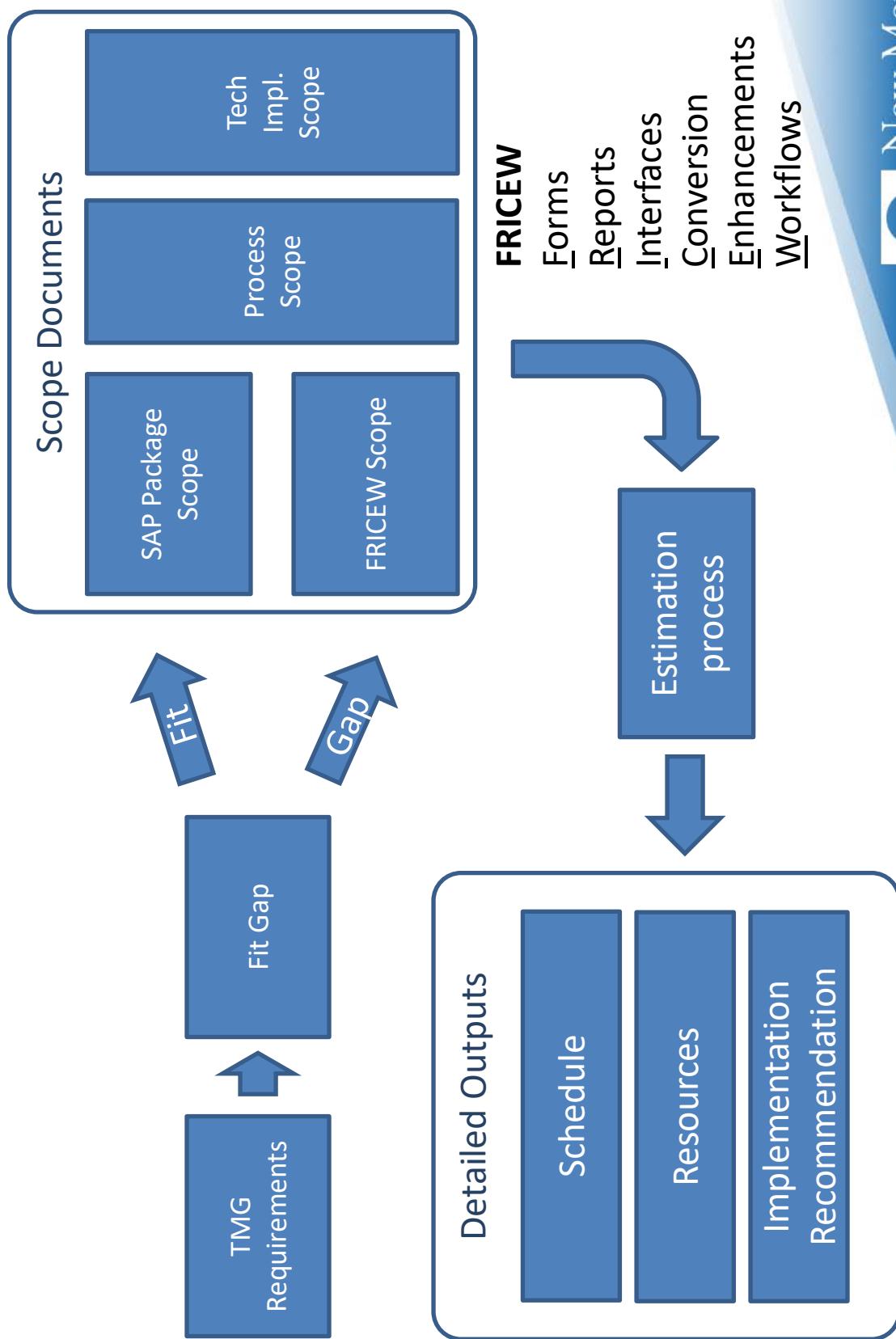
High Level Functional Scope

Customer Service

- Web based user interface to support customer interaction
- Start/stop service Management
- IVR integration for customer automation

Meter Management

- Meter and Device system of record
- Inventory
- Billing and technical attributes
- Meter reading, validation, estimation and editing

Service Management

- Short cycle work management
- Service Suite integration
- Real time updates
- Follow up actions/automation

Billing and Rates

- Rates
- Billing and Invoicing
- Non-consumption billing
- Gas Transportation
- Gas Advantage Program

Contract Accounting

- Account details
- Payments and Returns
- Cash Desk
- Bank integration
- Collections management

Reporting:
- Legal, regulatory, finance
- SAP reporting solution to provide robust foundation and flexibility

Portal
- Integrate NMGC MMA with SAP data and processes
- Leverage robust integration layer

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Fit Gap Assessment Team

Executive Committee
- Tommy Sanders
- Roman Coba
- Karen Mincey

Assessment Leadership
- Denise Wilcox
- Sanford Kahn
- Harry Singh (D)
- Zhi Chen (D)

Project Advisors
- Girish Nayak, Katie Guice, Pete Fournier

Technical
- Infrastructure
- Applications
- IT Security
- Access Security/Controls
- Development

Functional/Business
- Customer Service
- FI CA (Contract Accounting)
- Billing and Invoicing
- Device Management
- Service Management

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Who was part of the team

Functional Area	Team Member	Team Member	Team Member	Team Member	Team Member	Team Member
Customer Service/Call Center	Diana Jaramillo	Michelle Romero	Linda Yeast	Mikela Lovato	Teala Kail	
Customer Service	Bob McNicol					
Field Service / Device Management	Mario Estrada	Ramon Baca	Grace Trujillo			
Billing	Candy Scoggin-Ansley					
Credit & Collections (inside)	Michael Marchand					
Credit & Collections (outside)	Alfred Zamora	Steve Bertuca				
Credit & Collections (regional)	Cynthia Chandler	Mario Estrada				
Finance (gas trans acctg tax)	Betty Stacey	Catrina Blazer	Krystal Barreras	Glenn Morris	Ann Malone	
Finance (gas trans acctg tax)	Cindy Brown					
Remittance/Payment Center	Barbara Arias	Rebecca Boyett	Monica Montoya			
Payment Center (Regional)	Cynthia Chandler					
Other SMEs						
Regulatory/Rates	Diana Jaramillo	Rebecca Carter		Steven Cordova	Robert Hudson	
Key Accounts	Judy Montanes					
Business Development	Lloyd Hatch	Colleen Summers				
New Construction	Antoinette Dominguez	Kevin Farr				
GIS	Curtis Winner					
Engineering	Paula McAfee	Angela Serrano de Rivera,				
Gas Supply/Transportation	Mandy Herrera	Josh Tilbury	Paul Mollo	Patricia Chavez		
Gas Control	Chuck Thompson					
Energy Efficiency	Steve Casey					
CRMB Director	Denise Wilcox					
CRMB Manager	Sanford Kahn					
IT Tech Lead	Janelle Callahan					
Project Manager	Dean Wilson					
IT Data Lead	Jackee Verhulst					
IT Staff:	Shelly Gordon	Francella Borrego	Brian Haddock	Buffy Swenson		
	Lynn Miller	Michael Wilcox	Jerome Barreras	Ron Martinez		
	Sofia Lucero	Chan Robertson	Elizabeth Wagner	Aaron Braasch		
Network/Security	Aaron Kammer	Jay Waugh	Miral Vora (FL)	Mike Bell (FL)	Scott Hoffman (FL)	

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Fit Gap Assessment By the Numbers

1840
- 1840 Requirements reviewed in detail
- Clarifications and refinements made where appropriate

2
- 2 solution baselines used for fit gap
- Determined level of fit and "reusability"

189
- 189 follow up questions posed and answered
- Clarified requirements and improved analysis

1200
- 1200 detailed requirement responses comments

8
- 8 Review sessions held
- Direct discussions for deep dive on specific requirement areas

5
- 5 Demo sessions held for key CRMB functional areas
- Stimulated discussions of solution opportunities

