

Agenda Report

April 8, 2013

TO: Honorable Mayor and City Council

THROUGH: Finance Committee (April 8, 2013)

FROM: Water and Power Department

SUBJECT: AUTHORIZATION TO ENTER INTO CONTRACTS WITH DESIGNATED SOFTWARE, TECHNOLOGY AND ENGINEERING FIRMS TO FURNISH AND DELIVER VARIOUS TYPES OF SYSTEMS AND SERVICES TO IMPLEMENT THE OUTAGE MANAGEMENT AND INTERACTIVE VOICE RESPONSE SYSTEMS FOR THE WATER AND POWER DEPARTMENT

RECOMMENDATION:

It is recommended that the City Council:

1. Find that the contracts are exempt from environmental review pursuant to the guidelines of the California Environmental Quality Act ("CEQA") Section 15061 (b) (3) (General Rule);
2. Accept the proposal, dated October 31, 2012, submitted by Milsoft Utility Solutions, Inc. ("Milsoft") in response to a Request for Proposals, reject all other proposals, and authorize the City Manager to enter into a contract with Milsoft to furnish and deliver software and services for an Outage Management System and a hosted Interactive Voice Response system for the Water and Power Department ("PWP") for an amount not to exceed \$578,113 or four years, whichever comes first;
3. Authorize the City Manager to enter into a contract, without competitive bidding pursuant to the City Charter Section 1002(5), Contracts for Professional or Unique Services, with EFACEC Advanced Control Systems ("EFACEC ACS") to supply hardware, software and services for PWP's Supervisory Control and Data Acquisition ("SCADA") system upgrade, test and development system, and integration of the SCADA system with the Outage Management System in an amount not to exceed \$278,572 or two years whichever comes first;
4. Authorize the City Manager to issue a Purchase Order Contract, without competitive bidding pursuant to the City Charter Section 1002(5), Contracts for Professional or Unique Services, with Utility Data Contractors ("UDC") to supply technical engineering program management services for PWP's Geographical Information System for an amount not to exceed \$200,000;

5. Authorize the City Manager to issue a Purchase Order Contract, without competitive bidding pursuant to the City Charter Section 1002(5), Contracts for Professional or Unique Services, with Avineon, Inc. to supply regular data maintenance, circuit clean-up, ad-hoc data updates and data quality standardization for the PWP's Geographic Information System for an amount not to exceed \$200,000;
6. Authorize the City Manager to increase the existing General Engineering Services Contract 20516 with SAIC from \$1,000,000 to \$1,300,000 to provide implementation support services; and
7. Appropriate \$400,000 from the unappropriated Power Fund balance to Power Fund Capital Improvement Project ("CIP") 3034, Distribution System Life Cycle Management for GIS related contracts; and \$300,000 from the unappropriated Power Fund balance to Power Fund CIP 3201, Outage Management System.

EXECUTIVE SUMMARY:

In order to improve communication with customers during an unplanned outage or prior to a planned outage, PWP must have an integrated Outage Management System ("OMS") and an Interactive Voice Response System ("IVR"). Two vendors responded to a Request for Proposals ("RFP"). A cross-functional team of PWP and Department of Information Technology ("DoIT") staff evaluated the proposals, attended vendors' demonstrations and visited utilities with vendors' applications. Staff recommends approval of a contract with Milsoft Utility Solutions for an integrated Outage Management System/Interactive Voice Response solution. Because the Outage Management System must be integrated with other systems, such as Supervisory Control and Data Acquisition ("SCADA") and Geographic Information System ("GIS"), staff recommends approval of additional contracts to support the OMS implementation. Staff also expects to request one additional Full Time Equivalent ("FTE") in the FY2014 operating budget to administer the OMS and other automation projects.

