

Meeting Date: 6/17/2014

Report Type: Staff/Discussion

Report ID: 2014-00426

Title: 2014 Drought Response Update and Vibration Monitoring Equipment Purchase Approval

Location: Citywide

Recommendation: Pass 1) a Resolution declaring that a water shortage continues to exist, and implementing additional water conservation restrictions; and 2) a Motion authorizing the City Manager or the City Manager's designee to sign an emergency contract with Bently Nevada, Inc. for the purchase of vibration monitoring equipment for the City's water intake pumps, for an amount not-to-exceed \$225,000.

Contact: Dave Brent, Director, (916) 808-1400; Terrance Davis, Program Manager, (916) 808-1868, Department of Utilities

Presenter: Terrance Davis, Program Manager, (916) 808-1868, Department of Utilities

Department: Department Of Utilities

Division: Office of the Director Admin

Dept ID: 14001011

Attachments:

1-Description/Analysis

2-Background

3-Resolution

4-SF1049217 City of Sacramento Online Monitoring

City Attorney Review

Approved as to Form

Joe Robinson

6/10/2014 6:32:21 PM

Approvals/Acknowledgements

Department Director or Designee: Dave Brent - 5/29/2014 5:24:16 PM

Description/Analysis

Issue Detail: Calendar year 2013 was the driest year on record for much of Northern and Central California. Water storage in the Folsom Reservoir in May was approximately 57% of capacity and recent precipitation in the late winter and spring of 2014 had minimal impact on overall water storage. On January 14, 2014, the City Council adopted Resolution No. 2014-0018 declaring a water shortage as authorized under City Code section 13.04.910 and implemented Stage 2 of the City of Sacramento Water Shortage Contingency Plan (WSCP). On January 17, 2014, Governor Jerry Brown declared a State of Emergency due to critical drought conditions, and the Governor issued a second drought proclamation on April 25, 2014. This report provides an update of the City's ongoing drought and water shortage response and mitigation efforts, and requests adoption of a second water shortage resolution, and approval to purchase vibration monitoring equipment for the City's surface water intakes affected by low river flows resulting from the ongoing drought conditions.

Policy Considerations: The City's ongoing drought mitigation actions are consistent with the requirements of Section 10632 of the California Water Code, Chapter 5 of the City's 2010 Urban Water Management Plan, and Article XI (Outdoor Water Conservation) of Chapter 13.0 of City Code. City Council approval is required for purchases of \$100,000 or more. On March 4, 2014, the City Council passed Resolution No. 2014-0057, suspending competitive bidding for the purchase or lease of equipment, supplies, and services needed on an emergency basis to mitigate water shortage impacts for a cumulative amount not-to-exceed \$1,000,000.

Resolution No. 2014-0057 applies to the proposed purchase of vibration monitoring equipment for the City's surface water intakes, because the drought has resulted in significantly lower river levels than the City is used to seeing at the intakes, which potentially can cause cavitation that can lead to permanent intake pump damage. The purchase and installation of vibration monitoring equipment will detect potentially harmful vibrations so that operators are notified and the pumps are shut down before damage can occur. Due to the critical time-sensitive nature of this equipment, this purchase was not competitively bid. Given the immediacy of the City's drought response, Bently Nevada was selected as a vendor to provide this equipment for two reasons: 1) the vibration sensors desired contain programmable logic controls (PLC) which provide an immediate interface into existing Utilities pump control technologies; 2) the vendor provides regional support for troubleshooting and future maintenance.

Economic Impacts: Unknown.

Environmental Considerations: The proposed action is exempt from review under the California Environmental Quality Act (CEQA) as part of the City's continuing administrative activities to implement the UWMP (CEQA Guidelines section 15378(b)(2)), and because it can be seen with certainty that the action would have no significant effect on the environment (CEQA Guidelines section 15061(b)(3)). A reduction in water usage will reduce potential environmental effects associated with water use, by reducing surface water diversions, as well as reducing energy consumption and other impacts

associated with water production and distribution and the collection and treatment of this water after it has been used. A reduction in surface water diversions also will increase the availability of surface water for maintenance and protection of natural resources and the environment. Purchase and installation of the vibration monitoring equipment is exempt from CEQA under CEQA Guidelines section 15301(b), as a minor alteration of existing utility facilities with no expansion of existing levels of use.

