



Panama Canal Third Set of Locks Project



PANAMA CANAL PROJECT OVERVIEW

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Historical background

- Ferdinand de Lesseps on Suez Canal;
- Concept at level 0; bankruptcy, death of 22,000 people (malaria, yellow fever);
- Start by French in 1880; continuation by USA, little investment;
- New concept at level + 26 with 2 x 3 locks
- Opening in 1914 after 34 years
- Handing-over in 1999 by USA to Panama.

The "Lung" of Panama

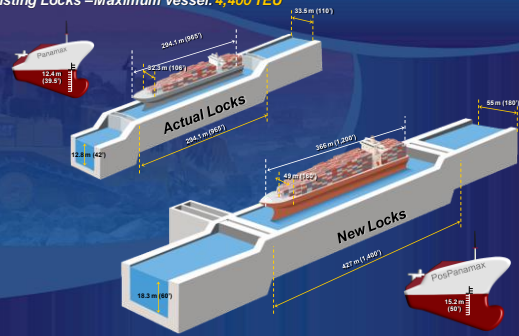
- Role of Panama Canal in international commerce
- Importance of Panama Canal to economy of Republic of Panama
- Increase in worldwide shipping (in general, containers)

Shipping Transportation

- Increase in number of Post-Panamax class vessels
- Link with East Asia markets (such as Hong Kong, China, Japan, Korea, Taipei)
- Competitive link to/from U.S. East Coast

Dimensions of the Locks and PosPanamax Ships

Existing Locks – Maximum Vessel: 4,400 TEU



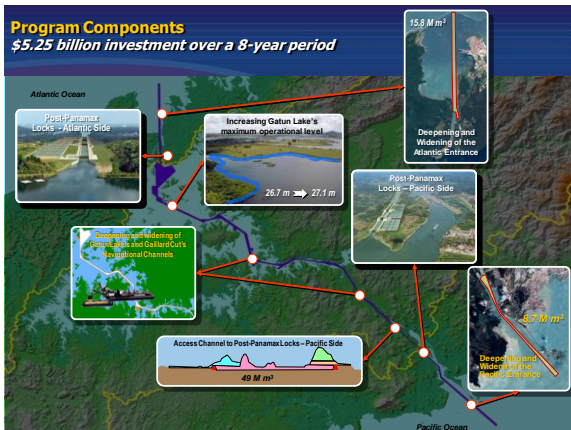
New Locks – Maximum Vessel: 12,600 TEU

Project Key Events 1999-2009

- 1999: Handover of canal to Panama
- Over 100 economic, engineering and environmental studies
- 2006: Referendum
- 2007: Award of first contracts
- 2009: Award of the Third Set of Locks contract

Costs of the Project

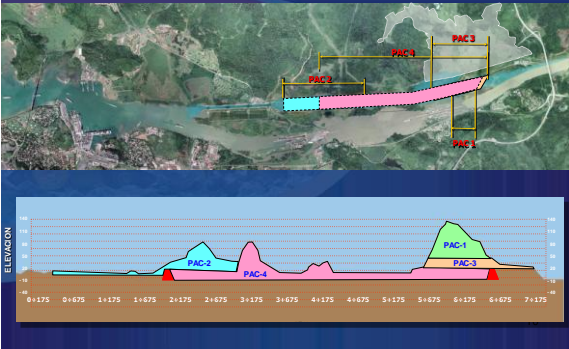
- Overall Project : USD 5.5 billion
- Third Set of Locks : USD 3.2 billion
- Fares / revenues



The Project Packages

- Deepening/widening existing entrance and navigational channels
- New approach channels
- Increased level of Gatun Lake by 0.47 m
- Two new sets of 3 chamber locks (dry excavation)
- Maintenance of current operations

Pacific Access Channel Dry Excavation



Pacific Access Channel - Phase 2



Atlantic Entrance Dredging



Overview of the Third Locks Project



The Contract

- Notice to Proceed: August 2009
- Completion Date: September 2014
- Contract Price: USD 3.2 billion

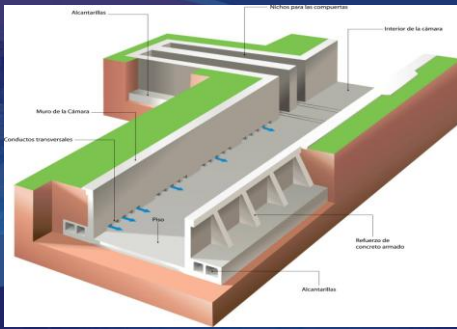
Key characteristics

- Two Contract Work Areas approximately 80 km (one hour drive) apart
- Earth and Rock Excavation: 30 million m³
- Concrete Placement: 3.5 million m³
- Estimated workers at peak: 8,000

Design Concept

- Side filling system
- Rolling gates
- Water saving basins (no pumping)
- Vessel positioning by tugs

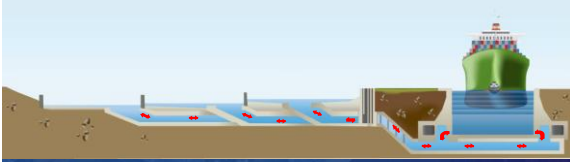
Side Filling System



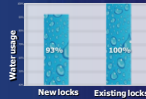
Rolling Gate (Berendrecht Locks, Belgium)



Water Saving Basins (GUPC Proposal)



With the new water reutilization basins, the new locks will use **7% less** water than the existing locks



The Contract

- Design & Build delivery system
- RFP Process - Three teams proposed
- Selection criteria based on best value i.e. technical and financial: 55% and 45%
- Transparent award process
- Successful team: Grupo Unidos por el Canal

Expansion Program Locks Design-Build Project

Consortium	Members	Designers	Manufacturers of Lock Gates
C.A.N.A.L.	ACS Servicios, Comunicaciones y Energía, S.L. – Líder	Sener Ingeniería y Sistemas	ACS Servicios, Comunicaciones y Energía, S.L.
	Acciona Infraestructuras, S.A.	Haskoning Nederland BV	
	Fomento de Construcciones y Contratas, S.A.	Mott MacDonald Limited	
	Hochtief Construction AG	Hochtief Consult	
	Constructoras ICA S.A. de C.V.		
Bechtel, Taisei, Mitsubishi Corporation	Bechtel Internacional, Inc. – Líder	Bechtel Internacional, Inc. – Líder	Wuchang Shipyard
	Taisei Corporation		
	Mitsubishi Corporation		
Grupo Unidos por el Canal	Sacyr Vallehermoso S.A. – Líder	Montgomery Watson Harza (MWH) – Líder	Heerema Fabrication Group [ZPMC?]
	Impregilo S.p.A.	IV-Groep	
	Jan de Nul n.v.	Tetra Tech	

THE CONTRACT TYPE CLAUSES

- Conditions of Contract: FIDIC Yellow Book 1999 - modified version (Plant and Design/Build)
- Dispute Adjudication Board (DAB)
- Owner Management Structure

Acknowledgements and disclaimer

- Acknowledgements:
 - Autoridad del Canal de Panama/Panama Canal Authority (ACP)
 - Grupo Unidos por el Canal (GUPC)
- Disclaimer:
 - The views expressed are those of the speaker and not necessarily those of ACP or GUPC