The following acronyms will be used throughout this report:

CIS	Customer Information System
GIS	Geographic Information System
IVR	Interactive Voice Response
OMS	Outage Management System
RFP	Request for Proposals
SCADA	Supervisory Control and Data Acquisition

BACKGROUND:

In November 2011, PWP faced wide spread unplanned electrical outages resulting from a major wind storm. The Action Report prepared after this event concluded that PWP needed to improve its communications with customers. Specifically, PWP must provide timely, consistent and accurate outage information to residents, businesses and City staff about the duration, location and scope of outages, and the status of restoration activities.

To this end, PWP obtained from the City Council appropriations in FY2013 for the procurement of an OMS. An OMS, integrated with an IVR, will improve communication with PWP customers, provide timely and consistent information on planned and unplanned outages, and improve PWP's response in its restoration efforts. The IVR will obtain outage status information from the OMS that will interface with other utility systems including, but not limited to, PWP's GIS, SCADA and CIS. This platform will provide better customer service and control outage costs by reducing manual call-taking, improving troubleshooting and restoration processes, and by automating outage status reporting and updates.

The OMS will include an engine that will analyze direct input from customers via IVR and call center, along with SCADA information from devices on the distribution grid to predict the location of outages. The integrated OMS/IVR solution will assist PWP operators, dispatchers, troubleshooters and field crews to effectively deal with any level of system outage from small routine outages to emergency storm situations affecting a large population of PWP's customers. The OMS/IVR solution will not calculate an estimated time of restoration or the sequence of the restoration efforts. Such estimates will be entered by the system operator. This solution will also collect all outage / customer trouble related information in one location, improving PWP's ability to analyze the historical data, and identify improvements where they are most needed to help avoid further outages.

Contract with Milsoft Utility Solutions, Inc (Recommendation 2)

On October 4, 2012, PWP issued an RFP for Integrated Outage Management System and Interactive Voice Response Solution. The RFP was posted on the City's web site, and an e-mail notification was sent to 39 potential firms including those on the City's vendor list. Two proposals were received on October 31, 2012, from Milsoft of Abilene, Texas and EFACEC ACS of Norcross, Georgia.

A cross-functional team of PWP and City stakeholders evaluated the proposals per the following criteria: compatibility with existing PWP applications, vendor qualifications and experience, responsiveness to RFP requirements, contract terms and conditions, cost of services, implementation schedule, local business, and micro/small business. PWP invited both vendors to conduct on-site demonstrations of their proposed solutions. PWP Staff also conducted site visits to two user utilities: Anaheim Public Utilities for EFACEC ACS solution and Ocala Electric Utility, Florida for Milsoft solution.

Taking into consideration the vendors' on-site demonstration performances, user utility experiences, implementation schedule and cost, and the ease of implementation, staff recommends the City Council award a contract to Milsoft for an integrated OMS and IVR solution.

The cost of the integrated OMS and IVR system implementation, consisting of new software configuration, first year implementation costs, and annual software licenses is shown in the table below.

	FY2013	FY2014	FY2015	FY2016	TOTAL
Milsoft IVR& OMS Implementation	\$28,196	\$253,765			\$281,961
Milsoft Hosted IVR Cost (\$4010/month)		\$24,060	\$48,120	\$48,120	\$120,300
Milsoft OMS Annual Maintenance		\$26,500	\$26,500	\$26,500	\$79,500
Base Contract Amount	\$28,196	\$304,325	\$74,620	\$74,620	\$481,761
Contingency (20%)	\$ 5,639	\$ 60,865	\$ 14,924	\$ 14,924	\$ 96,352
Not to Exceed Amount	\$ 33,835	\$ 365,190	\$ 89,544	\$ 89,544	\$ 578,113

Staff recommends approval of a contract with Milsoft for an amount not to exceed \$578,113, which includes the base quoted costs for providing above mentioned services and a 20% contingency for any necessary change orders. The proposed contract complies with Competitive Bidding and Purchasing Ordinance P.M.C. 4.08 and the rules and regulations promulgated there under.

After the OMS/IVR solution is implemented, PWP will seek City Council approval for on-going services and maintenance contracts with Milsoft.

