TO: James L. App, City Manager

FROM: Jim Throop, Administrative Services Director

SUBJECT: **Utility Billing Software Upgrade**

DATE: August 5, 2014

NEEDS: For the City Council to consider allocating Water Enterprise funds to purchase an additional software module for the utility billing system.

FACTS: 1. The City's utility billing system is a Harris product called Northstar. It was purchased and installed in 2005/2006.

                2. The City has over 10,500 customers that are billed each month, with an average turnover of 300 accounts per month, and close to 300 additional work orders for meter testing, re-reads, etc.

                3. The current system does not have a module that allows for work orders (move in/out, meter re-reads, etc.) to be entered and completed electronically. Currently all work orders are manually entered into the billing system, printed out by the staff at the Water Yard, worked on/completed, and the work order is then returned to billing department where it is once again manually entered into the billing system.

                4. The time spent each month by the manual entering, printing, and then re-entering of information is extensive, approximately 60 hours, as well as the fact that many of the 300+ work orders occur during the time-sensitive billing cycle.

                5. The Water Yard staff keeps a manually updated spreadsheet that shows when meters have been replaced/tested/etc. The Water Supervisor must manually track which meters are in need of replacement or some other kind of service and then must manually track when the work was assigned and when it was completed.

                6. The mCARE module allows for the work order entry and electronic updating of work orders, as well as the tracking of meter tests/change-outs, thus eliminating most of the manual input/updating.

Analysis &
Conclusion: The City implemented its current utility billing software system, NorthStar, in 2005/2006. At this time only the base product was available. Since that time, additional modules have become available that help automate the billing process. The mCARE module is designed to be used by actual Water Yard staff as a "Mobile" module. This module allows the staff to enter into the actual billing system/database while they are doing the work. The mCARE module is actually a dual-purpose module. It is designed to assist with the billing department's entry and re-entry of work orders pertaining to move in/outs, meter reads/re-reads, meter testing, leak checks, etc. The second part relates to the Water Yard staff and how they can track,

assign and enter and maintain work orders in their department. This could be related to meter testing, meter change-outs, leak checks, etc. Rather than relying on an Excel spreadsheet and printing out daily work orders for staff, who must also come back to the office for additional work orders during the day, it is all done remotely through either laptops or tablet devices. Work is assigned and completed via these devices over the wireless network.

Currently utility billing staff spends over 60 hours per month, creating work orders and then re-entering the same work orders once they have been completed by the Water Yard staff.

Water Yard staff are given a daily list of meters to work on. This could be testing, replacement, leak checks, etc. It is all done via paper work orders. Once a work order is completed, which requires the field staff to fill out the paper; it is then brought back to the office where it is once again manually keyed into both the billing system and the Water Yard's data spreadsheet. If additional work is needed, more work orders are printed out and staff again heads back out to the field

Not only would this new module save time for staff, it would allow staff do other work that is currently not being completed, such as water-use analysis, which would then allow staff to call customers and notify them of potential leaks or over use.

POLICY
REFERENCE   Information Technology Strategic Plan.

FISCAL
IMPACT: The cost of the new mCARE module is $33,381, which includes the software, installation and onsite training for both the utility billing and water yard staff, as well as the first year maintenance costs.

No additional servers will be needed however, upgrades to the current laptops, as well as possibly up to three additional laptops, will be necessary. This is estimated to be approximately $12,000. The total cost is as follows:

Software/Installation -	$30,565
1-year Maintenance -	$2,816
Add'l laptops/tablets -	$12,000
Total	$45,381

The Enterprise Water Fund has reserve capacity to cover the cost of this purchase.

Options: a.   That the Council adopt Resolution No. 14-XXX approving the appropriation of $45,381 from the Water Fund (600-10010) for the purchase of the mCARE software and related hardware equipment, as shown in attachment A; or

             b.   Amend, modify, or reject the above option

mCARE

Paperless Service Orders

For most utilities organizing, scheduling, executing, and recording service orders remains a very labour intensive process. Even service orders generated through NorthStar CIS end up becoming a manual process once they reach field service staff.

mCARE is designed to automate and streamline the service order process by providing field service personnel with a tool seamlessly linking them to the organizations customer information and billing system. The result is the elimination of the time consuming task of having service staff hand write service orders in the field then keying in the information when the paperwork is finally returned.

Increased service levels and reduced costs are often contradictory objectives placed on utility service departments. The key to successfully achieving both is to eliminate the steps that take time but do not increment the service value.