77
- 15 CRMB SME provide review and estimates
- 62 NMGC direct contributors

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SUMMARY FINDINGS

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Level of Fit to NMGC Requirements
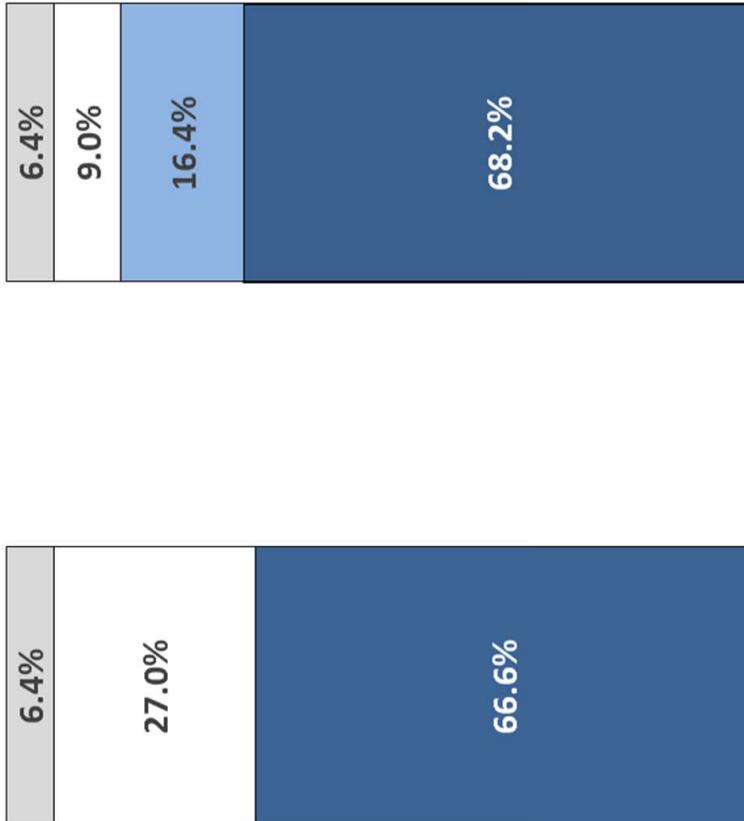
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Reusability Reduces Complexity
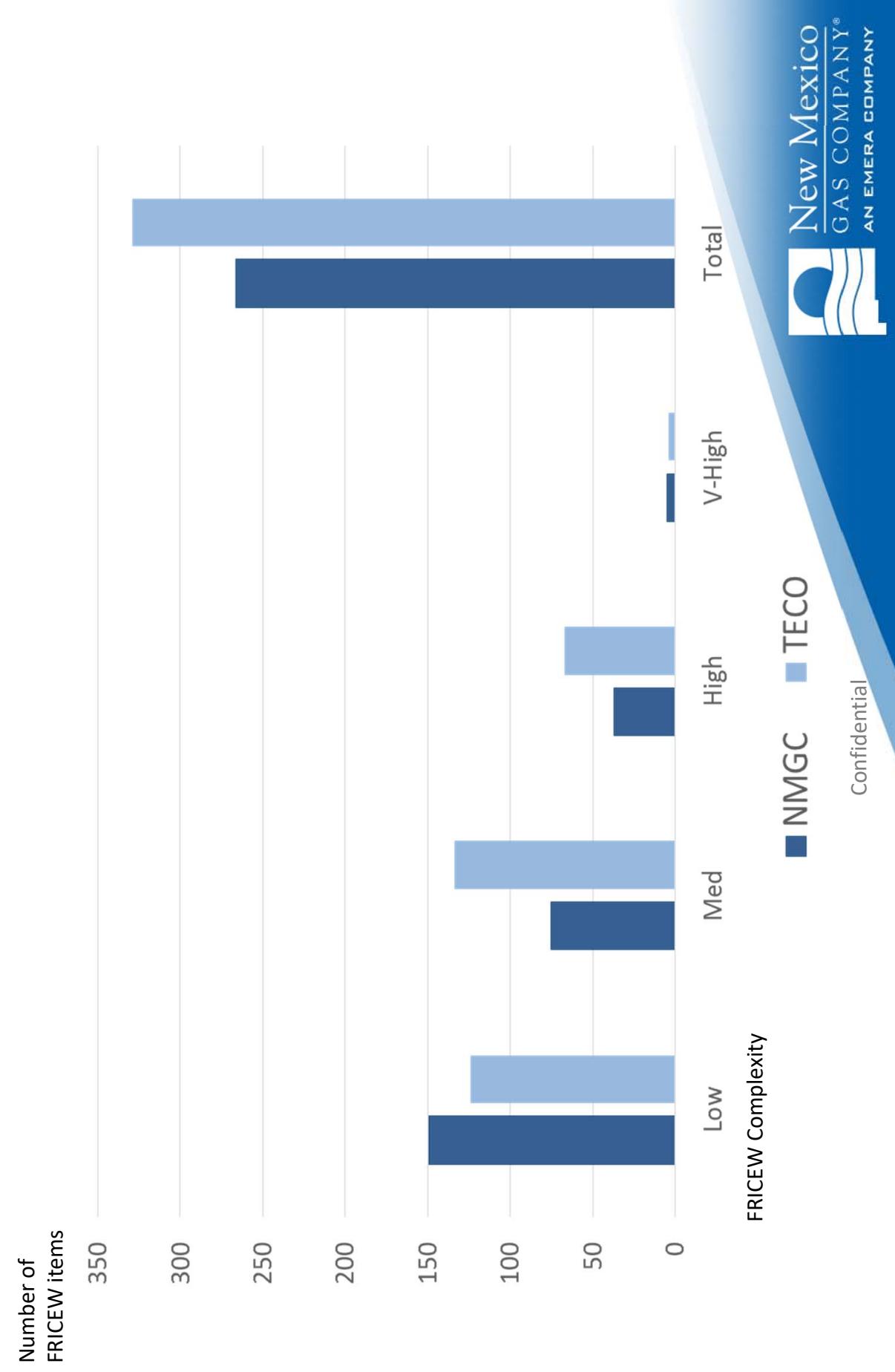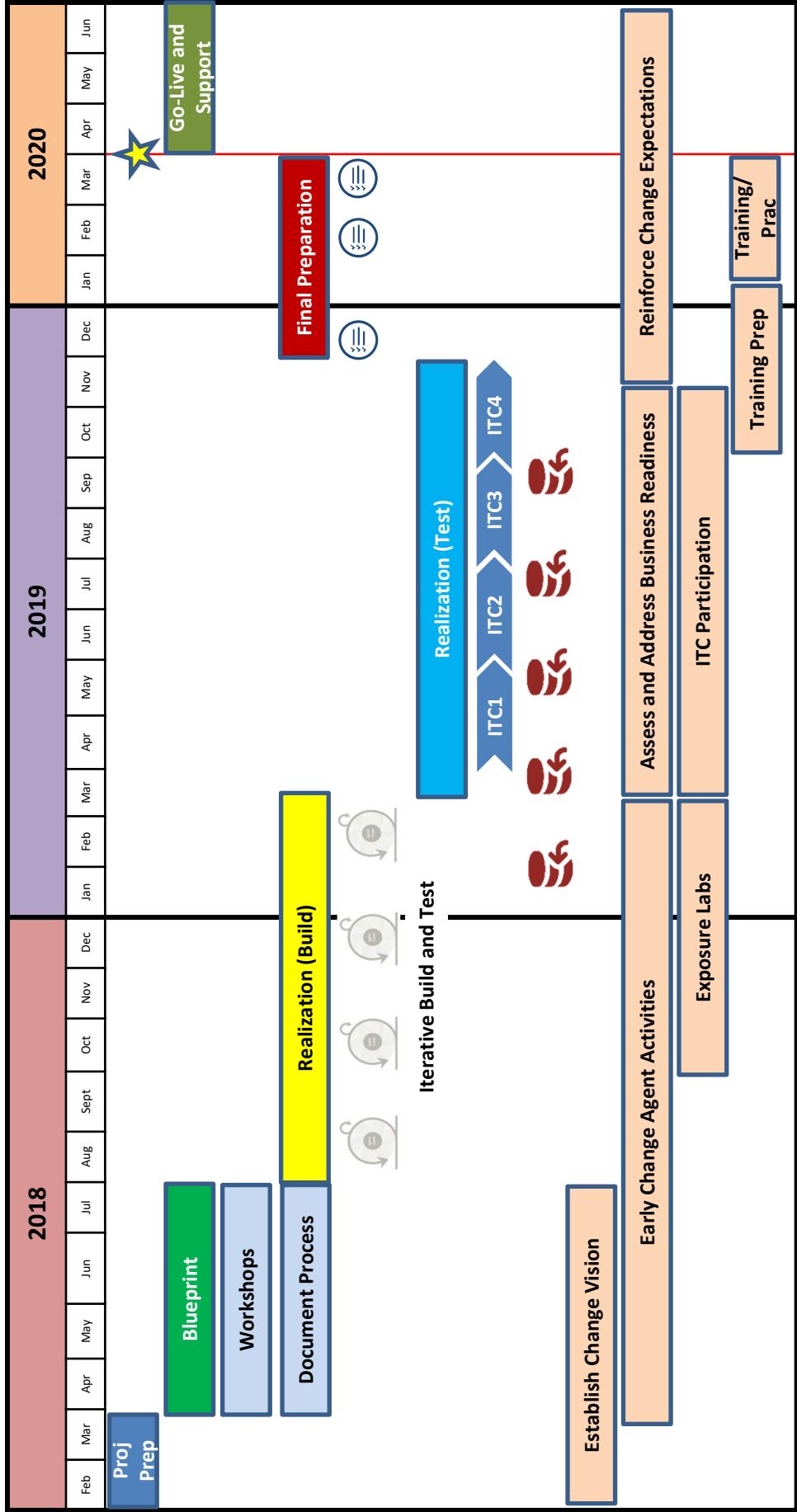
Staffing Levels Over Time (in FTEs)