Purchase Order Contract with EFACEC ACS, Inc (Recommendation 3)

PWP implemented a SCADA system by EFACEC ACS, formerly known as Advanced Control Systems, following an RFP in 1998 and City Council approval on February 22, 1999. SCADA provides power dispatchers real-time data for monitoring voltages, power flows, breaker status, and other key data on the electric distribution system. Since then, PWP upgraded its SCADA software once in 2006 as authorized by the City Council without competitive bidding on November 7, 2005.

SCADA will provide OMS the real-time status and telemetry data from the substations and from other automated devices on the distribution system to quickly identify the likely cause and location of an outage. SCADA system will monitor the status of such devices in the substations and the field, and will provide the necessary status and telemetry data to the OMS through the SCADA-OMS interface.

Instead of designing, building and testing the SCADA-OMS interface twice, once with the existing SCADA and a second time after SCADA is upgraded, it would be beneficial and cost effective to accelerate the SCADA upgrade, originally scheduled for fiscal year 2014-

2015. The upgrade will consist of replacing existing servers, hardware and software. The hardware currently used is obsolete and will not run the new version of the SCADA software, and the existing SCADA software will no longer be supported by the vendor and is not capable of interfacing with the proposed OMS. The new SCADA software will also provide additional and advanced SCADA functionality such as alarm management, reporting, and improved operator and programmer interface. This upgrade will result in improved processing capability and efficiency. Along with the upgrade PWP will also implement a SCADA test/development system, separate from the production environment, for training systems operators and dispatchers and for testing new software, operating system patches, versions, and functionalities before pushing them to the production environment.

The cost of the SCADA system upgrade, consisting of the new software, servers, workstations and backup communication hardware and on-site engineering services, is shown in the table below.

	FY2013	FY2014	FY2015	FY2016	TOTAL
EFACEC ACS SCADA Upgrade & Test System	\$65,398	\$136,900			\$202,298
EFACEC ACS OMS-SCADA Interface	\$10,446	\$19,399			\$29,845
Base Contract Amount	\$75,844	\$156,299			\$232,143
Contingency (20%)	\$ 15,169	\$ 31,260			\$ 46,429
Not to Exceed Amount	\$ 91,013	\$ 187,559			\$ 278,572

Staff recommends approval to enter into a new purchase order contract with EFACEC ACS for an amount not to exceed \$278,572, which includes the base quoted costs and a 20% contingency for any necessary change orders. Although there are other vendors that provide SCADA services, EFACEC ACS is the only vendor qualified to maintain, upgrade and support the SCADA system software and hardware PWP purchased in 1999 from ACS and upgraded in 2006. All the Remote Terminal Units at the Receiving Stations and Broadway Plant currently use a proprietary protocol to communicate with SCADA, and this protocol is only supported by EFACEC ACS. Replacing the system entirely would be far more expensive and time consuming, and it could not be done in the timeframe required for the proposed OMS implementation. PWP has been satisfied with the SCADA application and support services provided by EFACEC ACS.

After the SCADA upgrade is completed, annual licenses and maintenance agreements will be required each year and are expected to be within the approval authority of the City Manager.

Purchase Order Contract with UDC – GIS Operating Procedures – (Recommendation 4)

The successful implementation of the OMS/IVR is highly dependent on the information contained in PWP’s Enterprise GIS solution and its integration with the OMS. The GIS contains information on PWP’s electrical assets in the field; their characteristics, their

geographical representations with location references, and their connectivity to one another and to the customers' meters. Because of the OMS implementation and the desire to have reliable equipment data, GIS data validation scheduled over the next three years, must be accelerated. PWP does not have the in-house resources required to expeditiously perform the standardization of processes in GIS data maintenance and data model enhancements, and for fine-tuning the GIS application within the required OMS implementation timeframe. Staff is recommending to contract resources to provide such services.