- reduce paper work
- increase accuracy
- ensure completeness
- reduce downtime
- increase efficiencies

mCARE is a workforce automation application that leverages mobile and wireless technologies to optimize service order processes. Through an easy to use web-based dispatch application, service orders, generated by customer service representatives or account managers, form a

task list to be assigned to available field personnel. Service orders are assigned complete with electronic forms, surveys, or questionnaires specific to the service order nature. Field personnel 'pick up' their orders right from their mobile device. Upon completion of the work, field personnel record the results on their mobile device and upload the information back to the NorthStar CIS. In a wireless environment, further efficiencies are achieved through real-time data transmission between the office and the field personnel.

mCARE

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Paperless Service Orders

The mCARE process reduces time consuming paperwork and ensures data integrity through the elimination of re-keying. With the addition of a real-time wireless network, response times increase, and downtime is reduced through continuous data communication. Whether deployed in a wireless network, or used with regular dial-up or networked docking stations, mCARE is a powerful extension of the NorthStar CIS. The results are improved customer service and increased production from service personnel.
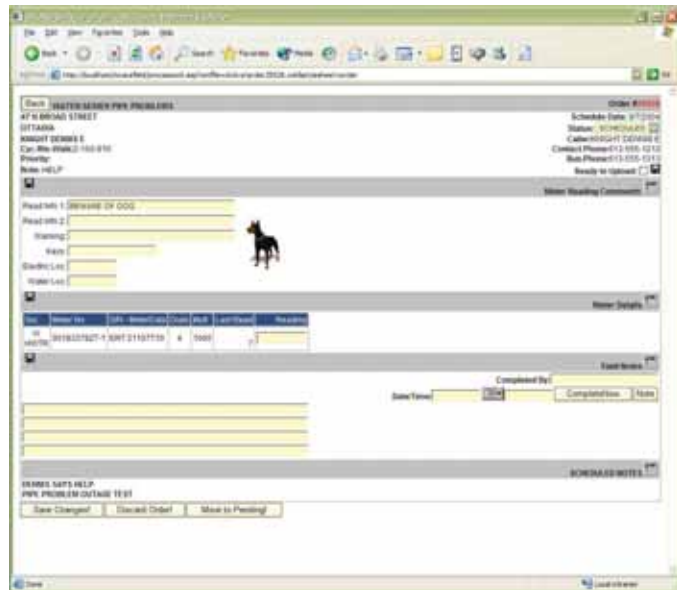
By utilizing web-based technologies, mCARE is easy to set up, learn and maintain. As a result, this product has a very high return on investment and low total cost of ownership.

For dispatchers and field personnel, mCARE is extremely quick to learn and easy to use. mCARE is completely web-based, operating on any mobile device equipped with Microsoft Windows XP Tablet Edition.

Many of our customers are facing extensive meter replacement programs that will create a tremendous amount of paperwork to track and eventually enter into their billing system. To reduce the paperwork and effort associated with this process, NorthStar has enhanced mCARE to fully automate the meter replacement process. This will include the scheduling of the replacement, recording the final meter read, and recording the meter number for the new smart

meter. We believe the key to mCARE is the direct link and integration to NorthStar's customer information and billing system.
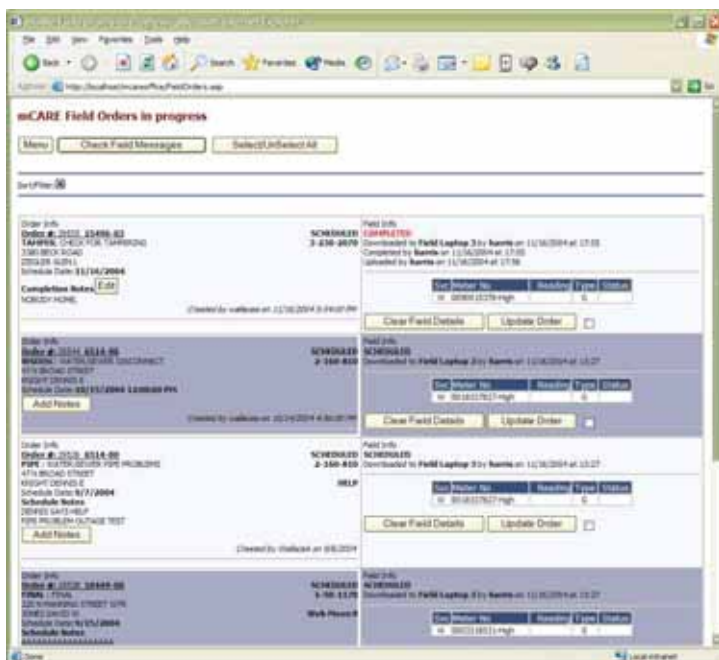
We have also increased the functionality by allowing field service staff to sequence and re-sequence service orders dynamically in the field based on geocodes stored from their GIS systems.

For meter replacement a conservative estimate is mCARE will save field service staff approximately five minutes through increased efficiency. In addition we have estimated another two minutes saving by eliminating

typing completed service order into the system and updating meter data associated with accounts.