NMGC FTE Levels

SI FTE Levels

Legend: PMO · Functional · Technology · Development · Heritage · Business · OCM

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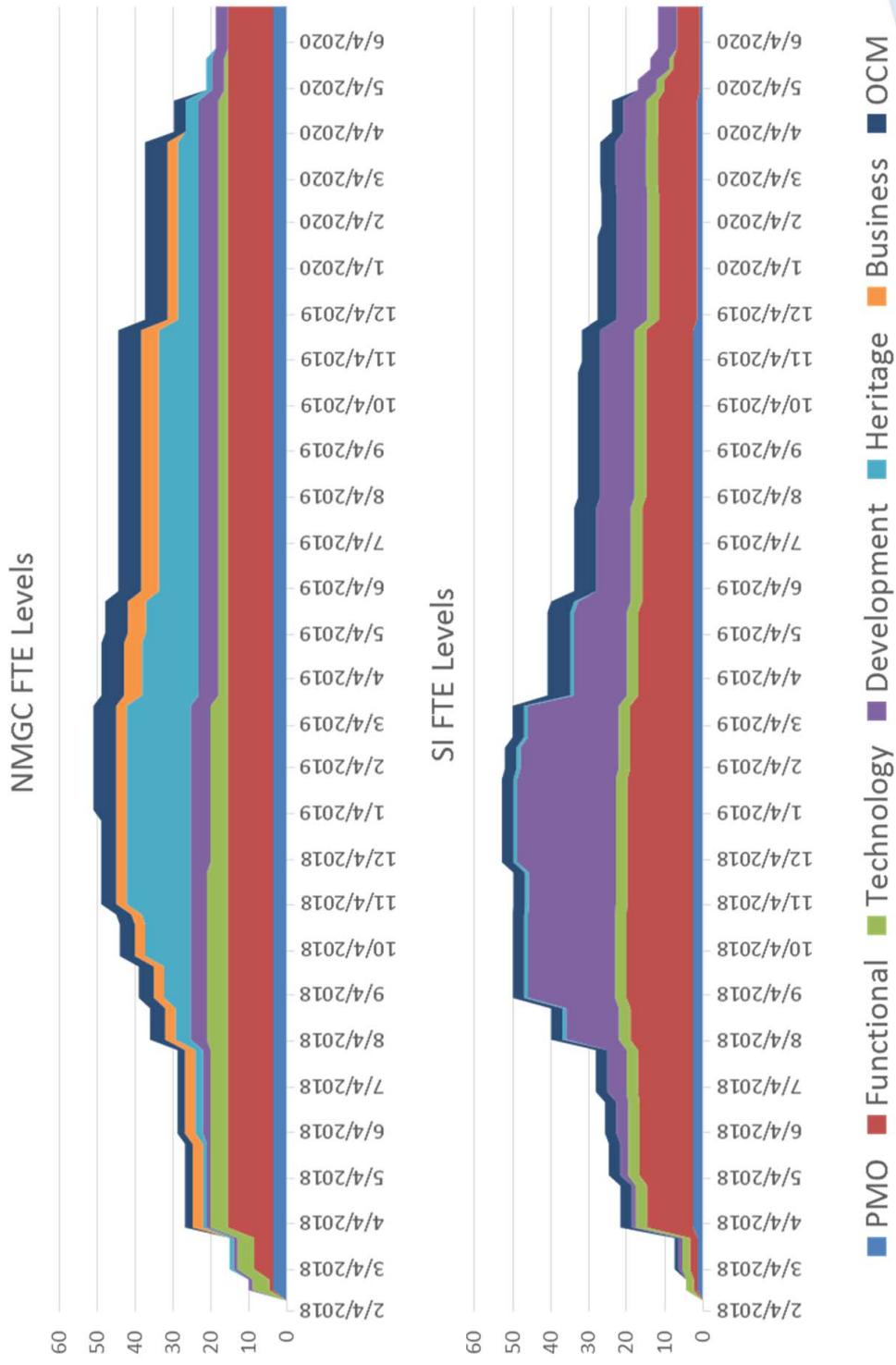
Implementation Labor Estimates

Team Category	NMGC hours
PMO	17360
Functional	57520
Technology	17104
Development	20920
Heritage	40560
Business	14430
OCM	21040
Total NMGC Hours	188934
Hourly Rate	$100
Total Cost	$18,893,400

Team Category	SI Hours		
PMO	11028		
Functional	62838		
Technology	13800		
Development	56160		
Heritage	1720		
Business	0		
OCM	18480		
Total SI Hours	164026		164026
Hourly Rate		$120	$140
Total Fees		$19,683,120	$22,963,640
Expenses @15%		$2,952,468	$3,444,546.00
Total Cost		$22,635,588	$26,408,186

Plus NM Gross Receipts Taxes

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Effort Estimate Assumptions

- Implementation labor totals include:
  - Effort to implement SAP CRMB solution with supporting solutions
  - NMGC and SI resources (onsite and offshore)
  - Heritage system effort (implementation, integration, testing)
  - Hypercare (3 months)

- Implementation labor totals do not include:
  - End user training time (teaching and attending training sessions)
  - Data cleansing efforts
  - 3rd party system vendor costs
  - Heritage system upgrades/replacement
  - Staff augmentation hours (e.g. back office, call center)
  - Contingency or Management Reserve
  - Hardware infrastructure

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NMGC Exhibit THS-2.2
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TECHNICAL ENVIRONMENT

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Technical Landscape

Landscape Scenarios

Technology Considerations Overview

With a view on the impact to NMGC Customer Experience

Consideration	Scenario 1 Shared Single Instance		Scenario 2 Shared Infra. / Separate Inst.		Scenario 3 Separate Infra. / Separate Inst.		Comment
	Current	Leading Practice	Current	Leading Practice	Current	Leading Practice	
Ability to use shared infrastructure at TECO	Advantage	(green)	Challenge	(green)	Challenge	(red)	TECO infrastructure capacity can support shared instance; building new instance will require additional work/cost
Ability to support infrastructure	Neutral	(green)	Challenge	(green)	Neutral	(red)	Distributed infrastructure may require some additional support resources; can leverage current resources for NMGC instance
Connectivity via WAN/LAN	Challenge	(green)	Challenge	(green)	Advantage	(green)	WAN connection could introduce delays that impact customer experience
Disaster Recovery Support	Challenge	(green)	Challenge	(green)	Advantage	(green)	Geographic separation reduces risk and presents opportunity for improving DR redundancy
Real Time Interface Traffic performance	Challenge	(yellow)	Challenge	(yellow)	Advantage	(green)	Interface traffic over WAN will experience latency; an impact for real time Heritage applications
Customer Data Segregation	Challenge	(red)	Neutral	(green)	Advantage	(green)	Segregating data in the same instance will require effort; ability to store NMGC data in FL needs to go through PRC assessment
Ability to segregate software ownership costs	Challenge	(red)	Neutral	(green)	Advantage	(green)	Clear differentiation of what hardware supports which regulated entities

* Taking leading practice into account, each scenario consideration may change if infrastructure/network performance is reviewed and addressed

* To address the challenges and move toward leading practice environment, additional factors will need to be evaluated

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Technology Considerations Overview

With a view on the impact to NMGC Customer Experience

Consideration	Scenario 1 Shared Single Instance		Scenario 2 Shared Infra. / Separate Inst.		Scenario 3 Separate Infra. / Separate Inst.		Comment
	Current	Leading Practice	Current	Leading Practice	Current	Leading Practice	
Business approval required for changes	Challenge	🔴	Advantage	🟢	Advantage	🟢	Changes need to be reviewed and approved with consensus from leadership and regulatory bodies of both entities
Shared code and configuration challenge	Challenge	🔴	Advantage	🟢	Advantage	🟢	Greater complexity where all objects with NMGC specific requirements will need to separated by company
End-to-End testing across operating companies	Challenge	🔴	Advantage	🟢	Advantage	🟢	Changes to shared solution will need to be prioritized and regression tested for both entities
Ability to support configuration /code	Advantage	🟢	Challenge	🔴	Challenge	🔴	Separated solutions may require additional support resources

* Taking leading practice into account, each scenario consideration may change if infrastructure/network performance is reviewed and addressed

* To address the challenges and move toward leading practice environment, additional factors will need to be evaluated

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Leading Practice Landscape

Scenario 2
Separate Instances
Tampa data center

- The reliance on WAN means potential network impact on business users and real time applications must be evaluated; the associated costs will have to be determined

- The sharing of infrastructure requires alignment of operational expectations

- Separate instances allow segregation of requirements, design, data, user access between the operating companies

- Shared data center allows the use of common infrastructure

- Shared data center allows the opportunity to share common applications

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ADDITIONAL COMMENTS

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Expected Solution Benefits

Theme	Examples
Data Accuracy	• Service and Mailing Address standardized by the system • Flexible representation of Meters and Devices (ERT) • Accurate update of Meter/Device lifecycle
Access of Information	• Overview "factsheet" to put most relevant data at CSR's finger tips • Access to details to support research – prior/bad debt • Event and data driven pop up to prompt CSRs
Real Time Updates	• Contact center access to real time field status • Field access to real time customer data • Integrated work scheduler during Move In/Reconnection initiation
Process Automation	• Reduce manual activities – payment files, returns, cash reconciliation • Automate data updates – mass addition of premises, routing update • Customer experience automation – integration of IVR
Validation	• Validate user entry to preempt downstream issues: meter number, address accuracy • Reduce duplicate entry – e.g. customer record, orders
Consolidation	• Consolidate functions to one system – refund processing from ERP, credit score from TSI, Skip trace from manual

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Opportunities for Early Action

Area	Details
Data Profiling and Cleansing	• Continue current data profiling effort; • Perform data cleansing early; e.g. duplicate customer records, mixed meters
Service Suite Roll-out	• Confirm that Service Suit mobile work management are rolled out to all field work personnel and for all work types • Undergo any changes prior to CRMB go live to diffuse level of change impact
Disconnection work process	• Currently paper print outs are used extensively; e.g. print out with customer data; print out of door hanger • Consider change in practice and mobile device technology to allow the elimination of paper
Gas Transportation Changes	• Confirm that Gas Transportation solution option 2 is acceptable • Initiate process/system changes to support option 2 • Daily meter reads
Meter Test Result	• Consider consolidating meter test results in one system and make available to customer service and billing personnel
Document Management Migration	• Migration of enterprise document management from EDOCs to OpenText Content Management • Consider undertaking a separate effort from CRMB

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NEXT STEPS

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QUESTIONS

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BANNER CIS VERSION 2.1.5
RISK ASSESSMENT
NMGC AND MAK SOLUTIONS

November 6, 2017

Agenda

- Introductions
- Safety Moment
- Overview
- Approach
- Risk Focus
- Banner Assessment Summary
- Banner Risk Log Assessment Summary
- Banner Risk Log Snapshot
- Summary Findings
- CIS Considerations
- Next Steps
- Questions

2

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Overview

- Engaged MAK Solutions to review our Banner CIS environment, identify risks/issues and provide potential options for extending the life of Banner.