In 2009, following City Council approval, PWP entered into a Purchase Order Contract with UDC for a two year term to provide similar services to those requested herein. A new purchase order contract was approved by the City Manager for the current fiscal year and will expire June 30, 2013. PWP recommends approval to enter into a new purchase order contract with UDC without competitive bidding for the above mentioned services for an amount not to exceed \$200,000. UDC is familiar with PWP processes and data. Seeking proposals from vendors and awarding a bid for similar work would delay the implementation of the OMS. It would be cost effective and in the best interest of the City to contract with UDC during the OMS implementation. PWP will seek proposals through a competitive bidding process to support on-going services after OMS is accepted. Such services are needed because assets and circuits are continuously modified or added to the electrical distribution system.

Purchase Order Contract with Avineon, Inc. – Data Clean Up - (Recommendation 5)

The OMS will rely on the operational state of the connectivity model to quickly identify the likely cause / location of an outage when one occurs. This process relies heavily on the quality and cleanliness of the underlying GIS data and the connectivity model. To fully capture the value of the proposed systems, engineering records must be converted, and GIS data must be cleaned up and maintained. Because PWP does not have the in-house resources required to perform the services described above within the required OMS implementation timeframe, PWP must procure specific and unique contract services to provide additional technical support.

In 2009, PWP entered into Contract with Avineon, Inc. for a two year term to provide similar services to those requested herein. The contract was extended, with no increased funding, to allow this critical work to continue through January 31, 2013. PWP recommends approval to enter into a new purchase order contract with Avineon, Inc. without competitive bidding for the above mentioned services for an amount not to exceed \$200,000.

Avineon is familiar with PWP processes and data. Seeking proposals from vendors and awarding a bid for similar work would delay the implementation of the OMS. It would be cost effective and in the best interest of the City to contract with Avineon during the OMS implementation. PWP will seek proposals through a competitive bidding process to continue to provide GIS data validation services after the OMS is accepted. Such services are needed because assets and circuits are continuously modified or added to the electrical distribution system.

Contract with SAIC (Recommendation 6)

PWP desires to obtain the services of an engineering firm that will provide project management assistance and implementation support to PWP for the deployment of the OMS/IVR. SAIC will facilitate Milsoft's and PWP's implementation and adoption of the IVR and OMS solutions. SAIC will also provide expert advisors. SAIC will develop and maintain a detailed Implementation Plan; utilize its in-depth knowledge of PWP's organization, infrastructure, engineering model and modeling tool to help support the engineering staff and the OMS/IVR vendor in GIS conversion efforts; develop an Acceptance Test Plan and testing procedures; support PWP Staff in acceptance testing and prepare Acceptance Test Reports; and develop a training plan and customized training documentation to meet PWP's needs. SAIC will also develop Standard Operating Procedure documents for PWP's engineering, field operations, GIS, customer service and Information Technology ("IT") personnel to facilitate adoption and effective utilization of the new systems.

PWP does not have sufficient in-house resources with the necessary expertise to perform the services described above. Staff is recommending to contract for such services. SAIC, an engineering firm, has assisted PWP in developing the specifications for the OMS/IVR. The City currently has a contract with SAIC not to exceed \$1,000,000 through February 28, 2015; however, \$750,000 of that amount has already been committed for other studies and design projects for PWP, such as updating design standards, system studies, Master Plan audit, automation projects and engineering models. PWP anticipates the use of the remaining dollars for projects related to infrastructure upgrades and system improvements during the next two years. Staff recommends approval to increase the existing SAIC contract by \$300,000, from \$1,000,000 to \$1,300,000, to supply above mentioned services related to the implementation of the OMS.

Administrative Costs

The successful implementation and maintenance of these projects will add considerably to the workloads of both DoIT and PWP IT. PWP will be requesting an additional FTE in the proposed FY2014 operating budget to manage the OMS and other automation projects.