Sustainability: Continued implementation of the WSCP supports the City's sustainability goals of reducing greenhouse gases and conserving resources.

Commission/Committee Action: Not applicable.

Rationale for Recommendation:

Financial Considerations: Under the current rate structure, continued or expanded implementation of the Water Shortage Contingency Plan will likely decrease the Department of Utilities' water revenues that are generated from its customer base that is billed by volumetric consumption. The Department will continue to closely monitor the cost and revenue impacts of sustained and expanded implementation of the City's water shortage measures.

The proposed purchase of vibration monitoring equipment, for an amount not-to-exceed \$225,000, was not competitively bid because it is a drought-response measure for which the City Council suspended competitive bidding under Resolution No. 2014-0057. The contracting amount presently available without competitive bidding under Resolution No. 2014-0057 is sufficient for the proposed purchase. On April 22, 2014, the City Council authorized the continued lease of submersible pumps at the Fairbairn Water Treatment Plant, without competitive bidding, as an emergency drought-response measure under Resolution No. 2014-0057, for an amount not-to-exceed \$313,500.

This reduced the amount available for emergency drought-response procurement without competitive bidding under Resolution No. 2014-0057 to \$685,500, which is more than the proposed purchase amount of \$225,000. Adequate funds are available in the Department's capital budget Z1414-0505 for this purchase.

Local Business Enterprise (LBE): Due to the emergency nature of the vibration equipment installation, and the City Council's prior suspension of competitive bidding for emergency drought-response actions, staff requested a LBE Participation Waiver.

Background

Drought Conditions and Outlook

Calendar year 2013 was the driest year on record for much of Northern California. This condition was preceded by two consecutive years of below normal precipitation in the Sacramento region and snow pack in the Sierra Nevada Mountains. Water storage at Folsom Reservoir remains very low, at approximately 57% of capacity as of May 2014. No significant precipitation is forecast for the remainder of the spring and summer.

On January 17, 2014 Governor Brown declared a Drought State of Emergency for the State of California. Preceding the State's pronouncement, on January 14, 2014 the Sacramento City Council adopted Resolution No. 2014-0018 declaring a water shortage, pursuant to City Code section 13.04.910, and implementing Stage 2 of the Water Shortage Contingency Plan (WSCP) as outlined in the City's 2010 Urban Water Management Plan (UWMP).

On April 25, 2014, Governor Brown issued an additional proclamation redoubling drought mitigation efforts. Specifically, the Governor's order calls on Californians and California businesses to take specific actions to conserve water, including limiting lawn watering and car washing; recommends that schools, parks and golf courses limit the use of potable water for irrigation; and asks that hotels and restaurants give customers options to conserve water by not washing sheets and towels, and only serving water upon request. The order also prevents homeowner associations from fining residents that limit their lawn watering and take other water conservation measures.

WSCP Stage 2 Activities

The City's UWMP Stage 2 establishes a goal for at least 20% reduction in overall water consumption. The Department of Utilities (DOU) has measured this by comparing monthly 2014 water production to the baseline average of 2012 and 2013 production. To accomplish this reduction the City is employing a 'portfolio' water savings approach, which is inclusive of a range of water shortage measures intended to educate and provide tools to customers to achieve conservation, generally consisting of:

- Customer outreach and education;
- Increased Water Conservation Ordinance enforcement;
- Conservation incentive programs; and
- Operational efficiencies to enhance water production capabilities and minimize distribution water losses.

A Citywide Drought Taskforce has been established to work collaboratively on City communication and operational strategies to achieve Stage 2 water conservation objectives. Through the Task Force, City departments have developed water use reduction plans. Department plans include revised operational practices to reduce irrigation at City parks and medians and programs to recapture and reuse water used for maintenance and construction. Departments will provide ongoing updates of their drought mitigation activities.

Article XI of Chapter 13.04 of the Sacramento City Code establishes the City's outdoor water use requirements and penalties for noncompliance. Under City Code section 13.04.890 (D), when the City Council declares a water shortage, the penalty amounts specified for violations of the City's ordinance are doubled while the water shortage remains in effect.