- Extending the life of Banner will allow more time to carefully evaluate next steps for long term strategic planning.

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Approach

- Kick-off meeting held on October 5

- Team Meetings facilitated over 2 week period

  – Project Core Team: Denise Wilcox, Sanford Kahn, Janelle Callahan, Jackee Verhulst, Kevin Sturgill, Tommy Sanders

  – Technical SME: Michael Wilcox, Chan Robertson, Lynn Miller, Ron Martinez, Sofia Lucero, Aaron Kammer, Shelly Gordon, Francella Borrego, Howard Benson, Jerome Barreras, Brian Haddock, Kris Suthers

  – Functional SME: Diana Jaramillo, Michelle Romero, Candy Scoggin-Ansley, Barbara Arias, Michael Marchand, Ramon Baca, Catrina Blazer, Ann Malone, Art Garcia, Bea Gonzales

  – MAK: Steve Margolis, Jim Redick, Arthur Silber, Michael New

- MAK draft assessment delivered on October 27

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Risk Focus

- Introduction to MAK Solutions

- MAK Solutions team conducted an objective independent risk assessment

- Risks and issues were categorized in the following contexts:
  - Continued Use of Banner CIS version 2.1.5
  - Banner Life Cycle Extension through a Technical Uplift
  - Current Banner configuration, usability and performance

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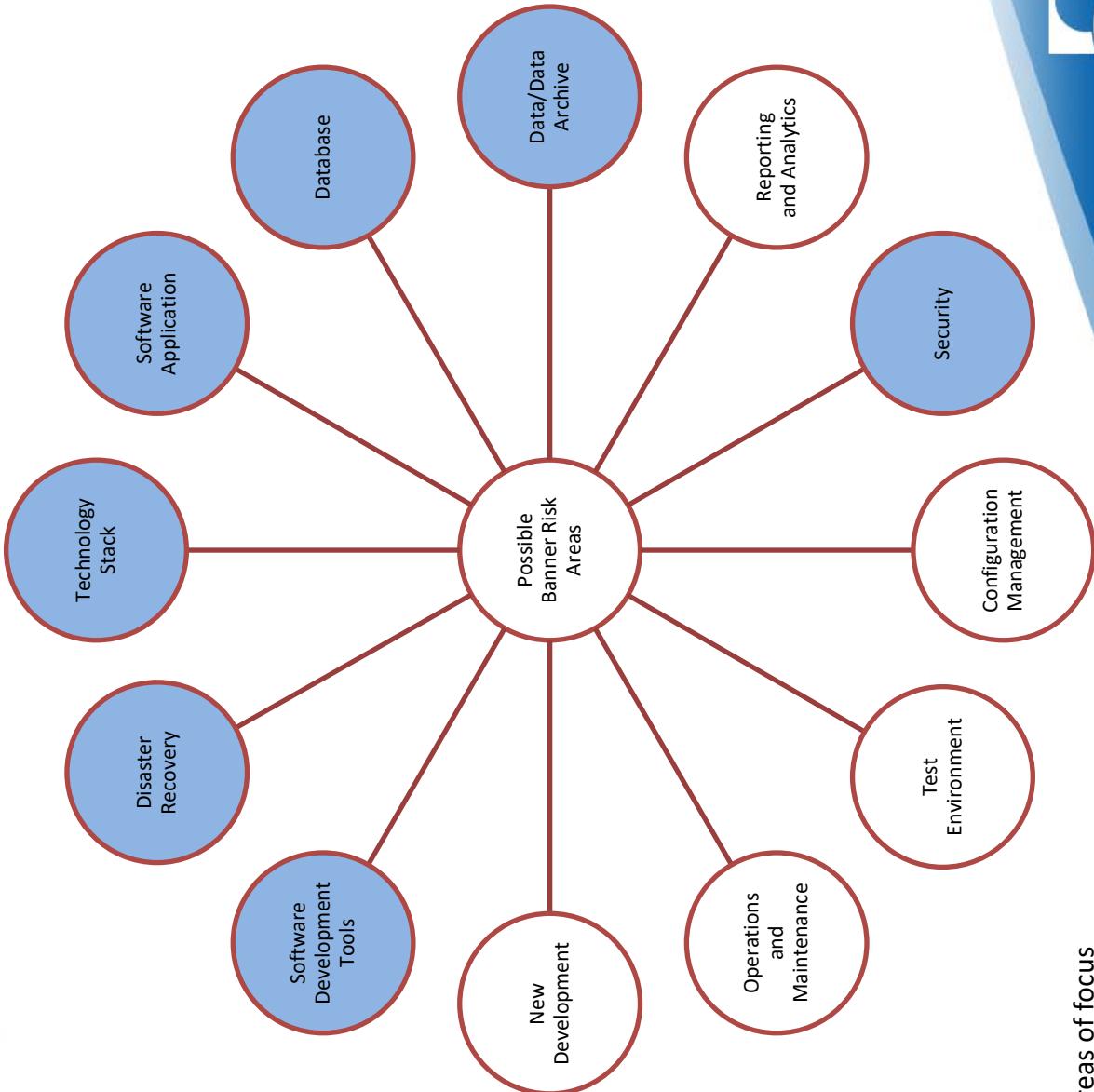
Risk Focus

Note: Blue highlight – areas of focus

Risk Focus - Continued Use of Banner Version 2.1.5

Primary risk - running on a de-supported technology stack for the Operating System, User Forms & Data Base. **High level risks** include:

- No Operating System Vendor (OSV) fixes including critical security patches and new hacking threats

- Increased hardware cost, compatibility, maintenance, and potential downtime

- Disaster Recovery risks related to planning and testing

- Software performance, compatibility, and integration

- Higher risk of hardware and software failure

- Continued degradation of all performance areas

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Risk Focus - Extending Life Cycle of Banner

Technical uplift of the Oracle Platform, OS and Hardware would eliminate the de-supported risk and effectively extend the life of the application for as long as the technical configuration is supported. A technical uplift provides:

- Increased hardware (administration), database (batch) and online (user) performance.

- More flexibility of software compatibility options for fixes, enhancements and integration.

- Improved monitoring, statistical, analytical, backup and recovery tools.

8

Risk Focus – Usability and Performance

- MAK and NMGC have identified a list of items prioritized as High (26), Medium (16) and Low (7) risks. None of these items prevent continued use of the Banner application.

- If risk reduction is not proactively pursued, some of these items could lead to unacceptable performance, unacceptable client service, incorrect reporting and even system downtime.

- All of the risks identified can be satisfactorily addressed either through work already in progress by NMGC, the options listed by MAK, or through further research.

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Banner Assessment Summary

Area	Risk
Banner Application Code	Low
Banner Data Growth	High
Banner PII Data	High
Banner Role Security	High
Micro Focus Cobol	Low
Interfaces	Medium
Appworx 8.4	Medium
Online Transaction Processiing (OLTP)	High
Batch Performance	High
Oracle Enterprise Manager (OEM)	Best Practices

Risk legend:

High	High level impact - Likelihood of failure/damage ramifications internally or externally; needs immediate attention.
Medium	Potential impact - Needs attention and should be evaluated for monitoring, further analysis or remediation.
Low	Awareness - May be an acceptable risk; immediate action not necessary.

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Banner Risk Log Assessment Summary

Area	Risk
Software Application	High
Interfaces	Medium
Batch	High
Data	High
Financial	High
Customer	Medium
Forms	Medium
High Availability Architecture	High
Oracle Enterprise Manager (OEM)	Medium
Relational Database Management System (RDBMS)	Medium

Risk legend:

High	High level impact - Likelihood of failure/damage ramifications internally or externally; needs immediate attention.
Medium	Potential impact - Needs attention and should be evaluated for monitoring, further analysis or remediation.
Low	Awareness - May be an acceptable risk; immediate action not necessary.

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Banner Risk Log Snapshot – Software Application

#	Area	Risk	Options
A.	**Software Application**	**HIGH**	
1	**Payments** do not get posted properly. Problems with how payments are applied when referencing Master Summary and Transportation.	High	Research and correct issue. **NMGC:** Data Cleansing Team is working toward developing an exception report.
2	**Deposits** are not being applied correctly. Some times form locks up	High	Research and correct issue.
3	**Deposit installment** problem where they can not be adjusted off after creation	High	Research and correct issue.
4	**Maintenance** - Charge Calculation, Bill Print, UOPGENL and other processes - run out of sequence or data issues	Medium	Consider BANNER expertise to backfill and mentor NMGC IT team.
5	**Bank Draft** has problems with pre-note and bank drafts going through in the same night.	Medium	Put in an edit to prevent from going through the same night.
6	**Multi-period adjustment** process does not handle Budget Accounts properly.	Medium	Research and correct issue.
7	**Gas Transportation** - Payment Functionality not propagating to End-Users, Transportation screen performance can take up to 20 mins to pull up information	High	Research and correct issue.
8	**Gas Transportation** – When applying Gas Transportation Payments they do not apply correctly or do not apply at all. (ex. Centerpoint Energy)	High	Research and correct issue.
9	**Service Orders** - Not able to charge premium fee for after hours work.	Medium	Research and correct issue.
10	**Meter constant** - is not carried forward on meter report from one meter to another on a meter change-out.	High	Research and correct issue.
11	**Collections** - certain accounts are not going through the normal final bill collection process. Impact on financials	High	Research and correct issue.
12	**Selective accounts** go into first stage of bad debt and stay there.	High	Research and correct issue.
13	**Credit scoring process** is intermittent. Certain cycles may be dropped from the file.	High	Research and correct issue.
14	**Collection Agency process** does not move the accounts from one step to another, they get stuck, therefore, payments are not processed correctly.	High	Research and correct issue.