PWP estimates internal administrative costs of the OMS/IVR implementation as follows:

	FY2013	FY2014	FY2015	Fy2016
AT&T Call Tree	\$4,400	\$8,400	\$8,400	\$8,400
PWP IT- hardware	\$6,000			
DoIT services	\$10,000	\$30,000		
PWP Project Management & implementation services	\$50,000	\$435,000	\$135,000	\$135,000
SAIC Implementation Support Services- amendment	\$75,000	\$225,000		
Administrative Costs	\$ 145,400	\$ 698,400	\$ 143,400	\$ 143,400

Schedule

Implementation and testing of the OMS/IVR solution is expected to be completed twelve months after execution of contracts . The SCADA upgrade, and the tasks performed by UDC, Avineon and SAIC to support the implementation are expected to be completed within the same timeframe. GIS related services, such as data validation and data maintenance processes, SCADA maintenance, and OMS/IVR maintenance will continue after OMS/IVR Go-Live.

COUNCIL POLICY CONSIDERATION:

The proposed contracts are consistent with the Public Facilities Element of the General Plan and support the Council's goal to improve, maintain and enhance public facilities infrastructure; to provide a high level of public service which adds to the quality of life in the City and increase its attractiveness through more efficient management of resources.

ENVIRONMENTAL ANALYSIS:

The proposed contracts are exempt from CEQA pursuant to the State CEQA Guidelines Section §15061(b)(3), which states that CEQA only applies to projects which have the potential for causing a significant effect on the environment. The proposed actions are for the installation of hardware and software in existing facilities and for engineering services only, and they will not have a significant impact on the environment.

FISCAL IMPACT:

The following table provides the annual fiscal impact for FY2013 through FY2016:

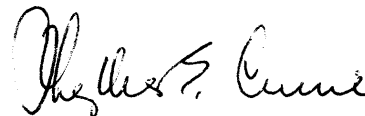
	FY2013	FY2014	FY2015	FY2016
Milsoft contract	\$28,196	\$304,325	\$74,620	\$74,620
EFACEC contract	\$75,844	\$156,299		
UDC GIS Contract	\$100,000	\$100,000		
Avineon GIS Contract	\$100,000	\$100,000		
Base Contract Amount	\$ 304,040	\$ 660,624	\$ 74,620	\$ 74,620
Contingency	\$ 20,808	\$ 92,125	\$ 14,924	\$ 14,924
Not to Exceed Amount	\$ 324,848	\$ 752,749	\$ 89,544	\$ 89,544
AT&T Call Tree	\$4,400	\$8,400	\$8,400	\$8,400
PWP IT- hardware	\$6,000			
DoIT services	\$10,000	\$30,000		
PWP Project Management & implementation services	\$50,000	\$435,000	\$135,000	\$135,000
SAIC Implementation Support Services- amendment	\$75,000	\$225,000		
Administrative Costs	\$ 145,400	\$ 698,400	\$ 143,400	\$ 143,400
Annual Fiscal Impact	\$ 470,248	\$ 1,451,149	\$ 232,944	\$ 232,944
Maximum Fiscal Impact				\$2,387,285

The maximum cost of furnishing and delivering various types of systems and services to implement the OMS/IVR, including the annual licensing costs and ongoing related administrative costs is \$ 2,387,285 through fiscal year 2016. Although \$750,000 was budgeted for the OMS in FY2013, the costs of many additional services, identified during the evaluation of the OMS/IVR proposals, were not anticipated in FY2012 while preparing the budget for FY2013. PWP had planned to budget for them and implement them in future years.

There are existing appropriations in Power Capital Fund 411, CIP Project 3201, OMS; and CIP Project 3073, SCADA, in the amount of \$1,700,000 to cover some of the project costs. Additional appropriations are required in the amount of \$700,000 to enter into agreements in FY2013 and to facilitate the implementation and completion of the OMS/OCS solution in FY2014.

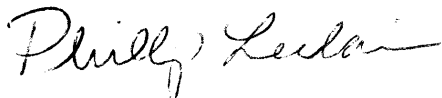
PWP is recommending that the City Council appropriate \$400,000 from the unappropriated Power Fund balance to Power Fund CIP Project 3034, Distribution System Life Cycle Management for GIS related contracts; and \$300,000 from the unappropriated Power Fund balance to Power Fund CIP Project 3201, OMS. PWP will ensure that adequate funds are available in Power Operating Fund 401 to fund the annual costs of the OMS and IVR each year starting in FY2015.