Effective March 9, 2014, water shortage regulations limited outdoor irrigation during daylight savings time to two days per week. To improve enforcement, the DOU and Community Development Department have collaborated to utilize Code Enforcement staff to assist with outdoor water use patrols. Since April 2014, this strategy has bolstered the number of City staff involved in patrols from approximately 7 to 40, providing a significant augmentation to water conservation enforcement efforts.

The DOU recently completed a survey of customers to determine the most effective strategies to improve drought outreach and communication. Beginning in late February, a variety of media efforts including utility bill inserts began to educate customers on the daylight savings irrigation restrictions and other ways to reduce water consumption. In addition, the City continues ongoing collaborative outreach and planning efforts with regional and State partners, such as the Regional Water Authority (RWA), the Water Forum, and the Association of California Water Agencies (ACWA).

In April 2014, at Council's direction, DOU began implementation of the River Friendly Landscape Program (cash for grass). Participants in this program

will receive 50 cents per square foot in rebates for converting their existing turf grass to drought tolerate and water-wise landscapes. This program augments the existing incentive programs that are available to residential and business customers to upgrade to higher efficiency appliances and fixtures. As of May 2014, there are approximately 700 residents who have expressed interest in the program. Funds have been identified for the pilot Program in the approved Fiscal Year 2013/14 DOU operating budget.

Water losses in the distribution system are estimated to be roughly 10% of total annual water production. To address this, the DOU has expanded acoustic leak detection operations to identify and repair distribution system water losses. Since January 2014 this program has reduced water loss by approximately 1.3M gallons. Leak detection will be an ongoing component of the Department's strategy to recover and maximize existing water resources.

Given the lower flows in the American and Sacramento Rivers, the City has recently taken a number of actions to mitigate potential adverse impacts of the ongoing drought conditions on the City's water production capabilities. These actions include the installation of temporary submersible pumps at the American River Intake, contracting on an emergency basis for the removal of sediment at the Sacramento River intake, and the acceleration of work necessary to restore service at nine groundwater wells.

Recommended Purchase of Vibration Monitoring Equipment

The drought has resulted in significantly lower river levels than the City is used to seeing at its surface water intakes, which can potentially cause cavitation that can lead to permanent pump damage. To prevent this from happening, DOU is recommending the purchase and installation of vibration monitoring equipment that will detect potentially harmful vibrations before damage occurs. This equipment would tie into DOU's SCADA system with an alarm to alert Operations staff, and a subsequent automatic shutdown of the pumps before damage could occur. This equipment provides a twofold benefit with protection of our infrastructure and increased systems reliability. To purchase and implement a fully automated protective system will cost approximately \$225,000.

Conservation Results

Customer outreach has been successful in raising awareness of Stage 2 water restrictions and resulted in a substantial increase in water use violation calls. Between January 1 and May 31, 2014 there were 1720 reports of improper water use, as compared to 60 in the same period in 2013.

Since the Council's water shortage declaration, water production [as measured in millions of gallons per day (MGD)] has begun to decline. Detailed water production results will continue to be provided on a regular basis to monitor progress and will serve as a trigger to determine future actions and recommendations.

Future Drought Mitigation Plans

Both the California Department of Water Resources and U.S. Bureau of Reclamation have significantly reduced upstream reservoir releases to conserve water and are considering reducing flows even lower based on an anticipated dry winter. This has resulted in lower flows in the American and Sacramento Rivers where the City's two surface water intakes are located, although Reclamation's releases into the lower American River currently are higher than previously anticipated, which Reclamation has indicated is occurring to meet salinity requirements in the Delta. The regional purveyors who rely on water from Folsom reservoir have expressed concerns that Reclamation's continued higher-than-expected releases from the reservoir may jeopardize future water availability from the reservoir if another dry year occurs.

During the last week of May, the State Water Resources Control Board (SWRCB) issued notices of curtailment to post-1914 appropriative water right holders in the San Joaquin and Sacramento River watersheds. The SWRCB's curtailment order applies to diversions of natural flow, but not to authorized diversions of water that is released from storage in upstream reservoirs.

The City holds both pre-1914 and post-1914 appropriative water rights. A significant portion of the water the City diverts under its post-1914 rights is water released from upstream reservoirs in the American River basin, which is not subject to the curtailment notice. The DOU anticipates that sufficient water will continue to be released from these upstream reservoirs to meet the City's surface water demands, but it is critical that the City maintain a

steadfast commitment to the ongoing water conservation measures while the drought persists, as well as long term water conservation planning to maintain water supply reliability.