Risk legend:

High	High level impact - Likelihood of failure/damage ramifications internally or externally; needs immediate attention.
Medium	Potential impact - Needs attention and should be evaluated for monitoring, further analysis or remediation.
Low	Awareness - May be an acceptable risk; immediate action not necessary.

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Banner Risk Log Snapshot - Interfaces

#	Area	Risk	Options
B.	**Interfaces**	**MEDIUM**	
1	**Service Suite - Loss of data** on Banner-side between Banner and Service Suite	High	Research and correct issue.
2	**SFTP** - Interfaces utilizing FTP and not SFTP.	High	Move FTP interfaces to SFTP. **NMGC:** infrastructure team is installing new SFTP and interfaces will be converted.
3	**Service Suite - Record locks,** link goes down, processes freeze, errors between Service Suite and Banner. Service Order Close Form - form is locked between Service Suite and Banner.	Medium	Research and correct issue. Potentially data columns are being updated at wrong time.
4	**Web Portal** - Provide web services for integration from Web Portal to Banner. This will provide improved security. Currently Web Portal goes directly to Banner DB.	Medium	TUP will correct. **NMGC:** applications team working on web portal redesign.
5	**SAP** - No file transfer confirmations from/to SAP from Banner	Low	Consider adding to Appworx.
6	**ERT numbers** are changing from 8 digit to 10 digit.	Medium	If data fields cannot accept the increase in digits then this needs to be addressed now

Risk legend:

High	High level impact - Likelihood of failure/damage ramifications internally or externally; needs immediate attention.
Medium	Potential impact - Needs attention and should be evaluated for monitoring, further analysis or remediation.
Low	Awareness - May be an acceptable risk; immediate action not necessary.

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Banner Risk Log Snapshot – Batch Processing

#	Area	Risk	Options
C.	Batch	**HIGH**	
1	**Batch window** duration pre-reports chain is long. Window is ~10 hours for creation of bills. NMGC experiencing runtime issues during parallel processing.	High	Analysis needed for performance tuning and correction of processes.
2	**Bill Print (UBPBILP-INACT)** slows down batch. Could be up to 4 hours runtime. Out of Cycle also has a long runtime, approx. 30 mins.	Medium	Analysis needed for performance tuning of Bill Print.

Risk legend:

High	High level impact - Likelihood of failure/damage ramifications internally or externally; needs immediate attention.
Medium	Potential impact - Needs attention and should be evaluated for monitoring, further analysis or remediation.
Low	Awareness - May be an acceptable risk; immediate action not necessary.

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Banner Risk Log Snapshot - Data

#	Area	Risk	Options
D.	**Data**	**HIGH**	
1	**Archive/Purge** was previously done at PNM, but not at NMGC. Need analysis on the Archive/Purge process. Archive/Purge may create data integrity issues on the system. There is risk associated with purging the electric data, primarily with gas customers that received electric service in the past. This is leading to uncontrolled database growth. In addition, an Archive/Purge can be looked at to archive old data from active accounts allowing NMGC to maximize the data being moved off production.	High	Consider implementing an Archive/Purge solution to eliminate old PNM data and unneeded historical data.
2	**PNM Electric Data** Purge required.	Medium	Consider project to identify and remove PNM electric data including leveraging Archive/Purge.

Risk legend:

High	High level impact - Likelihood of failure/damage ramifications internally or externally; needs immediate attention.
Medium	Potential impact - Needs attention and should be evaluated for monitoring, further analysis or remediation.
Low	Awareness - May be an acceptable risk; immediate action not necessary.

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Banner Risk Log Snapshot - Financial

#	Area	Risk	Options
E.	**Financial**	**HIGH**	
1	**Deposits** - Show owing when actually not owing. Manual effort to fix all tables associated with this is a major effort. Timing issues create problems. There is a transactional process that needs to take place. There may be process timings and changes that can occur to make this more efficient.	High	Analyze and correct issue.
2	**Bill History/Ledger Mismatches** - Unable to identify Bill History/Ledger Mismatches in mass due to large amounts of data, therefore this information can't be reported. Need to determine root cause of Bill History Ledger Mismatches.	High	Analyze and correct issue. **NMGC:** Data Cleansing Team is working toward developing a report for this. Root cause to be determined.
3	**Unapplied Payments** - Unable to identify Unapplied Payments (UABPYMT) and fix root cause of this.	High	Analyze and correct issue. **NMGC:** Data Cleansing Team is working toward developing a report for this. Root cause to be determined.

Risk legend:

High	High level impact - Likelihood of failure/damage ramifications internally or externally; needs immediate attention.
Medium	Potential impact - Needs attention and should be evaluated for monitoring, further analysis or remediation.
Low	Awareness - May be an acceptable risk; immediate action not necessary.

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Banner Risk Log Snapshot - Customer

#	Area	Risk	Options
F.	**Customer**	**MEDIUM**	
1	**SSN** - Need ability to mask SSNs during presentation on screen.	High	Consider PII project to identify and protect sensitive data.
2	**Random Populated Info** - Some information is randomly populated (example Cease Date field).	High	Consider Auditing functionality built into the BANNER application. NMGC is not currently using this feature.
3	**Status Indicator** is not always accurate.	Low	Analyze and correct issue.
4	**Bill Print 2nd Name** – Inability to print a second name on a bill.	Low	Determine why and address appropriately.
5	**Mailing addresses** keyed in at the Customer Level and linked at the account level cause issues with changing or deleting address information. Issue with deleting mailing address at the Customer Level.	Low	Analyze and correct issue.

Risk legend:

High	High level impact - Likelihood of failure/damage ramifications internally or externally; needs immediate attention.
Medium	Potential impact - Needs attention and should be evaluated for monitoring, further analysis or remediation.
Low	Awareness - May be an acceptable risk; immediate action not necessary.

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Banner Risk Log Snapshot - Forms

#	Area	Risk	Options
G.	**Forms**	**HIGH**	
1	**Forms Server 6i** - Oracle Forms and Reports 6i is not supported.	High	Upgrade to a supported version. **NMGC**: Banner Team upgrading from Forms 6i to Forms 11g with WebLogic Server install.
2	**Windows 2003** Forms Servers and Oracle Reports Server is not supported.	High	Windows 2003 Forms and Reports should be upgraded to new supported server O/S **NMGC:** Windows 2003 will be decommissioned when new WebLogic Server is installed.
3	**Ledger Form** takes quite a while to display on Transportation and Master/Summary Accounts.	Medium	See Ledger Suggestions in the OLTP section.
4	**Online changes** are not tracked and no way of knowing who changed the data.	Low	Consider Auditing functionality built into the BANNER application. NMGC is not currently using this feature.
5	**UOPGENL** – Running out of sequence numbers or experiencing data issues.	High	Review and correct.
6	**WebLogic** - Currently upgrading WebLogic to one version back from current version.	Medium	Consider evaluating an upgrade to most current version for longer life cycle.

Risk legend:

High — High level impact - Likelihood of failure/damage ramifications internally or externally; needs immediate attention.
Medium — Potential impact - Needs attention and should be evaluated for monitoring, further analysis or remediation.
Low — Awareness - May be an acceptable risk; immediate action not necessary.

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Banner Risk Log Snapshot – High Availability Architecture

#	Area	Risk	Options
H.	**High Availability Architecture**	**HIGH**	
1	**Appworx** - Production Appworx v8 is no longer supported. Oracle DB associated is currently 11.1 and will be upgraded to 11.2. Should look at upgrading Appworx to Oracle 12c.	High	Upgrade to a supported version **NMGC:** Completed Appworx upgrade to v9.1.3 the weekend of October 30th, 2017
2	**Unix Servers** - out of support in 2018.	High	Upgrade to a supported version. **NMGC:** Infrastructure Team scheduled to replace UNIX Servers in 2018.
3	**Image Copy** - Not able to image copy Forms and Reports Servers.	Medium	According to NMGC this has been tested. **NMGC:** This is being corrected as part of the WebLogic upgrade.

Risk legend:

High	High level impact - Likelihood of failure/damage ramifications internally or externally; needs immediate attention.
Medium	Potential impact - Needs attention and should be evaluated for monitoring, further analysis or remediation.
Low	Awareness - May be an acceptable risk; immediate action not necessary.