There are two main components to mCARE; mCARE Dispatch and mCARE Field.

mCARE Dispatch

With mCARE you can have multiple dispatchers set up by department, service type (electric, water, sewer, etc.), service order type, or even who they can dispatch service orders to. Dispatchers can create bulk service orders for a specific type for example meter change or search for orders based on multiple criteria. This can include historical service orders or orders for future dates. Once they have their list they can review outstanding service orders and assign them to specific field service representatives or put them into a general queue that any field service representative can see and pick orders from.
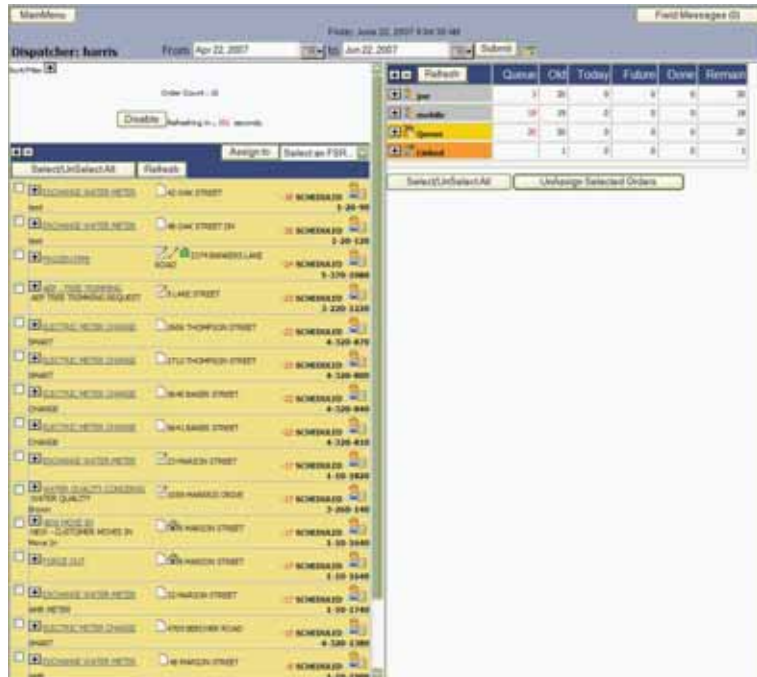
mCARE Field

Once service orders are dispatched to a field representative they can be picked up in one of two methods. If the field rep is connected to the network either physically or via a wireless connection they will receive notification that new service orders have been assigned to them and are ready to be downloaded on to their tablet/PC.
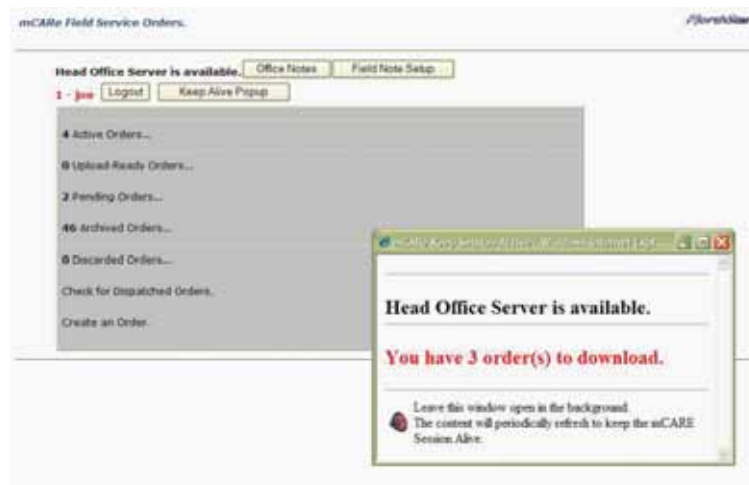
Field representatives can then sort through their orders based on a number of criteria that they can select in the field.

Field representatives also have the option of sorting them using popular mapping software such as Microsoft Streets & Trips or Microsoft Map Point and creating drive routes.

With a wireless connection, field

representatives can check on the status of orders to see if they have been cancelled prior to performing the service order. A good use of this functionality would be to check the status before completing a shut off service order.

Once a service order has been completed it can be uploaded immediately in a wireless environment or at the end of the day when the service rep returns to the office.

mCARE is a highly flexible tool that can be adapted to each utility. For example mCARE

allows utilities to create their own electronic forms for collecting data and are specific to service order type. Once the data has been collected it is then available for reporting or by customer service representatives when viewing an account.

Integrated Solution

One of the key benefits to mCARE is its high degree of integration with the utility's customer information and billing system. In a wireless environment mCARE is providing real-time information on the status of orders in the field. Whether it is a manager, dispatcher, or customer service representative, each would have visibility on the status of a service order including who

it was assigned to, when and if it was completed, and any notes the field service person added.

In addition, when service orders are completed and sent back to the office there is intelligence built into mCARE to perform validation when necessary. For example mCARE will prevent changing a meter if the meter is not identified in inventory or if the account associated with the meter is in a billing batch. There are visual indicators in mCARE that assist staff in guiding them through the completion process.

mCARE

Paperless Service Orders

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mCARE Reporting

mCARE is a complete solution and includes a number of reports that assist utilities in gathering information on their service order process and managing their resources.

mCARe FSR Report

[Menu]

FSR : joe   Order Code : ALL
Completion Date From Jan 01, 2007   to Jun 22, 2007   [Submit]