Should the drought conditions persist into the fall and winter of 2014, it may be necessary to implement increased measures as called for in Stages 3 and/or 4 of the City's Water Shortage Contingency Plan. Staff has outlined a series of drought response triggers and actions to guide future decisions that may be necessary to achieve additional conservation and/or enhance water supplies. These actions may warrant immediate implementation if drought conditions persist. Therefore, it is prudent for the City to be proactive in the establishment of the fiscal policies necessary to expedite drought and water shortage mitigation plans and ensure adequate water supply.

RESOLUTION NO.

Adopted by the Sacramento City Council

June 17, 2014

DECLARING CONTINUING WATER SHORTAGE AND IMPLEMENTING ADDITIONAL WATER CONSERVATION RESTRICTIONS

BACKGROUND

- A. The City of Sacramento has three water supply sources: American River water, Sacramento River water, and groundwater. The City diverts surface water for approximately 85% of the City's water supply from the two rivers under its Sacramento and American River water rights and entitlements, with the remaining 15% provided by groundwater wells.
- B. Article XI of Chapter 13.04 of the Sacramento City Code (Outdoor Water Conservation) specifies outdoor water use limitations and restrictions to promote efficient water use and increase water conservation. City Code section 13.04.910 authorizes the City Council, by Resolution, to declare the existence of a water shortage and impose revised or additional limitations and restrictions on outdoor water use while the water shortage remains in effect.
- C. On January 14, 2014, based on critical drought conditions, the Sacramento City Council adopted Resolution No. 2014-0018, declaring a water shortage and implementing Stage 2 of the City's water shortage contingency plan, which enacted water conservation measures and water use restrictions in addition to those already included in the City Code with the goal of reducing water use by 20% or more.
- D. The City's Department of Utilities also activated an emergency drought response team, appointed an Incident Commander, and deployed an Incident Command Structure to effectively address all aspects of the drought including: operational issues, planning and strategy, public outreach and education, funding and financing, and logistics. The drought response team meets weekly.
- E. On January 17, 2014, Governor Jerry Brown signed a proclamation declaring a drought State of Emergency in California.
- F. On January 31, 2014, the State Board approved a Temporary Urgency Change Petition filed by the California Department of Water Resources (DWR)

and U.S. Bureau of Reclamation (USBR), lowering Bay-Delta flow requirements to allow the DWR and USBR to reduce releases and maintain more water in State Water Project (SWP) and Central Valley Project (CVP) reservoirs, resulting in further reductions to river flow levels upstream of the City's surface water intakes. Since that time the State Board has approved subsequent revisions to SWP and CVP operations in response to the drought.

- G. On April 25, 2014, Governor Jerry Brown signed a proclamation of a continued drought State of Emergency in California, which included, among other things, the following provisions:

3. Recognizing the tremendous importance of conserving water during this drought, all California residents should refrain from wasting water:

- a. Avoid using water to clean sidewalks, driveways, parking lots and other hardscapes.*
- b. Turn off fountains and other decorative water features unless recycled or grey water is available.*
- c. Limit vehicle washing at home by patronizing local carwashes that use recycled water.*
- d. Limit outdoor watering of lawns and landscaping to no more than two times a week.*

Recreational facilities, such as city parks and golf courses, and large institutional complexes, such as schools, business parks and campuses, should immediately implement water reduction plans to reduce the use of potable water for outdoor irrigation.

Commercial establishments such as hotel and restaurants should take steps to reduce water usage and increase public awareness of the drought through measures such as offering drinking water only upon request and providing customers with options to avoid daily washing of towels or sheets.

