

PANAMA CANAL AUTHORITY	VARIATION	PAGE 1 OF 6
1. REQUEST FOR PROPOSAL No.:	2. CONTRACT No.:	3. DATE:
RFP-76161	CMC-221427	April 1, 2015
		4. VARIATION No.:
		141

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:


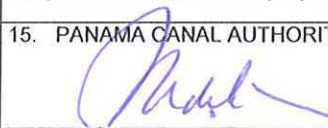
- ☒ The contract referred to in item No. 2 is hereby varied as set forth in item 10, entitled "DESCRIPTION OF VARIATION".
☒ YES. ☐ NO. The contractor shall send a copy, duly signed, of this Variation to the Employer's Representative/Contracting Officer.

	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].
	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)
Giuseppe Quarta Contractor's Representative	Jorge de la Guardia, Employer's Representative
13. CONTRACTOR	14. DATE:
	11/11/2015
(Authorized signature)	15. PANAMA CANAL AUTHORITY
	
	(Employer's Representative/Contracting Officer's signature)
	16. DATE:
	1/11/2015

This Variation No. 141 is issued to reflect the following changes:

1. **Volume II, Part 1, Section 01 81 13 [Filling and Emptying Systems]:** Delete Paragraph 1.04.C.10 e., which currently reads:

- e. ^{A16}The Design Vessel shall be safely held in place in the center of the lock chamber by means of a mooring system.^{A16} For the mooring strength calculation as required in this Section, the Contractor shall use Samson Proton-8 strand lines with 57 mm (2.25 inch) diameters, ultimate tensile ^{A7}strength^{A7} of 140 tons, safety factors of 5 ^{A7}(deleted text).^{A7}

and replace it with the following:

- e. The Design Vessel shall be safely held in place in the center of the lock chamber by means of a mooring system. For the mooring strength calculation as required in this Section, the Contractor shall use Samson Proton-8 strand lines with 56 mm (2.25 inch) diameters, ultimate tensile strength of 143 tons, safety factors of 5.” (RFI-303)

2. **Volume II, Part 2, Section 12 59 83 [Customs Systems Failure]:** Delete Paragraph 1.03.C.1 c., which currently reads:

- c. *Units shall be located to have similar panoramic and orientation in the best viewing angle towards a video wall as specified in Section 11 52 23 (Video Walls), but at different floor levels, to avoid visual interference between them.*

and replace it with the following:

- c. *Units shall be located to have similar panoramic and the best possible viewing angle towards a video wall as specified in Section 11 52 23 (Video Walls), and to avoid visual interference between them. Consoles shall be installed in either the same orientation but at different floor levels, or different orientations at the same floor level.* (RFI-225)

3. **Volume II, Part 2, Section 13 49 00 [Radiation Protection]:** Delete Paragraph 1.04.B.1, which currently reads:

1. *Shielding effectiveness shall be determined in accordance with IEEE 299 and A10MIL-STD-461. A10*

and replace it with the following:

- “1. (Reserved)”

(RFI-554)
(IAE-UPC-1685)
(GUPC-IAE-3447)



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4. **Volume II, Part 2, Section 26 05 26 [Grounding and Bonding for Electrical Systems]:** In Paragraph 1.03.A.1, delete the last sentence which currently reads:

All bonding connections shall be made with exothermic welding process, achieved by employing appropriate tools specifically tailored for each type of welded connection.

and replace it with the following:

All below ground bonding connections shall be made with exothermic welding process. Above ground bonding connections shall be made with exothermic welding process or UL listed compression type lug (bolted) connectors. All bonding connections shall be achieved by employing appropriate tools specifically tailored for each type of connection.

(RFI-213)

5. **Volume II, Part 2, Section 26 20 00 [Electrical Low Voltage Distribution Work]:** Delete Paragraph 1.03.A.2, which currently reads:

2. *Certification: Electrical materials shall be new and listed by the Underwriters' Laboratories, Inc. (UL), wherever standards have been established by that agency. Instead of the UL listing, consideration will be given to certified test reports of an adequately equipped, recognized, independent testing laboratory competent to perform such testing, indicating conformance to the requirements of the applicable UL standards.*

and replace it with the following:

2. *Electrical materials shall be new and listed by the Underwriters' Laboratories, Inc. (UL), wherever standards have been established by that agency. Instead of the UL listing, consideration will be given to certified test reports of an adequately equipped, recognized, independent testing laboratory that is competent to perform such testing, indicating conformance to the requirements of the applicable UL standards. Where commercial products with the UL Listing for use in hazardous locations are not available; FM Approved products will be accepted in their place for use in such locations."*

(RFI-545)

(IAE-UPC-1424)

(GUPC-IAE-3445)

6. **Volume II, Part 2, Section 26 20 00 [Electrical Low Voltage Distribution Work]:** Delete Paragraph 1.04.R, which currently reads:

- R. ^{A7}**Explosion-proof Electrical Installations:** Shall be required in confined or enclosed spaces and at locations below ground level where hazardous vapors and gases may accumulate, as a result of nearby or interior industrial cleaning and painting operations, hazardous cargo spills or leakage from transiting vessels, or ozone produced by local arcing or environmental conditions.^{A7} Typical locations where explosion-proof