Count	OrderCode	Scheduled	Completed	OrderStatus	FieldStatus	Cycle	Route	HouseNo	Street	Region	City	PostCode	Name
1	WHITE	Oct 27, 2006	Mar 20, 2007	S		004	200	2861	HALF MOON LAKE ROAD				SPRINT SPECTRUM # DES4KG191
2	WHITE	Oct 20, 2006	Mar 21, 2007	S	C	001	010	23	MARION STREET				MURRAY, RICHARD
3	ELBASE	Apr 17, 2007	Apr 17, 2007	S	C	004	320	5641	BAKER STREET				WILLIAMS, DIANE
4	EMCHNG	Apr 20, 2007	Apr 17, 2007	S	C	008	390	4140	HIGHLAND DRIVE				MCCLINTIC, GEORGE R
5	WHITE	Nov 01, 2006	Apr 17, 2007	S	C	008	360	1271	FOREST VIEW LANE	NEW HOUSE			GROSSHEIM, ROB S
6	XMETW	Apr 27, 2007	Apr 30, 2007	S	C	001	020	38	OAK STREET				PAGE, TROY L
7	EMCHNG	May 30, 2007	May 30, 2007	C	C	004	320	2944	THOMPSON STREET				HOWARD, DONNA M
8	EMCHNG	May 30, 2007	May 30, 2007	C	C	004	520	2917	THOMPSON STREET				KNICKERBOCKER, JERRY E
9	EMCHNG	May 31, 2007	May 31, 2007	S	C	004	320	5262	BEECHER ROAD				TUCKERMAN, BRUCE O
10	XMETW	Jun 05, 2007	Jun 05, 2007	C	C	001	010	14	MARION STREET		3N DREWS PLACE		ANDON, PAUL
11	XMETW	Jun 05, 2007	Jun 05, 2007	S	C	001	010	40	MARION STREET				REED, ROBERT

[Excel]

mCARE Server Specifications

- Single Server Environment
- Windows 2003 R2 Standard
- Single Xeon 3.2
- 4GB Memory
- Raid 5
- 5 * 73GB SCSI Hard Drives
- License Requirements: Windows 2003 license, IIS

Meter Exchange

Meter Exchange is a PUBS/NorthStar add-on application developed specifically for utilities planning mass meter replacement program. It is also extremely well suited for utilities that plan to outsource their meter replacement.

Meter Exchange allows users to bulk create meter replacement service orders based on multiple search criteria, export the customer and meter data in a standard file format, import the completed service order with the new meter information and read, and auto complete the meter replacement in NorthStar CIS.

Providing outside organizations with information electronically reduces the chance of error and speeds up the process considerably. In addition, the meter replacement organization can import the data into any tool they need to schedule and complete the service order.

One NorthStar customer was able to receive a reduction of $1.00 per meter by sending the information electronically.

The following pages describe the flow of information from Meter Exchange to an outside organization and back into NorthStar CIS.

Meter Exchange

You can use this filter to generate Meter Change orders based on the selection criteria.

Here we selected Route 270 Category R to generate Electric Meter Change Orders scheduled for May 22.
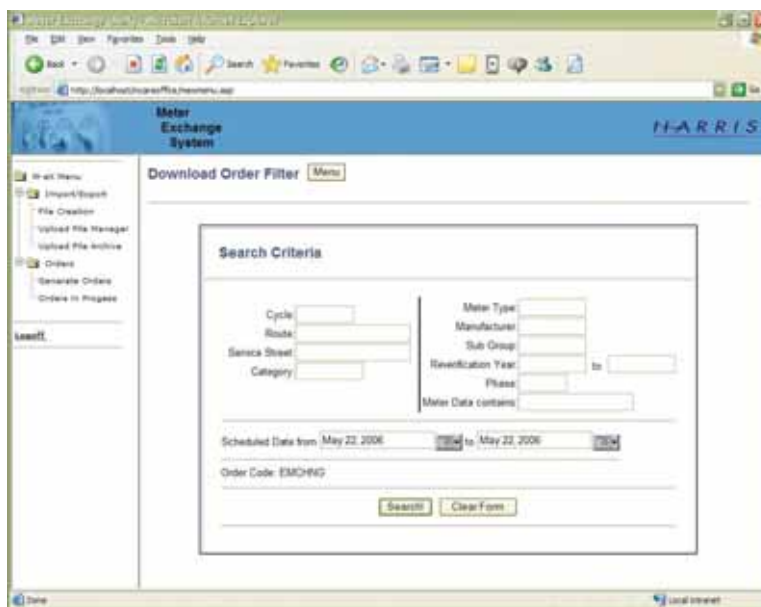
Meter Exchange

