

PANAMA CANAL AUTHORITY	VARIATION	PAGE 1 OF 4
1. REQUEST FOR PROPOSAL No.:  RFP-76161	2. CONTRACT No.:  CMC-221427	3. DATE: June 20, 2014
		4. VARIATION No.: 103

5. ISSUED BY:

PANAMA CANAL AUTHORITY  
Employer's Representative  
Locks Project Management Division  
Building 740, Corozal  
Panama, Republic of Panama

6. NAME AND ADDRESS OF CONTRACTOR (INCLUDE PHYSICAL & POSTAL ADDRESS)  Grupo Unidos por el Canal, S.A. Building 22B, Brujas Road Cocoli, Republic of Panama	7. CONTRACTOR'S TELEPHONE NUMBER:  507-316-9900
	8. CONTRACTOR'S FACSIMILE NUMBER:

9. VARIATION:


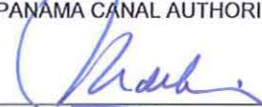
- The contract referred to in item No. 2 is hereby varied as set forth in item 10, entitled "DESCRIPTION OF VARIATION".  
 YES.  NO. The contractor shall send a copy, duly signed, of this Variation to the Employer's Representative/Contracting Officer.

	9 A. THIS VARIATION IS EXECUTED ON THE BASIS OF: (Specify the legal authority).  THE VARIATION DESCRIBED IN ITEM 10 IS HEREBY INCORPORATED AND MADE A PART OF THE CONTRACT.
	9 B. THE CONTRACT REFERRED TO IN ITEM NO. 2, IS VARIED TO INCORPORATE ADMINISTRATIVE CHANGES (such as the paying office, account numbers, etc.).
X	9 C. THIS BILATERAL AGREEMENT IS SIGNED AND INCORPORATED INTO THE CONTRACT REFERRED TO IN ITEM NO. 2 OF THIS FORM, ON THE BASIS OF: (Specify the legal authority) Volume III, Conditions of Contract, Sub-Clause 1.16 [Entire Agreement].]
	9 D. OTHER. (Specify manner and the legal authority).
	9 E. ACCOUNT NUMBER (If required):

10. DESCRIPTION OF THE VARIATION (List in accordance with the order of the Contract. If additional space is required, use blank sheets).

### See attached

Except for the variation(s) herein specified, all other terms and conditions of the Contract remain unchanged.

11. NAME AND TITLE OF THE PERSON AUTHORIZED TO SIGN (Type or print)  Giuseppe Quarta Contractor's Representative	12. NAME AND TITLE OF THE EMPLOYER'S REPRESENTATIVE/CONTRACTING OFFICER (Type or print)  Jorge de la Guardia, Employer's Representative
13. CONTRACTOR    (Authorized signature)	14. DATE:  15. PANAMA CANAL AUTHORITY    (Employer's Representative/Contracting Officer's signature)
	16. DATE:  20/01/2014

This Variation No. 103 is issued to reflect the following changes:

1. **Volume II, Part 2, Section 40 91 00 [Primary Process Measurement Devices]:**  
Add new Paragraphs 1.03.B.6.b,c and d, as follows:

*"b. Reserved*

*c. Reserved*

*d. **Ultrasonic Flow Meters (UFMs):** Units for Waste Water Treatment Plant applications can be UFM type with appropriately designed V-notch weir." RFV-238*

2. **Volume II, Part 1, Section 31 23 16.26 [Drilling & Blasting]:** Paragraph 1.03.C.1.a, previously agreed upon in Variation No. 021, shall be renumbered and modified to read as follows:

*"Explosive:*

*a. **Acceptable and Unacceptable Explosives:** Explosives made with nitroglycerine-based material will not be permitted for safety, health, and environmental reasons. Dry blasting agents and slurries or water gels and emulsions are acceptable. Explosives are known to age and deliver much less than the rated energy. For this reason, it is required that (subject to subparagraphs (i) and (ii) below) all explosives used on this Contract be 1 year or less in age. Products that do not meet manufacturers' specifications shall not be used on the project.*