Respectfully submitted,



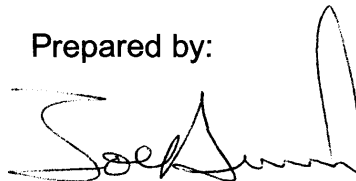
Phyllis E. Currie
General Manager
Water and Power Department

Concurred by:



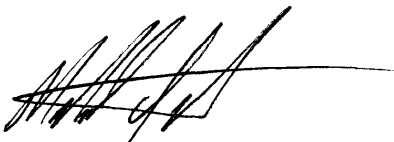
Phillip Leclair
Chief Information Technology Officer
Department of Information Technology

Prepared by:



Joe AWAD
Assistant General Manager
Water & Power Department

Approved by:



Michael J. Beck
City Manager

**Disclosure Pursuant to the
City of Pasadena Taxpayer Protection Amendment
Pasadena City Charter, Article XVII**

Contractor/Organization hereby discloses its trustees, directors, partners, officers, and those with more than 10% equity, participation, or revenue interest in Contractor/Organization, as follows:

(If printing, please print legibly. Use additional sheets as necessary.)

1. Contractor/Organization Name:
Milsoft Utility Solutions, Inc.

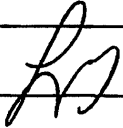
2. Type of Entity:
 non-government nonprofit 501(c)(3), (4), or (6)

3. Name(s) of trustees, directors, partners, officers of Contractor/Organization:

Wayne Carr
Leon Giesecke, Jr.
Luis Malave
Adam Turner

4. Names of those with more than a 10% equity, participation or revenue interest in Contractor/Organization:

Wayne Carr

Prepared by: Leon Giesecke, Jr. 

Title: President / CFO

Phone: 325.695.1642

Date: October 28, 2012

**Disclosure Pursuant to the
City of Pasadena Taxpayer Protection Amendment
Pasadena City Charter, Article XVII**

Contractor/Organization hereby discloses its trustees, directors, partners, officers, and those with more than 10% equity, participation, or revenue interest in Contractor/Organization, as follows:

(If printing, please print legibly. Use additional sheets as necessary.)

1. Contractor/Organization Name:	Efacec ACS, Inc.
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2. Type of Entity: <input checked="" type="checkbox"/> non-government <input type="checkbox"/> nonprofit 501(c)(3), (4), or (6)

3. Name(s) of trustees, directors, partners, officers of Contractor/Organization:
Efacec Engenharia, SA

4. Names of those with more than a 10% equity, participation or revenue interest in Contractor/Organization:
Efacec Engenharia, SA

Prepared by: Frank L. Sublett

Title: Vice President, Sales and Marketing

Phone: 770/446-8854

Date: February 25, 2013

**Disclosure Pursuant to the
City of Pasadena Taxpayer Protection Amendment
Pasadena City Charter, Article XVII**

Contractor/Organization hereby discloses its trustees, directors, partners, officers, and those with more than 10% equity, participation, or revenue interest in Contractor/Organization, as follows:

(If printing, please print legibly. Use additional sheets as necessary.)

1. Contractor/Organization Name:
Utility Data Contractors, Inc -FEIN 20-2978937

2. Type of Entity:
 non-government nonprofit 501(c)(3), (4), or (6)

3. Name(s) of trustees, directors, partners, officers of Contractor/Organization:

Rachel Benson
Hamid Akhavan

4. Names of those with more than a 10% equity, participation or revenue interest in Contractor/Organization:

Rachel Benson
Hamid Akhavan

Prepared by: Rachel Benson

Title: President

Phone: 720-733-8862 x 102

Date: 7/1/12

**Disclosure Pursuant to the
City of Pasadena Taxpayer Protection Amendment
Pasadena City Charter, Article XVII**

Contractor/Organization hereby discloses its trustees, directors, partners, officers, and those with more than 10% equity, participation, or revenue interest in Contractor/Organization, as follows:

(If printing, please print legibly. Use additional sheets as necessary.)