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electrical installations are required are: ^{A17}Crossunder ^{A17} tunnels and shafts, and the passageway inside lock gates. Explosion-proof electrical installations, in addition to other requirements, shall comply with NFPA 70, particularly Articles 500 and 501 for Class I hazardous locations. All electrical equipment, including panelboards, circuit breakers, wiring seals, conduit, boxes, lighting, wiring devices, tray cables, motors and controls, control, flood or fire alarm, and instrumentation and related wiring, shall be UL listed for use in such locations. Unless otherwise allowed by Code and practical considerations, all metal used inside such locations shall be non-spark, including cable tray, ladders and security cage. Ferrous metal surfaces shall be thoroughly painted to minimize the possibility of spark generation.

and replace it with the following:

"R. Shall be required in confined or enclosed spaces and at locations below ground level where hazardous vapors and gases may accumulate, as a result of nearby or interior industrial cleaning and painting operations, hazardous cargo spills or leakage from transiting vessels, or ozone produced by local arcing or environmental conditions. Typical locations where explosion-proof electrical installations are required are: Crossunder tunnels and shafts, and the passageway inside lock gates. Explosion-proof electrical installations, in addition to other requirements, shall comply with NFPA 70, particularly Articles 500 and 501 for Class I hazardous locations. All electrical equipment, including panel boards, circuit breakers, wiring seals, conduit, boxes, lighting, wiring devices, tray cables, motors and controls, control, flood or fire alarm, and instrumentation and related wiring, shall be UL listed. Where commercial products with the UL Listing are not available for use in hazardous locations; FM Approved products for use in such locations will be accepted. Unless otherwise allowed by Code and practical considerations, all metal used inside such locations shall be non-spark, including cable tray, ladders and security cage. Ferrous metal surfaces shall be thoroughly painted to minimize the possibility of spark generation.

(RFI-545)

(IAE-UPC-1424)

(GUPC-IAE-3445)

7. Volume II, Part 2, Section 26 50 00 [Lighting Systems]: Paragraph 1.04 B, Table No. 1 [Illumination – Minimum Levels], delete the following sections:

9	Generator Room [GR]				
		Generator set	Type D surface	300	
		Switchgear	Type D surface	300	
		Transformers	HPS- Surface	200	
		Battery	Type F surface	200	
		Telecomm	Type AA recessed	300	
19	^{A19} Guardhouse [GH] ^{A19}				
		Inspection	Type MH Surface	300	
		Workstation	Type AA recessed	500	

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		Conf. & interview	Type AA recessed	500	
		Toilet & changing	Type C surface	200	
		Kitchenette	Type AA recessed	500	
		Cleaning	Type B surface	200	
		Server & other Equipment	Type AA recessed	300	
		Telecomm	Type AA recessed	300	

and replace them as follows:

9	Generator Room [GR]				
		Generator set	Type D surface	300	
		Switchgear	Type D surface	300	
		Transformers	HPS- Surface	200	
		Battery	Type F surface	200	
		Telecomm	Type AA	300	
19	^{A19} Guardhouse [GH] ^{A19}				
		Inspection	Type MH Surface	300	
		Workstation	Type AA recessed	500	
		Conf. & interview	Type AA recessed	500	
		Toilet & changing	Type C surface	200	
		Kitchenette	Type AA recessed	500	
		Cleaning	Type B surface	200	
		Server & other Equipment	Type AA	300	
		Telecomm	Type AA	300	

(RFI-309)

8. **Volume II, Part 2, Section 26 50 00 [Lighting Systems]:** Delete Paragraph 1.04 D. 1. a. 2) which currently reads:

- 2) Type AA: Fluorescent lighting fixture shall be 60 cm wide by 120 cm long fluorescent, with non yellowing virgin acrylic refractive lens, VDT brightness control with a VCP higher than 75. The unit shall be installed recessed in the type of ceiling specified.

and replace it with the following:

- 2) Type AA: Fluorescent lighting fixture shall be 60 cm wide by 120 cm long fluorescent, with non yellowing virgin acrylic refractive lens, VDT brightness control with a VCP higher than 75. Where there is a suspended ceiling the fixture housing shall be designed for recessed mounting otherwise it shall be designed for surface or suspended mounting.

(RFI-309)

9. **Volume II, Part 2, Section 27 05 28 [Communication Pathways for Inside Plant]:** Delete Paragraph 1.03 B. 2. f which currently reads:

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- "f. There shall be no batteries, power transformers, suspended ceiling, or windows in these rooms."

and replace it with the following:

- "f. *There shall be no batteries, power transformers, or windows in these rooms. To permit maximum flexibility and accessibility of cabling pathways, these rooms shall not have suspended ceilings whenever possible, unless the roof is too far away. Suspended ceilings, if any in such rooms, shall be at least 1.219 m (4 ft.) above the level of suspended ceilings in adjacent rooms.*"

(RFI-309)

10. There is no cost or time impact to the Locks Contract as a consequence of this Variation.
11. All of the Contractor's other existing and ongoing obligations as to the progress of the Works remain unaffected.
12. The Parties agree that the Contractor shall have no claims for additional time or money or any other relief or entitlement of any kind as a consequence of this Variation Agreement No. 141 or arising out of it or in any way in connection with it.