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Banner Risk Log Snapshot - OEM

#	Area	Risk	Options
I.	**Oracle Enterprise Manager (OEM)**	**MEDIUM**	**Technology Assessment document available for additional details on OEM**
1	**Access** - Current version of OEM can only be accessed through old browser.	Medium	Consider upgrading OEM to correct. Should provide better management of application as well. TUP will correct.
2	**Statistics** – Not able to capture statistics with OEM.	Medium	Review and correct.
3	**Proactive Monitoring** - Current version of Oracle DB 9i AWR and ASH using OEM 11g does not support proactive monitoring.	Low	Consider upgrading to current versions. TUP will correct.

Risk legend:

High	High level impact - Likelihood of failure/damage ramifications internally or externally; needs immediate attention.
Medium	Potential impact - Needs attention and should be evaluated for monitoring, further analysis or remediation.
Low	Awareness - May be an acceptable risk; immediate action not necessary.

Banner Risk Log Snapshot - Database

#	Area	Risk	Options
J.	**Relational Database Management System (RDBMS)**	**MEDIUM**	
1	**RDBMS** - No Maintenance can be performed on DB.	High	Review and correct.
2	**RDBMS** - Current application is rule based vs. cost based. Risk of how the system is going to respond to this change.	Medium	Consider carefully evaluating both Rule based and Cost based. In most cases BANNER should see better performance. **NMGC:** Team is currently evaluating test version of upgraded 11g database.
3	**RDBMS** - Statistics on current database can't be run. Running statistics successfully can provide performance efficiencies on the database.	Medium	Review and correct.
4	**RDBMS** - Currently upgrading Banner Prod DB from Oracle DB to 11 instead of 12c. This is one version back from current.	Low	Consider upgrading to 12c, if a longer Banner Life span is required.
5	**DISASTER RECOVERY** - risks related to planning and testing	High	Being on older equipment makes this a critical task to complete. Disaster Recovery Plan Updates and Testing need to be performed annually.

Risk legend:

High	High level impact - Likelihood of failure/damage ramifications internally or externally; needs immediate attention.
Medium	Potential impact - Needs attention and should be evaluated for monitoring, further analysis or remediation.
Low	Awareness - May be an acceptable risk; immediate action not necessary.

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Summary Findings

- Staying on the current version of Banner without a technical uplift presents a high level of risk including potential for failure and a threat to the longevity of the application.

- Extending the current version of Banner through a technology and supporting systems uplift is a viable low risk option that maintains functionality and customer service expectations and allows for continued strategic analysis and planning.

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CIS Considerations

Areas / CIS	Banner 2.1.5	Banner 2.1.5 Tech Uplift	Banner 5x	Oracle	SAP
Primary Consideration	Highest Familiarity	Reduce Oracle Risk	Ownership	GAP Analysis / Cost Justification	GAP Analysis / Cost Justification
Product Stability	Stable	Stable	Limited	Varies	Varies
Hardware	No Change	Increase	Increase	Increase	Increase
Languages	No Change	Increase	Increase	Increase	Increase
Functional Capabilities	No Change	No Change	FIT-GAP Analysis	FIT-GAP Analysis	FIT-GAP Analysis
Technical Capabilities	No Change	Increase	FIT-GAP Analysis	FIT-GAP Analysis	FIT-GAP Analysis
Business Goals	No Change	Increase	FIT-GAP Analysis	FIT-GAP Analysis	FIT-GAP Analysis
License Fee	No Change	No Change	Increase	Increase	Increase
License Risk	No Change	No Change	Ownership	Ownership	Ownership
Maintenance Fee	No Change	Decrease	Increase	Increase	Increase
Maintenance Risk	No Change	Decrease	Ownership	Ownership	Ownership
Source Code	No Change	No Change	Ownership	Ownership	Ownership
Technology Stack Licenses	No Change	Increase	Increase	Increase	Increase
Organizational Readiness	No Change	No Change	Increase	Increase	Increase
3rd Party Support	No Change	No Change	Ownership	Ownership	Ownership
Deployment Options	N/A	3rd Party	Express/Full	Express/Full	Express/Full
Outsourcing Options	Available	Available	Available	Available	Available

Risk legend:

High	*Medium*	*Low*

High level impact - Likelihood of failure/damage ramifications internally or externally; needs immediate attention.

Potential impact - Needs attention and should be evaluated for monitoring, further analysis or remediation.

Awareness - May be an acceptable risk; immediate action not necessary.

Cell legend:

Available – Providers available for the identified services.
Decrease - A decrease in or for the identified item
Express – A defined level of system pre-configuration (out of the box) acceptance
Full - An implementation that includes full customizations as identified
FIT-GAP Analysis – To be completed for cost justification
Increase – An increase in or for the identified item
Limited – Application experience/feedback as of this assessment
Ownership – Levels and rights need to be determined for cost justification
No Change – No change to current CIS application
Stable – Application stability as evidenced in the industry over time
Varies – Varied application implementation experiences over time

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NEXT STEPS

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QUESTIONS

New Mexico Gas Company, Inc.

Banner Upgrade

BUSINESS CASE

April 7, 2021

<u>VERSION CONTROL</u>

Date	Version	Source	Modifications
4/5/21	1.0	Sanford Kahn	Finalized Document
4/7/21	1.1	Sanford Kahn, Denise Wilcox	Minor Cleanup

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1   DOCUMENT SUMMARY

New Mexico Gas Company's (NMGC's) current gas Customer Information System (CIS) Banner 2.2 was implemented in 1998. This system has served the company for the past 23 years but is challenged to meet either current or future customer and stakeholder needs. Specifically, the system presents the following challenges:

- Risk – The aged and custom-nature of the software application makes it very difficult to find support resources; there is significant business and reputational impact from system unavailability and with scarce support resources, there is a waning ability to recover from such a system outage;
- Strategic Growth and Service Capabilities – Limited ability to meet customer expectations (*e.g.,* ability to perform various self-service functions), constrains the ability to readily integrate modernized systems and support digitalization improvements; and,
- Operational Efficiency – Legacy business practices and aging software hinders streamlining and standardization of processes; considerable manual back-office work to make up for functional deficiencies (*e.g.,* workflow wizards allow for streamlined business processes, configurable user interface provides improved business efficiencies and exports to Excel provide improved data analysis).

This document provides analysis and a recommendation to improving New Mexico Gas Company's (NMGC's) aging Customer Billing System. Three options are explored with the advantages and disadvantages of each option.

- Option 1 Banner Upgrade - Upgrade Banner 2.2 to current version of BannerCX
- Option 2 New System - Replace Banner with a new system: SAP or Oracle
- Option 3 Status Quo - Keep Banner Release 2.2, integrate later releases of Banner into existing system and customize additional functional enhancements.

The analysis below recommends <u>Option 1 Banner Upgrade as the most viable option</u>. Option 3 Status Quo can be ruled out as a viable option due to many factors such as functional and technology limitations and future stability of the system. In comparing Option 1 Banner Upgrade to Option 2 New System, Option 1 Banner Upgrade is the most cost-effective, least resource intensive and lowest risk option. Analysis below shows that this option has the most advantages and least disadvantages compared to the other options.

2   STATEMENT OF VALUE

Business value and Customer value will be realized by providing a more up to date system that contains 23 years of functional and technology improvements. Upgrading Banner 2.2 to BannerCX, will provide functional and technical improvements related to business efficiency, thus creating a better customer experience. Some of the improvements are: Account-at-a-Glance, Account Calendar of Events, move-in/out wizards, multiple browsers, enhanced business intelligence tools, enhanced security, data auditing and Application Programming Interfaces (APIs) that will enable future customer experience initiatives related to digitalization. Refer to Appendix A Banner Functionality and Technology Enhancements for a more complete list of improvements.

Value realization is primarily in 2 areas, Business and Customer as outlined in the following list of Features and Technology Improvements table below.

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FEATURES & TECHNOLOGY IMPROVEMENTS	BENEFITS (B)USINESS VALUE or (C)USTOMER VALUE)

Wizards/Workflows
Streamlined multi-step processes are presented via the Hansen Java CUI Platform. Users can efficiently complete each step and re-route for approvals or additional steps. Provided in this release are:
 	
   ▪ Service Quality Issues (i.e., Leak Reporting)
   ▪ High Bill Investigation
   ▪ Collections/Delinquency
   ▪ Reading Exception Resolution
	✓ **B/C** - Call Center reduced times, cost savings
	✓ **B/C** - Increased customer satisfaction due to better call resolution
	✓ **B/C** - Reduced call times and customer engagements using wizards (enhanced workflow)
	✓ **B** - Configurable, self-guiding tool for better user experience
	✓ **B** - Reduces errors and keeps the CSR focused on the task at hand
	✓ **B** - Provides traceability and metrics using Hansen Business Intelligence component

Hansen Integration Framework (HIF)
Rapid standards-based message integrations are now possible with the following applications:
 	
   ▪ Workforce Mobile (w/appointment booking)
   ▪ Payment Vendors (one-time and recurring)
   ▪ Self-Service (APIs repurposed for IVR)
   ▪ Customer Mobile
   ▪ New Payment Integration features to BannerCX Customer Web Access
	✓ **B** - Custom integrations are expensive. To mitigate these costs HIF provides clients a baseline APIs for integration to the critical 3rd party business integration points.
	✓ **B/C** - With each BannerCX release, additional "Plug & Play APIs" are being added to the catalog
	✓ **B/C** - Current APIs can be leveraged for payment vendor integrations, customer mobile applications, field services mobile integrations, IVR, cashiering , and more
	✓ **B -** Out-of-the-box Preferred Vendors:
	   ▪ Service-Link, ABB Service
	   ▪ PACE
	   ▪ Smart Energy Water
	   ▪ Landis+Gyr
	   ▪ Kubra
	   ▪ UtilityHawk

Cloud Deployed BannerCX has multiple customers doing implementations on AWS Cloud. Internally, 100% of the BannerCX environments are running on AWS EC2 servers	✓ **B** - Reduced implementation time, cost savings ✓ **B** - Agility for environment(s) maintenance and updates o Allows tech stack changes to be quickly added ✓ **B** - Cost reduction and efficiency gains ✓ **B** - Uses existing investments while extending infrastructure ✓ **B/C** - Speed of change ✓ **B/C** - Innovations ✓ **B/C** - Rapid adjustments for security, compliance, and regulatory changes
Hansen Business Intelligence Additional tiles, graphs and reports have been provided in the areas of Consumption, Rates, Revenue, and Inventory.	✓ **B** - More comprehensive insights across the range of BannerCX data ✓ **B** - Increased capabilities for sharing and distribution of information ✓ **B** - Proactive distribution vs reactive response
Technical Stack Advantages The BannerCX technical stack has been upgraded to improve performance and operate on a smaller footprint.	✓ **B** - Database runs on Oracle 19c ✓ **B** - Supports Red Hat® JBoss 7.2

Refer to Appendix A Banner Functionality and Technology Enhancements in versions prior to BannerCX for a more complete list of features and benefits from prior Banner releases.