*(i). **Detonating cords [including those that are classified as explosive, i.e. 5g/m and above]:** It is required that all detonating cords used on this Contract be 5 years or less in age according to the manufacturer requirements. Products that do not meet manufacturers' specifications shall not be used on the project. The Contractor must demonstrate that the storage conditions of the detonating cord is appropriate according to Institute of Makers of Explosives (IME) and to the manufacturer's requirements to achieve the usable period of the product. The Contractor must clearly show the date of manufacture of detonating cords before they are used in the project."*

*(ii) **Detonators and Lead-in-lines** used on this Contract shall be of 4 years or less in age according to the manufacturer's requirements. Products that do not meet manufacturer's specifications shall not be used on the Project. The Contractor must demonstrate that the storage conditions of the Detonators and Lead-in-lines are appropriate according to Institute of Makers of Explosives (IME) and the manufacturer's requirements to achieve the usable period of the product. The Contractor must clearly show the date of manufacture of detonators and lead-in-lines before they are used in the*





*project.”*

RFV-240

3. **Volume II, Part 2, Section 33 81 26 [Outside Plant Pathways for Underground Communication]:** Paragraph 1.03.B.1.b.3), shall be deleted and replaced as follows:  
  
“3) *MH inside dimensions shall be 2.45 m long by 1.85 m wide by 2.15m deep, or larger. If a precast method is used, MH inside dimensions shall be 2.25 m long by 2.25 m wide by 2.15 m deep, or larger.*”  
  
(RFV-241)
4. **Volume II, Part 2, Section 40 96 45.13 [Process Control Software for LMCS]:** Paragraph 1.04.B.12, shall be deleted and replaced as follows:  
  
“12. *Help: Shall at least include a) Help (running the Windows HELP.EXE application with the HMI help document in HLP format), b) System Statistics (to include hard drive space, memory available, number of tags, number of displays, and other statistics), c) Critical Telephone Numbers List, d) Expert Help, and e) About, containing Employer and Contractor credits.*”  
  
(Lt. IAE-UPC-1983)
5. **Volume II, Part 2, Section 40 96 45.13 [Process Control Software for LMCS]:** Paragraph 1.04.D.3.a, shall be deleted and replaced as follows:  
  
“a. *File: Shall at least include a) User Management and Security, b) HMI Preferences (a dialog to configure auto and manual selection of which HMI application server to use, and configure file locations), and c) Exit.*”  
  
(Lt. IAE-UPC-1983)
6. **Volume II, Part 2, Section 40 96 45.13 [Process Control Software for LMCS]:** Paragraph 1.04.D.3.e, shall be deleted and replaced as follows:  
  
“a. *Help: Shall at least include a) Help (running the Windows HELP.EXE application with the HMI help document in HLP format), b) System statistics (to include hard drive space, memory available, number of tags, number of displays, and other statistics), c) Critical Telephone Numbers List, d) Expert Help, and e) About, containing Employer and Contractor credits.*”  
  
(Lt. IAE-UPC-1983)
7. **Volume II, Part 2, Section 40 96 45.19 [Process Control Software for Electrical Distribution Control Systems]:** Delete Paragraph 1.04.B.6.a.2, previously agreed upon in VO 046, shall be deleted and replaced as follows:  
  
“2) *.480 VAC lines - Green*”  
  
(Lt. IAE-UPC-1983)
8. **Volume II, Part 2, Section 40 96 45.19 [Process Control Software for Electrical Distribution Control Systems]:** Add new Paragraph 1.04.B.6.a.5, shall be deleted and replaced as follows:



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Design and Construction of the Third Set of Locks

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"5) 4,160 / 2,400 VAC lines - Light purple" (Lt. IAE-UPC-1983)

9. **Volume II, Part 2, Section 40 96 45.19 [Process Control Software for Electrical Distribution Control Systems]:** Add a new Paragraph 1.04.B.6.b.6, as follows:

"6) 12 VDC lines - Pink

7) 48 VDC lines - Light Brown" (Lt. IAE-UPC-1983)

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