This query found 113 meters. The option here is to "Select All" or pick the specific meters you would like to replace. Once you have selected the service orders you would like to generate all you need to do is choose "Generate Orders".
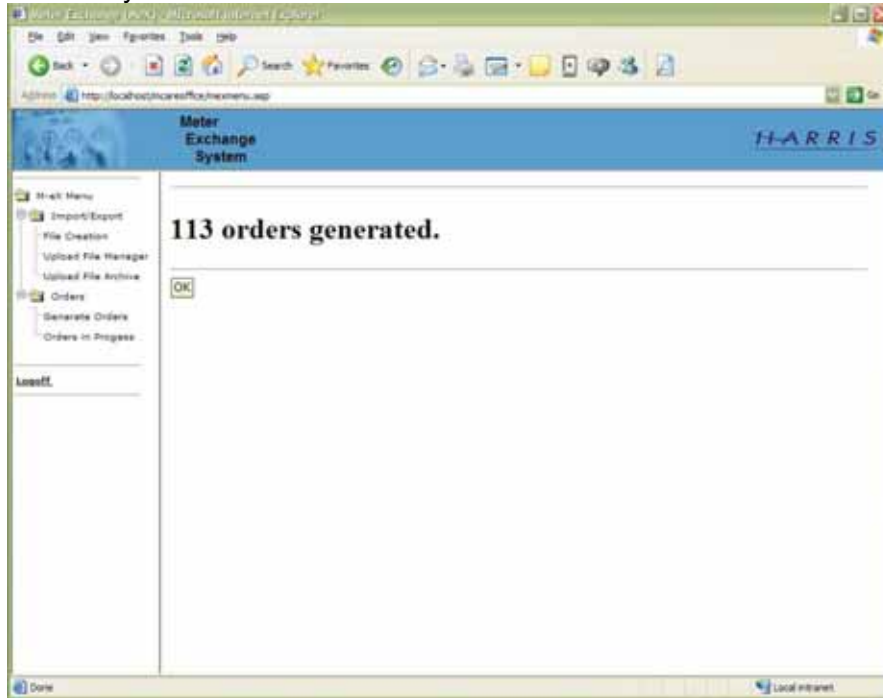
Once the service orders are generated you can use similar criteria to generate an export file containing the orders you want to send.

In this case we selected orders scheduled for May 22...
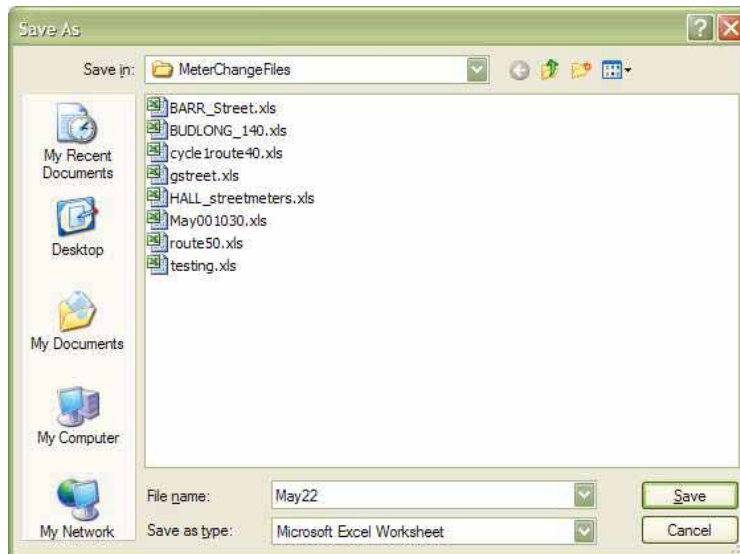
Meter Exchange

The results are shown and I select Generate File.

I will save this file as an excel worksheet. This file can also be saved as a CSV file.

Meter Exchange

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This file contains the relevant information to direct the Field personnel to the meters that are to be changed. It also contains place holders for the removed reading, date, and new meter serial number.

Order	Account	Occ	Meter	Reading	Date	NewMeterNumber	CYCLE	ROUTE	WALK	NOTES	COMMENTS	LIFE	SPPR	SERVICE ADDRESS	NA
49054	13558	0	19211				3	270	1280					11 BARNARD STREET	CO
49055	16430	3	22567				3	270	1300					13 BARNARD STREET	PE
49056	13560	0	22570				3	270	1320					15 BARNARD STREET	KR
49057	13561	0	22308				3	270	1340					26 BARNARD STREET	BL
49058	13564	0	22396				3	270	1380					27 BARNARD STREET	EA
49059	24412	0	22394				3	270	1360					28 BARNARD STREET	LA
49060	13563	4	22393				3	270	1420					36 BARNARD STREET	SP
49061	18833	0	22311				3	270	1710					100 BARNARD STREET	WA
49062	13579	1	22574				3	270	1750					110 BARNARD STREET	HE
49063	13580	6	22571				3	270	1740					150 BARNARD STREET	BE
49064	30019	0	22573				3	270	1735					160 BARNARD STREET	BE
49065	30515	0	20480				3	270	1734					165 BARNARD STREET	RO
49066	13582	0	19477				3	270	1730					200 BARNARD STREET	WH
49067	13476	1	22593				3	270	150					152 BUDLONG STREET	SL
49068	19615	0	16392				3	270	10					153 BUDLONG STREET	MA
49069	13470	0	22423				3	270	30					157 BUDLONG STREET	ZA
49070	20796	1	22430				3	270	130					160 BUDLONG STREET	HA
49071	13472	0	22433				3	270	60					161 BUDLONG STREET	SA
49072	18606	2	22431				3	270	110					164 BUDLONG STREET	RE
49073	13474	0	22429				3	270	90					165 BUDLONG STREET	MA
49074	13498	0	22378				3	270	550					41 CHARLES STREET	FRI
49075	13497	0	22377				3	270	530					44 CHARLES STREET	FO
49076	30287	0	22379				3	270	540					45 CHARLES STREET	BIL
49077	13495	0	22600				3	270	420					46 CHARLES STREET	WA
49078	25982	1	22602				3	270	400					52 CHARLES STREET	RO
49079	13493	0	22601				3	270	450					53 CHARLES STREET	BR
49080	23260	2	22599				3	270	470					55 CHARLES STREET	CO
49081	13491	0	22619				3	270	380					56 CHARLES STREET	SA
49082	13488	1	22620				3	270	490					57 CHARLES STREET	AU
49083	13490	1	22621				3	270	350					58 CHARLES STREET	SH
49084	13489	0	22634				3	270	330					60 CHARLES STREET	WF
49085	23384	1	22622				3	270	510					61 CHARLES STREET	SP