1. Contractor/Organization Name:
Avineon, Inc.

2. Type of Entity:
 non-government nonprofit 501(c)(3), (4), or (6)

3. Name(s) of trustees, directors, partners, officers of Contractor/Organization:
Karl Rambahala/Director/President and CEO
Heesun Robertson/Secretary

4. Names of those with more than a 10% equity, participation or revenue interest in Contractor/Organization:
Karl Rambahala

Prepared by: Chad Davis

Title: General Counsel

Phone: 727-539-1661, ext. 393

Date: March 5, 2013

**Disclosure Pursuant to the
City of Pasadena Taxpayer Protection Amendment
Pasadena City Charter, Article XVII**

Contractor/Organization hereby discloses its trustees, directors, partners, officers, and those with more than 10% equity, participation, or revenue interest in Contractor/Organization, as follows:

(If printing, please print legibly. Use additional sheets as necessary.)

1. Contractor/Organization Name: SAIC Energy, Environment & Infrastructure, LLC

2. Type of Entity: <input checked="" type="checkbox"/> non-government <input type="checkbox"/> nonprofit 501(c)(3), (4), or (6)

3. Name(s) of trustees, directors, partners, officers of Contractor/Organization: See Attached

4. Names of those with more than a 10% equity, participation or revenue interest in Contractor/Organization: R. W. Beck Group, Inc.

Prepared by: Samantha J Procriv

Title: Assistant Secretary

Phone: 206.695.4615

Date: March 4, 2013

3. **Name(s) of trustees, directors, partners, officers of Contractor/Organization:**



Directors:	James W. Baxter	
	Mauro Dallabattista	
	Donald K. Deaton	
	Dennis C. Woody	
Officers:	Joseph W. Craver III	Senior Executive Vice President
	Leonard R. Caro	Executive Vice President / Chief Financial Officer
	James W. Baxter	Executive Vice President
	Mark J. Fronmuller	Executive Vice President
	Michael B. Gwyn	Executive Vice President
	Gregory W. Meacham	Executive Vice President
	James R. Moos	Executive Vice President
	Frederick R. Hazard	Senior Vice President for Real Estate
	Christina L. Vail Zilberman	Secretary
	Bradley G. Barta	Senior Vice President
	Paul E. Carter	Senior Vice President
	Timothy R. Corrigan	Senior Vice President
	Donald K. Deaton	Senior Vice President
	James M. Gariepy	Senior Vice President
	Michael J. Graves	Senior Vice President
	Vincent D. Hahn	Senior Vice President
	Terry L. Helms	Senior Vice President
	James A. McCall, Jr.	Senior Vice President
	Erik T. Naugle	Senior Vice President
	Kenneth A. Nelson	Senior Vice President
	Betsy M. Pain	Senior Vice President
	Marc A. Reeves	Senior Vice President
	Alan A. Soltani	Senior Vice President
	Steve L. Ventsam	Senior Vice President
	Bill David Absher	Vice President
	Phillip W. Albenesius	Vice President
	Charles K. Albrecht	Vice President
	Kenneth R. Aldridge	Vice President
	David C. Andrus	Vice President
	Andrew N. Armstrong	Vice President
	Carol L. Babb	Vice President
	Joni S. Batson	Vice President
	Daniel E. Bielski	Vice President & Assistant Secretary
	Larry L. Block	Vice President
	Scott H. Burnham	Vice President
	Terrance J. Butler	Vice President