** * **

- H. During the last week of May, 2014, the State Water Resources Control Board (State Board) issued notices of curtailment for post-1914 appropriative water rights in the Sacramento and San Joaquin River watersheds, and indicated that notices of curtailment to some pre-1914 and riparian right holders may be issued in the near future.
- I. The City of Sacramento is implementing numerous measures to implement the City Council's declaration of water shortage and Governor's drought

proclamations, promote water conservation, and increase water use efficiency, by:

- Prohibiting the use of City water to wash down sidewalks, driveways, or parking areas.
- Prohibiting the waste of City water from leaky water lines or fixtures, and prohibiting water runoff due to excessive application of City water for irrigation.
- Encouraging residents to limit residential car washing by patronizing carwashes that recycle water. The City also prohibits residential car washing with a hose unless the hose is equipped with an automatic shut-off nozzle attachment, and the attachment is being used to shut off the flow of water at all times when the hose is not being used to wash the vehicle.
- Limiting outdoor irrigation for residential or commercial purposes while daylight savings time is in effect to two days per week, based on the street address, with no watering allowed between 10 a.m. and 7 p.m., and no watering allowed at all on Mondays, Thursdays, and Fridays. Outdoor irrigation is restricted to one day per week when daylight savings time ends.
- Significantly increasing enforcement of the City's outdoor water use restrictions, with a doubling of violation penalties while the water shortage remains in effect. To enforce these restrictions, the City has trained code enforcement officers to augment City water conservation staff in patrolling the streets. Over 1,800 notices of violation have been issued for irrigation-related violations since the water shortage began.
- Establishing a multi-departmental task force to assure that the City would lead by example and significantly reduce the City's own water use. Following the City Council's declaration of a water shortage in January, the use of water from February through May by City parks and other City facilities (approximately 1,000 accounts) has been reduced by approximately 57 % from the same time period in 2013.
- Working with commercial and governmental water service customers to identify ways to reduce water usage, including reductions in outdoor irrigation usage, and encouraging restaurants and hotels to conserve water by offering drinking water on request and providing options to the daily washing of towels or sheets.
- Conducting an extensive and ongoing public information effort throughout the City to inform City residents and businesses of the need for water conservation, the water use limitations and restrictions

adopted and enforced by the City, and practical ways to reduce water use.

- Doubling the City's ongoing leak detection and correction efforts.
- Advancing roll-out of the City's "River Friendly Landscape Program" (aka "cash for grass") to encourage residential customers to replace turf with drought tolerant landscaping.
- Expediting the rehabilitation of nine existing groundwater wells on an emergency basis to reduce surface water usage, and entering into agreements with neighboring agencies to receive supplemental groundwater if needed due to drought-related shortages.

J. The only item in the Governor's proclamation of a continuing drought State of Emergency excerpted in Recital G, above, not already being addressed by the City is the call for residents and businesses to turn off fountains and other decorative water features unless recycled or grey water is used.

K. This Resolution adds a provision addressing the use of water fountains to the City's Stage 2 water conservation measures, and adds restrictions to the City's current outdoor water use requirements to improve the enforcement and effectiveness of these requirements while the water shortage continues.

BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL RESOLVES AS FOLLOWS:

Section 1.

Based on the on-going drought conditions, the Sacramento City Council hereby declares that a water shortage continues to exist, and that each and every provision of Resolution No. 2014-0018 shall remain in full force and effect, as supplemented by the provisions of this Resolution.

Section 2.

The water conservation measures and water use restrictions described below are adopted:

- A. The City Manager shall encourage City residents to turn off fountains and other decorative water features that do not use recycled water or grey water.
- B. No person shall knowingly or willingly cause or allow any city water used on residential property for non-irrigation purposes to flow away as water waste runoff (as defined in City Code section 13.04.840) from property owned or occupied by such person, except for water used to wash a vehicle in compliance with City Code section 13.04.870(B).

Section 3.

The water conservation measures and water use restrictions described in Section 2 of this Resolution are in addition to the provisions of Resolution No. 2014-0018 and the existing provisions of Article XI of Chapter 13.04 of the City Code (Outdoor Water Conservation); in the event of any conflict between any provision of Article XI and this Resolution or Resolution No. 2014-0018, the provisions of this Resolution and Resolution No. 2014-0018 shall govern while these Resolutions remain in effect.

Section 4.

The City Manager is authorized and empowered to delegate the City Manager's authority hereunder to such assistants, deputies, officers, employees, or agents of the City as the City Manager shall designate, and to establish such rules, regulations, and procedures, and to prepare or furnish such forms, as the City Manager deems necessary or appropriate to carry out the provisions of this Resolution.

Section 5.