Meter Exchange

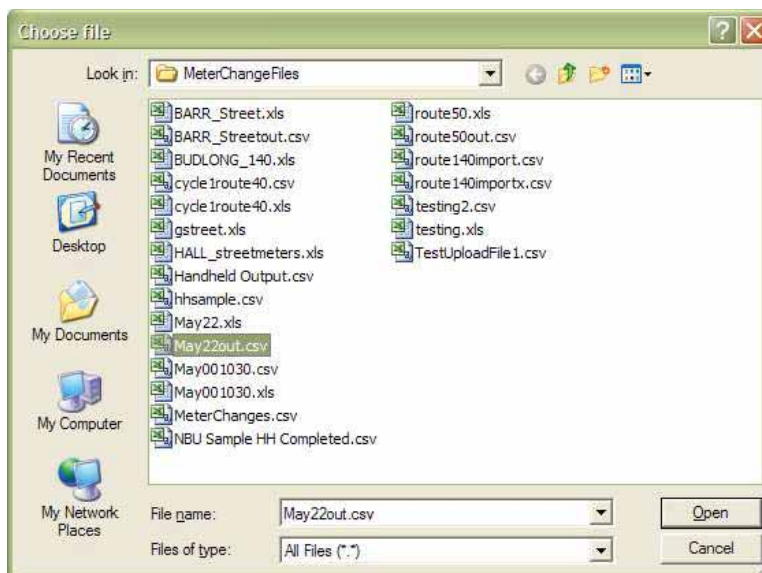When the file is updated it should be returned as a CSV file with the same column headers as went out in it. The Upload File Manager is used to upload the returned file.
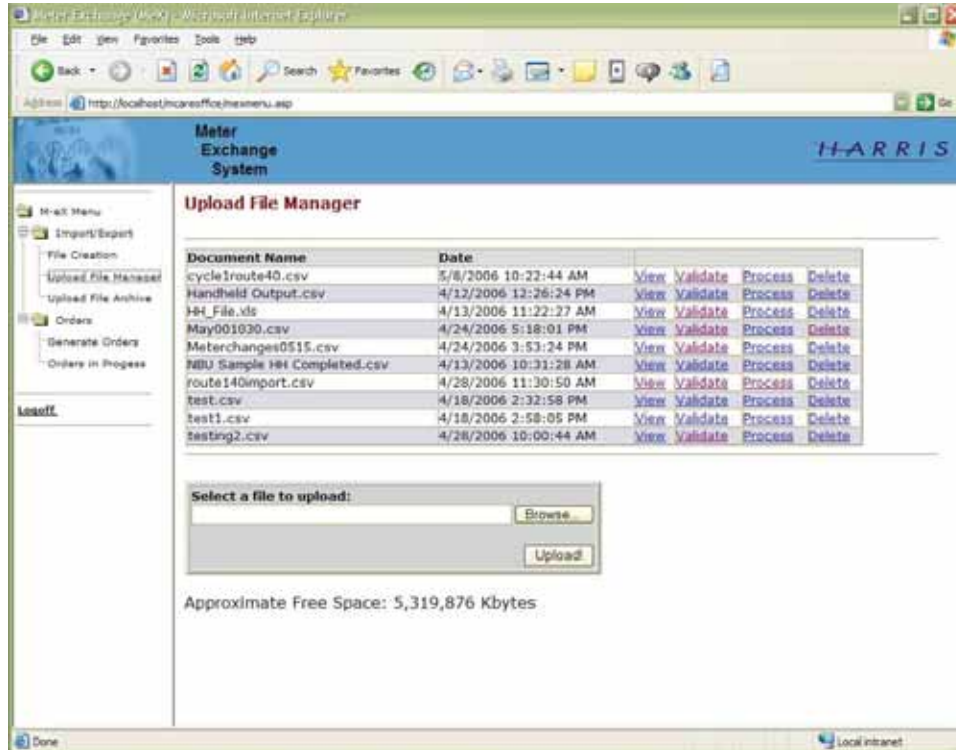
To show how the completion process works we filled in the first 3 records and saved the file as "May22out.csv". You can browse to the file and Upload it.

Once it is uploaded you can then view, validate, process or delete it.

Meter Exchange

When you select validate it will verify that the information in the file is valid and show you which records are good and which records will be ignored if there is invalid or incomplete data.

Entries with a green check are ok and will be processed, an orange question mark (**?**) means that the new meter is not in stock and the entry will be processed, but you will need to update it later or put the meter in inventory before the final update is available.