Neil V. Callahan	Vice President
Tod J. Comin	Vice President
Evis C. Couppis	Vice President
Mauro Dallabattista	Vice President
Thomas A. Damon	Vice President
Daniel A. Delp	Vice President
Brian P. Dolan	Vice President
Christopher M. Dull	Vice President
William Brad Dunn	Vice President
Bradford L. Ezell	Vice President
Thomas M. Giffin	Vice President
Paul R. Grimes	Vice President
Mark D. Grossenbacher	Vice President
Douglas A. Hartwig	Vice President
Bradley H. Hornburg	Vice President
Wallace H. Hunt	Vice President
Steven R. Jacoby	Vice President
Joseph Joseph	Vice President
Jeffery L. Juris	Vice President
Keith M. Kerzel	Vice President
Theresa A. Lawson	Vice President
Craig G. Leone	Vice President
Justin C. Lowry	Vice President
Robert S. Maurer	Vice President
Kreg McCollum	Vice President
Scott T. McKillip	Vice President
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Ronald J. Moe	Vice President
Paul K. Mullen, Jr.	Vice President
Jeffrey A. Norman	Vice President
Timothy C. Nygaard	Vice President
Ronald C. Oakley	Vice President
Daniel J. Pearson	Vice President & Assistant Secretary
Robert C. Perry	Vice President
John T. Pierce	Vice President
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Richard V. Prus	Vice President
Stanley L. Rankin	Vice President
Wayne D. Reichardt	Vice President
Joseph S. Rogers	Vice President
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Steven W. Sauer	Vice President
John C. Schmalz	Vice President
Michael A. Smith	Vice President
Wallace C. Smith	Vice President

Jeffrey J. Spearman	Vice President
Amber W. Sykes	Vice President
Timothy S. Towery	Vice President
Ronald G. Weltzheimer	Vice President
Michael L. Wennen	Vice President
Adam B. West	Vice President
Charles H. Williams	Vice President
Todd B. Williams	Vice President & Assistant Secretary
Dennis C. Woody	Vice President
Michael D. Wright	Vice President & Assistant Secretary
David S. Yanke	Vice President
Albert A. Zehner	Vice President
Edward T. Boisson	Assistant Vice President
Damon N. Brady	Assistant Vice President
Christian H. Carpenter	Assistant Vice President
John B. Christopher	Assistant Vice President
Ivan L. Clark	Assistant Vice President
Timothy L. Crowell	Assistant Vice President
Gregory L. Davis	Assistant Vice President
Elizabeth A. Donati	Assistant Vice President
Stephen A. Dopudja	Assistant Vice President
Joe A. Dysard II	Assistant Vice President
John S. Gardner	Assistant Vice President & Assistant Secretary
Abby M. Goldsmith	Assistant Vice President
David Gregory	Assistant Vice President
Leslie J. Gwinn	Assistant Vice President
Karl R. Hufnagel	Assistant Vice President
Feras Karim	Assistant Vice President
Mark W. Kindig	Assistant Vice President
Emily B. McDuff	Assistant Vice President
Mark R. McGuire	Assistant Vice President
Luis M. Mercado	Assistant Vice President
Stanley D. Mikulski	Assistant Vice President
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Michael W. Noga	Assistant Vice President
Scott R. Pasternak	Assistant Vice President
Frank G. Pickering	Assistant Vice President
Rick J. Reiff	Assistant Vice President
George H. Richardson	Assistant Vice President & Assistant Secretary
Steven M. Root	Assistant Vice President
Jonathan G. Sessions	Assistant Vice President

Bruce S. Soderberg	Assistant Vice President
Scott I. Stables	Assistant Vice President
Howard E. Steiman	Assistant Vice President
Lee M. Van Atta	Assistant Vice President
Joshua A. Wepman	Assistant Vice President
Thomas H. Wood	Assistant Vice President
Todd W. Wood	Assistant Vice President
Donna M. Cantrell	Assistant Secretary
Marcia D. Hamilton	Assistant Secretary
Denise E. Sidwell	Assistant Secretary
Vicki S. Wells	Assistant Secretary
Samantha J. Proxiv	Assistant Secretary
C. Vincent Quella III	Assistant Secretary
Marc H. Crown	Treasury Accounts Officer
Steven P. Fisher	Treasury Accounts Officer