No person shall use, or cause to be used, City water in violation of any of the provisions of this Resolution, or of Resolution No. 2014-0018, while the water shortage remains in effect, as specified in City Code § 13.04.870(G).

Section 6.

The penalties for violations specified in City Code § 13.04.890 shall continue to be doubled while the water shortage remains in effect, as specified in City Code § 13.04.890(D).

Section 7.

This Resolution shall be effective upon its adoption, and shall remain in effect until rescinded or otherwise modified by subsequent resolution of the City Council.

Section 8.

This Resolution shall be published within ten days after its adoption, pursuant to California Water Code § 376(a).



City of Sacramento

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For the attention of: **Mr. Wasina**
Subject: **Bently Nevada online condition monitoring on Intake Pumps**
Reference: Proposal No. 1049217 rev 0 (Budgetary Price Proposal)
Proposal Date: 1-April-2014

GE - Bently Nevada is pleased to submit this Budgetary Price Proposal to provide Bently Nevada Machinery Protection hardware and services for the motor driven intake pumps at the Sacramento and American Rivers. Currently these machines are currently not equipped with vibration monitoring. After a review by our application best practices on these machines, the recommended monitoring includes our 1900/65A monitoring & Protection system, (3) case mounted Velomitor sensors and associated cabling per unit. The sensors will be placed on each of the motor bearings (top & bottom) and one placed perpendicular to the pump discharge piping near the coupling area. A site walk down on the Sacramento facility recorded the following details for the (8) machines. This proposal will focus on budgetary numbers for the Sacramento facility only for now, but price per unit estimates can be carried to the American River facility.

- (6) - 300HP Motor Driven Pumps
- (2) - 150HP Motor Driven Pumps



The 1900/65A monitoring protection systems contain (4) vibration inputs, (4) temperature inputs (not used in this case), 4-20mA outputs, relay outputs, local display and TCP/IP Modbus interface to export the data to the plant PLC/DCS. The 1900/65A is software configurable and all alarm and danger parameters as well as Modbus communications can be configured. The Modbus Gateway allows the monitor to provide static variables, statuses, event list, time and date information directly to any Modbus client, including Distributed Control Systems (DCSs), Supervisory Control and Data Acquisition (SCADA) systems, Programmable Logic Controllers (PLCs). Additionally, the 1900/65A systems will be provided with a NEMA 4X enclosure to be mounted on the unistrut next to the machines



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By installing the Bently Nevada 1900/65A monitoring systems, the City of Sacramento will gain online continuous monitoring of these machines with data trended back and the PLC/DCS. This will allow the City of Sacramento to evaluate the operating conditions and the health of the equipment to make operating decisions. Recently with lower water levels, the machines have experienced cavitation, where the monitoring system can evaluate and determine the severity of the conditions. The scope of this proposal includes the necessary hardware (1900/65A, Velomitors and cables) along with services (Kick of meeting, electrical design drawings, configuration, loop checks, startup technical assistance, DCS integration and a project report).

Budgetary Priced Proposal

Description	Price
<p>Base Project – 1900/65A monitoring systems: GE Energy-Bently Nevada will provide (8) 1900/65A monitoring & protection systems to monitor the intake pumps at the Sacramento River facility. Pricing includes (3) Velomitor sensors per unit and associated cabling. Services include, site kick off meeting, electrical design drawings, configuration, loop checks, Modbus communication (DCS support), startup/commissioning services and project report.</p>	<p>\$ 110,868.00 (Approx. \$13,858 per unit)</p>

Note 1: The above price does not include taxes or duties.

Scope of Work:

ADDITIONAL ASSUMPTIONS & CLARIFICATIONS:

- All prices are budgetary, +/- 15%
- Purchased and installed in 2014
- Services estimate is based on using local services from the Sacramento, CA area. 6 weeks notice required to ensure local resources can be used, otherwise airfare will need to be priced into the proposal.
- Startup of the machines associated with the 8x 1900/65A systems is expected to occur over 2 days, as quoted.

BUYER RESPONSIBILITIES:

- Appoint a Project Manager as a single point of contact responsible for obligations associated with this project.
- City of Sacramento IT folks available to support integration of systems (Ethernet cable from 1900/65A rack to DCS)
- Installation and wiring of the 1900/65A systems is to be provided by City of Sacramento. Bently Nevada will provide electric drawings showing wiring connections. Connections required before Bently Nevada arriving onsite for testing.