Meter Exchange

When you select Process the same report as validate is presented, but the orders are actually updated with the meter reads and installed meters. The upload file is moved into an archive folder.

Once you have processed the file you can select Orders in Progress where you can see the details of the updated orders.
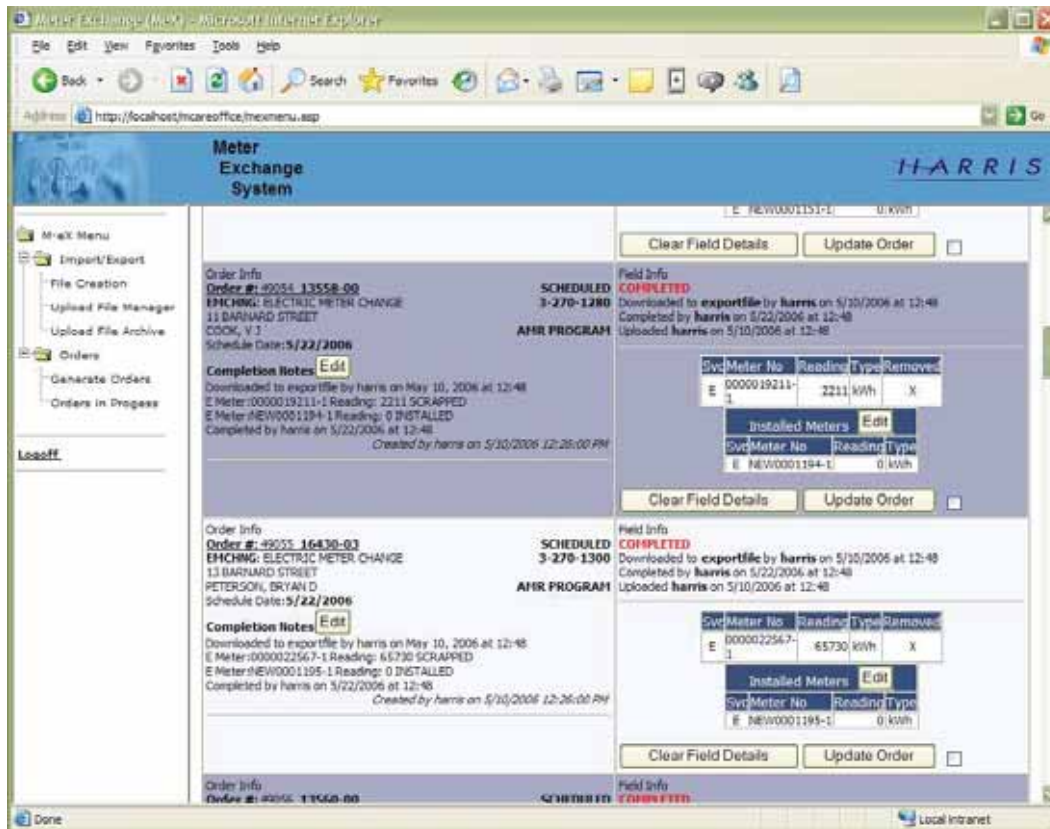
This screen shows you the details of the orders and if the account is in a state that will allow a meter change (i.e. not in a billing batch, not in a regular meter reading process) there is an Update Order button and a check box (for multiple selection and update). When you select this option the meter removal and installation process will be performed and the order status will be changed to completed. If the new meter is not available you will not be offered the update option, but you can edit the details to make corrections.

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1 Antares Drive Suite 400
Ottawa, Ontario K2E 8C4
(613) 226-5511   Fax: (613) 226-3377

Agreement for the Acquisition and Supply of Computer Software and Related Services

Date: 06/03/2014

BILLING ADDRESS:
Utility: City of Paso Robles
Contact: Jim Throop
Telephone: (805) 237-3999
E-mail: jthroop@prcity.com

NORTHSTAR UTILITIES SOLUTIONS REPRESENTATIVE:
Jason Blais
(613) 226-5511 x2210
jblais@northstarutilities.com

Item	Description	Unit Cost	Qty	Total	Annual Maintenance
1	**mCARe – Mobile Service Order License including:**	$11,000	1	$11,000	$2,420
2	**- mCARe Dispatch**				
3	**- mCARe Field – up to three field staff**	$600	3	$1,800	$396
	Project includes the following services:			$12,500	N/A
	- Project Management				
	- Implementation Support				
	- Application Consulting (Set-up & Training)				
	- Software Installation				
	*mCare licensing cost includes Meter Exchange				
4	Travel from August 3rd to 9th (flat rate) includes the following:			$4,000	
	- Airfare & baggage fees				
	- Hotel				
	- Per Diem				
	- Travel time (from the consultants office to the Paso Robles office				
	- Car rental & gas				
				$1,265	N/A
5	An amount of 5% of the fees billed will be charged to cover technology, communication and administrative costs.				
	TOTAL			**$30,565**	**$2,816**

PROJECT TOTAL: **$29,565**
MAINTENANCE: **$2,816**

QUOTATION & PAYMENT TERMS
- Quote valid for 60 days from date of issue
- 50% billed at time of signing
- 25% billed when mCARE is installed in the Test environment
- 25% billed at the completion of the consultants one week onsite (5 business days) visit.
- Project is accepted on the deployment to the production environment
- Maintenance begins upon installation of software in a production or non-production environment.
- Additional training re charged as needed
- Additional scope/changes will be billed at a rate of $200 per hour.