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3 BACKGROUND

The current Banner Customer Information System (CIS) in use at New Mexico Gas Company (NMGC) is version 2.2, this version has been in use for 23 years. The system has been heavily modified to meet business needs throughout its lifespan. In 2012 NMGC decided to upgrade Banner to release 4.3, however, this project was cancelled in 2014, when TECO acquired NMGC.

In 2016 TECO and NMGC explored implementing SAP for Utilities. NMGC determined that the cost to implement and ongoing support costs for SAP was not a cost-effective solution. Through our collective learnings and knowledge we have determined that implementing a new system such as SAP or Oracle would not be feasible. Additionally, as a result of the SAP fit-gap in 2016 we determined that implementation of SAP would require ~57 NMGC FTE resources + ~57 FTE Contract resources.

In 2017 NMGC performed a risk analysis on the current Banner System, determining that there were many high risks that needed to be resolved as soon as possible. The outcome of the risk analysis determined that NMGC could increase the lifespan of the current system by another 5 years by addressing the high ranked risks. In 2018, NMGC completed a technical uplift and in 2019 NMGC addressed some functional enhancements that resolved many of the risks and increased the lifespan of the system.

For additional information, refer to "New Mexico Gas CIS Journey" presentation September 2020. Below is a diagram that depicts our journey.
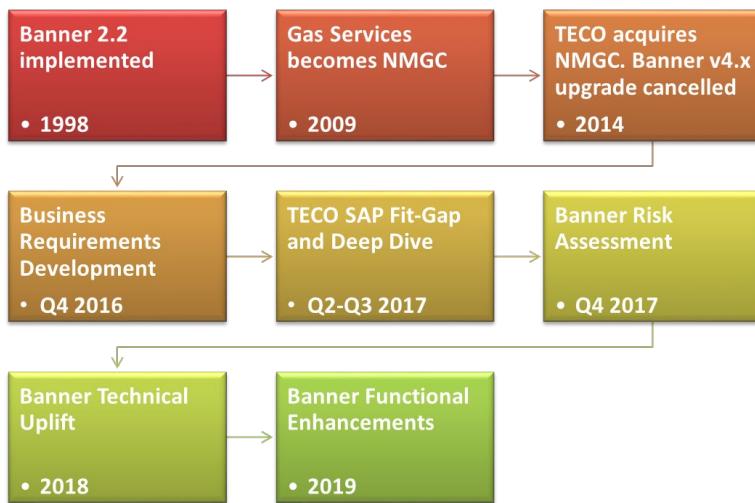
4 CURRENT STATE

Current state of the Banner 2.2 system is that it has been heavily customized and modified over the past 23 years. It has been modified by numerous developers and is not easily supportable. During the Banner Functional Enhancements project in 2019, it became very clear that future enhancements to the system are challenging due to the customized/modified nature of the Banner 2.2 system. Several of the functional enhancements were already in the base code of the latest release of BannerCX. To continue on this path of integrating newer code into a 23-year-old system has proven to be extremely difficult, and exposes the system to high risk of failure. Additionally, NMGC analysis has demonstrated that the risk and cost of implementing a new system would be cost prohibitive when compare to alternative efforts.

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5   OPTIONS

This section explores the following options and provides advantages and disadvantages of each option.

Option 1 Banner Upgrade - Upgrade Banner 2.2 to current version of BannerCX

Option 2 New System - Replace Banner with a new system: SAP or Oracle

Option 3 Status Quo - Keep Banner Release 2.2. Move forward on path to integrate later releases of Banner into existing system and customize additional functional enhancements.

Below is a table of estimated costs used in the analysis of the options. Costs below are preliminary estimates, a more accurate budget estimate will be developed for the Banner Upgrade during detailed project planning.

Options	Cost	Annual System Vendor Licensing & Support Cost	Annual System Vendor Licensing & Support Cost Change	Annual Internal IT Staff Support Resources Change
Option 1 Banner Upgrade	~$30,875,000	~$2,000,000	Increase	No Change, will rely more on Vendor Support
Option 2 New System	~$76,370,624	~$5,500,000	Major Increase	Increase
Option 3 Status Quo	Refer to Disadvantages of this High Risk option (Poor Customer Experience, Decreased Business Efficiency, System Reliability/Maintainability not sustainable long-term)	~$1,400,000	No Change	No Change

Note: O&M project costs are not included in the above and can be ~10-15%
For further information on preliminary estimate pricing components refer to
Appendix B Option 1 Banner Upgrade - Preliminary Estimate Costs below; and
Appendix C Option 2 New System - Preliminary Estimate Costs below

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5.1 Option 1 – Banner Upgrade

Upgrade Banner 2.2 to current version of BannerCX

ADVANTAGES	DISADVANTAGES
Lower cost option. Cost estimate to implement is ~$31M + ~2M annual support costs	Banner has a smaller installed base than a system such as SAP and Oracle
Lower number of additional staff required for implementation and ongoing support	
Vendor will support base system code and once completed this system will be much closer to base and less customized	
More reliance on vendor support vs. local support due to the system having less customizations	
Medium amount of business process re-engineering	
Medium level of training required	
Limited organizational change, users are comfortable with base Banner system	
NMGC will have all the source code for upgraded Banner System	
Limited data conversion is required, in-place database upgrade	
No new solution needed for Gas Transportation; however major future modifications are needed	
Provides all of the business functionality and technology improvements in the latest release of BannerCX	
Software Application to be supported by vendor	
Will be less costly over time, than Status Quo incremental updates option	
Newer system architecture is less dependent on Oracle WebLogic Form/Reports and Micro Focus	
Opportunity to integrate existing Gas Transportation code into latest release. Will need enhancements.	
Opportunity to integrate existing Meter Testing code into latest release. Will need enhancements.	
Opportunity to integrate GAP program into latest release. Will need enhancements.	
User Group provides suggestions to Vendor for future improvements such as digitalization	
More opportunity to expand the customer digital experience	
Work performed for cancelled Banner 4.3 upgrade (2012-2014) will be reused	
Medium risk option due to advantages above	

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5.2   Option 2 – New System

Replace Banner with a new system, SAP or Oracle

ADVANTAGES	DISADVANTAGES
SAP and Oracle systems are more widely used than Banner. SAP is used by TECO.	Highest cost option. Cost estimate to implement SAP is ~$76M + ~5.5M annual support costs
User Group provides suggestions to Vendor for future improvements such as digitalization	Highest number of additional staff required for implementation and ongoing support
More opportunity to expand the customer digital experience	Highest amount of business process re-engineering
	Highest degree of organizational change, users will not be comfortable with completely new processes and system
	NMGC may not have the Source Code for a new system
	Major data conversion is required
	New solution for Gas Transportation would need to be built
	New solution for Meter Testing would need to be built
	New solution for GAP program would need to be built
	Highest risk option due to above disadvantages

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5.3   Option 3 – Status Quo

Keep Banner Release 2.2. Move forward on path to integrate later releases of Banner into existing system and customize additional functional enhancements

ADVANTAGES	DISADVANTAGES
Costs to implement changes are spread out over years	Changes that are spread out over years can ultimately cost more to integrate and support. Incremental upgrades of targeted areas in the system provide less business functionality, and technology improvements than an upgraded Banner or new system implementation.
No additional staff is required	Vendor software support for incremental upgrades is time and materials vs. support under licensing agreement for off the shelf system
Lower risk from a project execution perspective	Higher risk from a system stability perspective and increased likelihood of a full system failure
Limited business process re-engineering	More reliance on local support vs. vendor support due to the amount of system customizations
Limited training required	Very few utilities are on a Banner release this old, system problems may take more time to resolve
Limited Organizational Change, users are comfortable with current system	Banner has a smaller installed base than a system such as SAP and Oracle
NMGC has all the Source Code for our Banner System	No User Group for Release 2.2 providing suggestions to Vendor for future improvements such as digitalization
No data conversion is required	Oracle Reports is planned to be eliminated from WebLogic by Oracle. The future of WebLogic Forms has been uncertain for many years and its future is at risk
No new solution needed for Gas Transportation; however major future modifications are needed	Oracle WebLogic Forms only run on Internet Explorer. The future of Internet Explorer is uncertain
	Very limited opportunity to expand the customer digital experience

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6   RECOMMENDATION

Recommended approach is Option 1 – Banner Upgrade.