- Provide advanced notification of safety training requirements.
- Supply GE with any site-specific policies and procedures.
- Coordination with plant operations for the implementation of scope of work.
- Plan internal resources as required to implement scope and schedule defined.
- Supply needed work permits prior to start of each workday.
- Buyer to provide a work area to consist of desk and phone access.
- Removal of covers to access transducers, if required.
- Buyer will provide all plant services such as light, heat, water, electric power and disposal of all waste materials.

TERMS AND CONDITIONS:

This proposal is subject to the terms and conditions listed below, and by reference are incorporated herein. To the extent there are conflicts or inconsistencies between this set of Terms and Conditions and the preceding information provided in this document, the preceding information shall prevail.

- GE Oil & Gas ES 104 Terms and Conditions (per below) noted below.

PAYMENT TERMS:

Our Firm Price Quotation is based upon the following invoicing schedule and terms:

- 1.1.1 All Pricing is in United States Dollars (US\$)**
- 1.1.2 All Payments are NET 30 Days from receipt of invoice**
- 1.1.3 Project Invoicing Schedule:**

<i>Project Payment Milestone</i>	<i>Invoice Amount</i>
Contract Signing/Purchase Order Receipt	25%
Shipment of Equipment (Hardware/Software)	70%
Demobilization from the jobsite	5%

PURCHASE ORDER:

Buyer's Purchase order shall provide the following deliverables:

- Purchase Order conforming to this proposal.
- Purchase Order should be made out to **Bently Nevada, Inc.** at the address listed below.

Note: Deviations from the proposal in Scope, Price, payment schedule, Terms and Conditions, Shipment Cycle, or Installation Cycle may cause delays or non-acceptance of Purchase Order.

- The execution period of this contract starts from Sellers Order Acknowledgement date.



LEGAL ENTITY:

Upon the Buyer's decision to submit a purchase order, please address the Purchase order to the following Seller's Legal Entity:

- Upon the Buyer's decision to submit a purchase order, please address the Purchase order to:
Bently Nevada, Inc.
1631 Bently Parkway South
Minden, NV 89423
Attn: Darren Evans

NOTE: Please FAX Purchase Order to (360) 368-6067 or email PDF version to darren1.evans@ge.com.

GENERAL PRICING CONSIDERATIONS:

Pricing Basis and proposal validity

Prices herein are fixed price and valid for 60 days of the proposal date. Bently Nevada Inc. reserves the right to review the pricing assumptions and adjust the project pricing based upon an agreed upon project schedule.

Out of Scope Works

"Out of scope works" shall be defined as "Any additional work required, requested, or recommended not specifically defined in the scope of work proposed herein". Upon receipt of written request, Seller may provide a firm price quotation or perform the work at the rates provided herein. Additional works will not commence until additional pricing and/or changes to schedule have been agreed.

Delays

Delays in the performance of work beyond the reasonable control of Seller, or delays caused by acts of the Buyer or prerequisite work by others, shall entitle Seller to an adjustment of time and price for completion of its work and expenses resulting there from.

All information and pricing contained herein is confidential to GE Energy. Any distribution or use of this document for purposes other than its original intent is expressly forbidden without prior GE Energy written authorization.



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We thank you for the opportunity to provide this fixed priced proposal for this project to help define project scope. Additional information on GE Energy and our products and services can be found on our website at www.ge-energy.com/oc. If you have any questions or concerns regarding this proposal, please do not hesitate to contact my cell phone at (775) 230-3983.

Yours sincerely,
For and On behalf of GE Energy – Measurement & Control Solutions



Darren Evans
Sales Manager
Bently Nevada Asset Condition Monitoring
M: (775) 230-3983

This document, all related and derivative information, whether written or oral is submitted in confidence for evaluation by the Buyer. As such, its contents are proprietary and confidential to Seller. In taking receipt of this document, Buyer agrees not to reveal its contents, to third parties or otherwise, except to those who must evaluate it. Upon written request of Seller, Buyer will return all copies of this document to Seller. The equipment listed in this document is based on preliminary information and is subject to change.

Sales Contact:

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Mobile Phone: (775) 230-3983
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