This Statement of Work (SOW) defines the work to be performed by NorthStar, an unincorporated division of N. Harris Computer Corporation, for City of Paso Robles.

Termination and Liability

Unless NorthStar and/or City of Paso Robles exercises its right to terminate this SOW due to material breach or default, NorthStar must provide, and City of Paso Robles must purchase, services from NorthStar for the items defined within this SOW.

If City of Paso Robles and/or NorthStar exercises its right to terminate this SOW due to material breach or default, or Customer and/or NorthStar terminates this SOW without cause,

City of Paso Robles' obligation includes the following:
1. Provide notice of 10 calendar days for termination without cause;
2. Return the software to NorthStar and certify, under the hand of a duly authorized officer of the Organization, that all copies of the software or any part thereof, in any form, within the possession or control of the Organization have been returned to NorthStar. (if applicable)
3. Complete payment for services performed and expenses incurred prior to termination including:
   a. Any amounts previously invoiced but unpaid;
   b. Fees for licenses and professional services performed through the termination date which have not been invoiced; and
   c. Any approved Travel and Living costs.

NorthStar's obligation includes the following:
1. Provide notice of 10 calendar days for termination without cause;
2. Refund to City of Paso Robles any fees for professional services for work not completed at the termination date.

Under no circumstances shall NorthStar be liable for any special, indirect, consequential, punitive or incidental damages of any kind and shall not be liable for loss of profits, works stoppage, system failure or malfunction, loss of data or any other damages or losses in connection with this statement of work, even if NorthStar has been advised of the possibility of such damages. In any event, NorthStar shall not be liable to pay any amount, in the aggregate, that is greater than the fees received by NorthStar under this statement of work.

ACCEPTED BY:
City of Paso Robles

_____
Signature

_____
Please Print Name And Title

_____
Date

e

ATTACHMENT A
mCARe DELIVERABLES AND REQUIREMENTS OVERVIEW

Server Software and Operating System Requirements:
- Microsoft Windows 2000 Server or higher
- Internet Information Server (IIS) 5.0 or higher
- IIS SMTP Service
- Microsoft Office 2000/XP Web Components (required for charts)
- Windows 2000 Remote Administration Tools
- Microsoft or Cisco VPN Connection (other VPN connections will require approval testing from Harris)

Server Hardware Requirements:
- Intel Pentium based server, running at 1 GHz
- 512MB RAM (minimum)
- 2 – 18 GB Hard Disks, mirrored (requires raid controller)
- 10/100 Network Interface Card
- 12/24GB DAT Backup Drive
- UPS
- Redundant Power Supply

Tablet/Laptop Operating System Requirements
- Microsoft Windows XP or higher
- Internet Information Server (IIS) 5.0 or higher

Tablet/Laptop Hardware Requirements:
- Intel Pentium based PC or laptop running at 1 GHz
- !GB RAM (minimum)
- 80 GB Hard Disks
- 10/100 Network Interface Card

Deliverables:

Remote installation of mCARe Dispatch application on the Customer's server and mCARe Field on one Customer tablet/laptop

Configure m-Care to include the following:

- Configure mCARe Dispatch on Customer's server
- Configure one mCARe on one Customer tablet/laptop
- Train Customer's staff on mCARe Manager
- Train Customer's staff on mCARe Field (on-site)
- Promote mCARe to LIVE environment upon Customer request

Additional out of scope items will require a quotation to furnish these additional services.

ATTACHMENT A

METER EXCHANGE

Deliverables:

Remote installation of Meter Exchange on the Customer's server
Configure m-CARe to include the following:

- Configure Meter Exchange on Customer's server
- Train Customer's staff on Meter Exchange
- Promote Meter Exchange to LIVE environment upon Customer request

Additional out of scope items will require a quotation to furnish these additional services.

RESOLUTION NO. 14-xxx

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PASO ROBLES
APPROVING THE PURCHASE OF THE mCARE MODULE
FOR THE UTILTIY BILLING SYSTEM

WHEREAS, the City's utility billing system was originally installed in 2005/2006 and the mCARE module was not available at that time; and

WHEREAS, the Utility Billing staff spends a minimum of 60 hours manually entering work orders; and

WHEREAS, Water Yard staff must manually track all of the work orders in an Excel spreadsheet and daily print-out work orders and re-key when complete; and

WHEREAS, adding this additional module will allow for staff to other work such as water-use analysis.

THEREFORE BE IT HEREBY RESOLVED by the City Council of the City of El Paso de Robles that the City Manager is authorized to execute a contract for the purchase of the mCARE utility billing module with Harris Company.

PASSED AND ADOPTED BY THE City Council of the City of Paso Robles this 5th day of August, 2014 by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

Duane Picanco, Mayor

ATTEST:

Caryn Jackson, Deputy City Clerk