Option 1 Banner Upgrade - Upgrade Banner 2.2 to current version of BannerCX
This is a more cost-effective, less resource intensive and lower risk option compared to Option 2 of replacing Banner with an entirely new system. Analysis shows that this option has the most high-value advantages and least disadvantages compared to the other options. Current budget estimate of ~31M + ~2M per year annual support costs makes this the most financially viable option compared to Option 2. NMGC will obtain the latest Banner system that contains upgrades from the last 23 years (15 releases).

BannerCX, will provide functional and technical improvements related to business efficiency, thus enhancing our customers' experience. Some of the improvements are: Account-at-a-Glance, Account Calendar of Events, move-in/out wizards, multiple browsers, enhanced business intelligence tools, enhanced security, data auditing and Application Programming Interfaces (APIs) that will enable future customer experience initiatives related to digitalization. Refer to Appendix A Banner Functionality and Technology Enhancements for an example list of enhancements.

Option 2 New System - Replace Banner with a new system: SAP or Oracle
NMGC completed a fit-gap with Deloitte in 2017 and determined that the cost to implement SAP was ~70M + ~5.5M per year annual support costs. NMGC decided not to move forward due to the high cost, resource load and risk required to implement this system. Note: The cost to implement SAP has been updated with 2021 NMGC Loads, Management Reserve and New Mexico Gross Receipts Tax Rate to be ~$76M. No other costs have been changed.

Option 3 Status Quo - Keep Banner Release 2.2. Move forward on path to integrate later releases of Banner into existing system and customize additional functional enhancements.
Not a good long-term solution for NMGC. This option of continually updating and maintaining a 23-year-old system, both functionally and technically does not provide the highest value for NMGC and our Customers.

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Appendix A   BANNER FUNCTIONALITY AND TECHNOLOGY ENHANCEMENTS

Below is an example of new or upgraded functionality released in versions prior to BannerCX. Business and/or customer value is indicated, as well. This functionality is not available in our current Banner 2.2 version.

Functionality	Provides (B)USINESS VALUE or (C)USTOMER VALUE)
Locator – Account-at-a-Glance	B/C
Advanced Screen Navigation	B/C
Advanced Search Options	B/C
Account Calendar of Events	B/C
Delinquency Timeline	B
Disputed Charge functionality	B/C
Payment Arrangements Improvements	B/C
Alerts/Notification Tiles	B
Address Validation	B
Move-in/Move-out wizard	B/C
Online help for base system	B
Exports to Excel	B
Improvements to Ledger Card	B
Improvements to Contacts/EWQ	B
Improvements to Debt Recovery	B
Auto-Close Work Orders	B
Red Flag Monitoring for specific auditing situations with notifications	B
Enhanced system performance through periodic data purging	B/C

Below is an example of new or upgraded technical improvements released in versions prior to BannerCX. Business and/or customer value is indicated, as well. These technical improvements are not available in our current Banner 2.2 version.

Technical Improvement	Provides (B)USINESS VALUE or (C)USTOMER VALUE)
Data Encryption	B/C
Data Auditing	B
Security to Field-Level	B/C
ChargeCalc Exits to allow customization outside of the base system	B
Mobile Workforce System Integration points	B
Elimination of Oracle Forms and Oracle Reports	B
Configurable Screens	B
Multi-streaming of major processes (Delinquency, Payment Application, ChargeCalc, Bill Print)	B
Base System would be supported by Hansen	B
Customizations can be supported by Hansen	B

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Appendix B   OPTION 1 BANNER UPGRADE - PRELIMINARY ESTIMATE COSTS

Below is a rough estimate of the Capital costs associated with upgrading Banner from Banner 2.2 to BannerCX. The pricing in this table allocates the NMGC $30,875,000 budget using the same percent allocations from the SAP Preliminary Estimate Costs. The SAP pricing estimate was initially developed in 2017 and has been updated to reflect the latest internal loads and taxes. This preliminary estimate is the best available data at this time, a more accurate budget estimate will be developed for the Banner Upgrade during detailed project planning.

Pricing Component	Price
Systems Integrator or Systems Vendor Labor	$ 8,950,993
Internal and Contract Labor	$ 7,530,576
Physical Equipment	$ 1,493,985
Systems Vendor Software	$ -
Travel & Expenses	$ 1,930,072
Heritage & 3rd Party System Changes	$ 875,000
Subtotal	$ 20,780,626
NM Gross Receipts Tax @ 7.875%	$ 1,530,870
Management Reserve @ 15%	$ 3,428,911
A&G Load @ 13.03%	$ 3,425,368
Stores Load @ 10.56%	$ 270,007
Capitalized Interest Load @ 4.8%	$ 1,439,217
Total	**$ 30,875,000**

Note: O&M project costs are not included in the above and can be ~10-15% of the Subtotal.

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Appendix C   OPTION 2 NEW SYSTEM - PRELIMINARY ESTIMATE COSTS

Below is a preliminary estimate of the Capital costs associated with replacing Banner with a new system such as SAP or Oracle. The pricing in this table has been updated from the initial 2017 pricing analysis to reflect the latest internal loads and taxes. This pricing has been compared to current TMG Consulting pricing estimates for implementing a new Tier 1 (SAP or Oracle) system and aligns with TMG estimates. Reference https://tmgconsulting.com/who-we-are/

Pricing Component	Price
Systems Integrator Labor	$ 21,754,600
Internal and Contract Labor	$ 18,302,400
Physical Equipment	$ 3,631,000
Systems Vendor Software + Other Software	$ 2,583,269
Travel & Expenses	$ 4,690,870
Heritage & 3rd Party System Changes	$ 875,000
Subtotal	$ 51,837,139
NM Gross Receipts Tax @ 7.875%	$ 3,720,644
Management Reserve @ 15%	$ 8,333,667
A&G Load @ 13.03%	$ 8,325,056
Stores Load @ 10.56%	$ 656,227
Capitalized Interest Load @ 4.8%	$ 3,497,891
Total	$ 76,370,624

Note: O&M project costs are not included in the above and can be ~10-15% of the Subtotal.

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NMGC Exhibit THS-3

Banner Upgrade Project – Capital Projections as of Sept. 2023

NEW MEXICO GAS COMPANY, INC.

Banner Upgrade Project Capital Projections as of September 2023

Vendor	Service/Expense	Total Capital
Hansen	Software Vendor	7,776,000
Cognizant	System Integrator	6,588,971
TMG	Quality Assurnace	1,459,200
GovernIT	Project Manager	641,948
Lumen (CenturyLink)	Telecom	119,664
Centroid	Oracle 3rd Party Vendor	1,294,000
South River Technologies	Server and related services	29,029
Compuquip	Hardware	156,201
Advanced Network Management	Consultant for OCI	32,363
Empyra.com Inc.	Jira Software Vendor	70,959
GT Software	NetCOBOL Vendor	30,603
Broadcom	AppWox	72,783
Jackson, Walker, LLP	Legal Services	226,263
NMGC	Management Reserve	4,307,383
NMGC	Internal Labor on Project	3,961,167
NMGC	Capital Loads	4,474,737

Total Projected Capital Spend   **31,241,270**

NMGC Exhibit THS-4

Banner Upgrade Project – O&M Projections as of Sept. 2023

Banner Upgrade Project
O&M Projections as of September 2023

Vendor	Service/Expense	Total O&M
Cognizant	System Integrator	420,573
NMGC	Incremental Internal Labor*	1,100,937
Various	External Consultants	90,113
Various	Hardware/Software	27,488
Various	Materials and Supplies	21,908
NMGC	Employee Expenses	612,802

Total Projected O&M Spend   **2,273,821**

*Incremental Internal Labor Calculation

29.11	loaded hourly
2080	hours/day
$60,551.92	total annual cost
$5,046	Total Monthly/per Team Member
$90,827.89	Monthly Cost for 18 Team Members
$1,089,935	12 months x 18 team members
$272,484	3 months in 2023
$817,450.98	9 months in 2024
$1,089,935	Estimated Labor
11,002.39	Actual Labor July 2022-July 2023
$1,100,937	Total Labor

IN THE MATTER OF THE APPLICATION)
OF NEW MEXICO GAS COMPANY, INC.)
FOR APPROVAL OF REVISIONS TO ITS)
RATES, RULES, AND CHARGES PURSUANT)   Case No. 23-00255-UT
TO ADVICE NOTICE NO. 96)
)
NEW MEXICO GAS COMPANY,INC.)
)
         Applicant.)

ELECTRONICALLY SUBMITTED AFFIRMATION OF TOMMY H. SANDERS

STATE OF NEW MEXICO)
)ss.
COUNTY OF BERNALILLO)

In accordance with 1.2.2.10(E) NMAC, Tommy H. Sanders, Vice President of Customer Service and Information Technology for New Mexico Gas Company, Inc., upon being duly sworn according to law, under oath, deposes and states under penalty of perjury under the laws of the State of New Mexico: I have read the foregoing Direct Testimony and Exhibits, and they are true and accurate based on my personal knowledge and belief.

SIGNED this 14th day of September 2023.

                                           /s/ Tommy H. Sanders
                                           Tommy H. Sanders
                                           Vice President, Customer Service
                                           and Information Technology
                                           New Mexico Gas Company, Inc.