

PANAMA CANAL AUTHORITY		VARIATION	PAGE 1 OF 3
1. REQUEST FOR PROPOSAL No.:	2. CONTRACT No.:	3. DATE:	4. VARIATION No.:
RFP-76161	CMC-221427	November 11, 2011	23

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)	7. CONTRACTOR'S TELEPHONE NUMBER:
Grupo Unidos por el Canal, S.A. Building 22B, Brujas Road Cocoli, Republic of Panama	507-316-9900
	8. CONTRACTOR'S FACSIMILE NUMBER:

9. VARIATION:

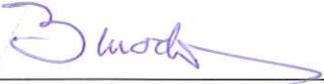
- The contract referred to in item No. 2 is hereby varied as set forth in item 10, entitled "DESCRIPTION OF VARIATION".
 YES. NO. The contractor shall send a copy, duly signed, of this Variation to the Employer's Representative/Contracting Officer.

	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], 4 th Paragraph
	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)	12. NAME AND TITLE OF THE EMPLOYER'S REPRESENTATIVE/CONTRACTING OFFICER (Type or print)		
Bernardo Gonzalez Contractor's Representative	Cheryl George, Employer's Representative Delegee		
13. CONTRACTOR	14. DATE:	15. PANAMA CANAL AUTHORITY	16. DATE:
 (Authorized signature)		 (Employer's Representative/Contracting Officer's signature)	11/Nov/2011

16/11/2011

Variation No. 23 is issued to incorporate the following changes:

1. **Volume II, Part 2 Section 26 90 00 [Field Testing Electrical Systems]- Delete Paragraph 1.03 T.3.a and replace it with the following:**

“a, Perform fall-of-potential test in accordance with ANSI/IEEE 81 on the main grounding electrode or system.” (RFI-334)

2. **Volume II, Part 2 Section 26 90 00 [Field Testing Electrical Systems]- Delete Paragraph 1.03 T.3.b and replace it with the following:**

“b. Perform point-to-point tests to determine the resistance between the main grounding system and all major electrical equipment frames, system neutral, and derived neutral points.” (RFI-334)

3. **Volume II, Part 2 Section 26 90 00 [Field Testing Electrical Systems]- Delete Paragraph 1.03 T.3.c and replace it with the following:**

“c. Reserved” (RFI-334)

4. **Volume II, Part 2 Section 26 90 00 [Field Testing Electrical Systems]- Delete Paragraph 1.03 T.3.d and replace it with the following:**

“d. Reserved” (RFI-334)

5. **Volume II, Part 2 Section 26 90 00 [Field Testing Electrical Systems]- Delete Paragraph 1.03 T.3.f and replace it with the following:**

“f. Test ground paths for electrical equipment, structural steel or reinforcing bars for continuity with the main grounding system by applying a low voltage dc source of current, capable of furnishing up to 100 Amperes. The ground path for electrical equipment, structural steel or reinforcing bars must conduct 100 amperes. Resistance as calculated from the current and voltage must not exceed 0.010 ohms.” (RFI-334)

6. **Volume II, Part 2 Section 27 11 16 [Cabinets, Racks, Frames and Enclosures]- Delete Paragraph 1.02 B.1.d and replace it with the following:**

“d. Doors shall be provided with padlocking handles. Each door shall have a see-through window to see the status lights on the enclosed PLC or RIO units (except for cabinet doors equipped with an Operator Interface Terminal), and hold an industrial operator interface suitable for NEMA 4X enclosures per NEMA 250.” (RFI-368)



7. **Volume II, Part 2 Section 27 53 13 [Time Synchronization Systems]- Delete Paragraph 1.03 A.1.b and replace it with the following:**

“b. Time synch systems shall generate NTP and/or PTP signal(s) in locks isolated networks. The NTP signal in the Employer intranet shall not be used to enforce strong IT security.” (RFI-341)

8. **Volume II, Part 2 Section 40 95 13.19 [Process Control Hardware for EDCSs]- Delete Paragraph 1.03 D and replace it with the following:**

“D. EDCSs shall support time stamping and SOE for all electrical status input points. Timestamp resolution shall be 1 mS or better.” (RFI-357)

9. **Volume II, Part 2 Section 40 96 45.19 [Process Control Software]- Delete Paragraph 1.03 A.1 and replace it with the following:**

“1. Sequence of Events (SOE): The PCS shall capture and store SOE information on fault events of all electrical equipment using status input tags. Timestamp resolution shall be 1 mS or better.” (RFI-357)

10. There is no time or cost impact to the Locks Contract as a consequence of this Variation

