

CLP Power's Partnering Contract Journey



1. **CLP Power's Partnering Contract Journey**
2. **Overview of NEC Contracts**
3. **Merits of NEC Process**
4. **Critical Success Factors in NEC**
5. **Way forward**

About CLP Power



CLP Power

- Electricity supply to over 80% of Hong Kong's population
- Safe and reliable power supply services

We build “**Green Substations**” and infrastructures as part of our transmission network development.

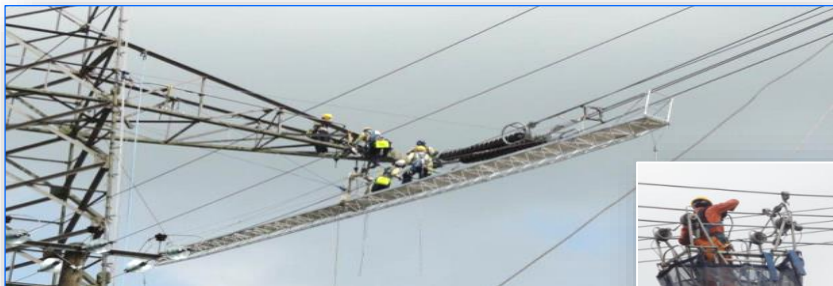
About CLP Power



Substation Projects



Cable Tunnel Projects



Overhead Line Projects



Submarine Cable Installation



Roadmap for Green Substation Development

Prescriptive Approach
before 2000



Chik Wan Street S/S

Environmental Friendliness
Early 2000's



So Kwun Wat S/S

Environmental Conservation & Energy Efficiency
2006 - 2012



Yiu Wing Street S/S



Fu On Street S/S

Sustainable Development
2012 - 2018



Chui Ling Road S/S



West Kowloon Cultural District S/S



Hammer Hill S/S



Wan Po Road S/S



Ma Wan S/S



Cruise Terminal S/S



Chun Yat Street S/S

Lam Tei S/S



Fanling S/S



Sham Mong Road S/S



Pak Shek Kok S/S



Lai Cheung Road S/S



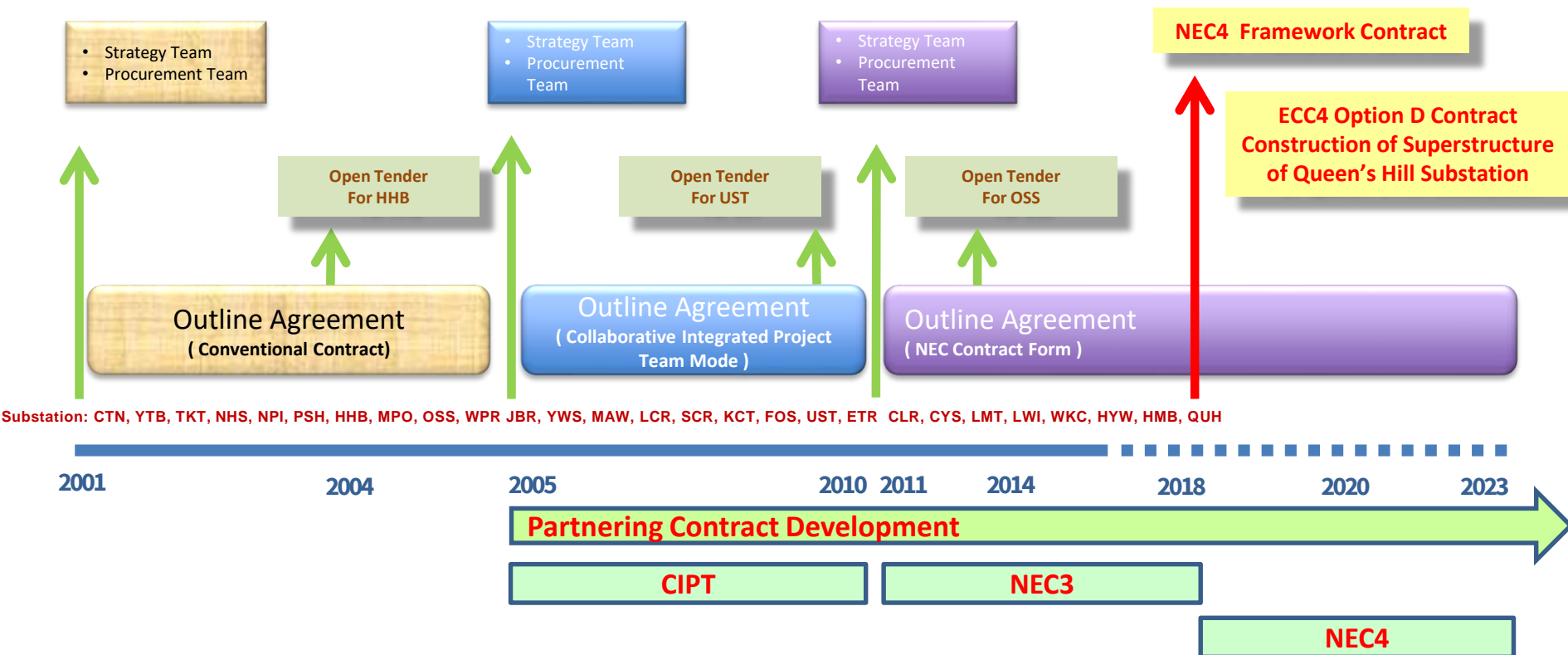
Lai Wan Interchange S/S



Hong Kong-Zhuhai-Macao Bridge S/S

Continuous Improvement with **INNOVATION**

1. CLP Power's Partnering Contracting Journey



2. Overview of CLP Power's NEC Contracts



Option B – Priced contract with BoQ
Option D – Target Contract with BoQ

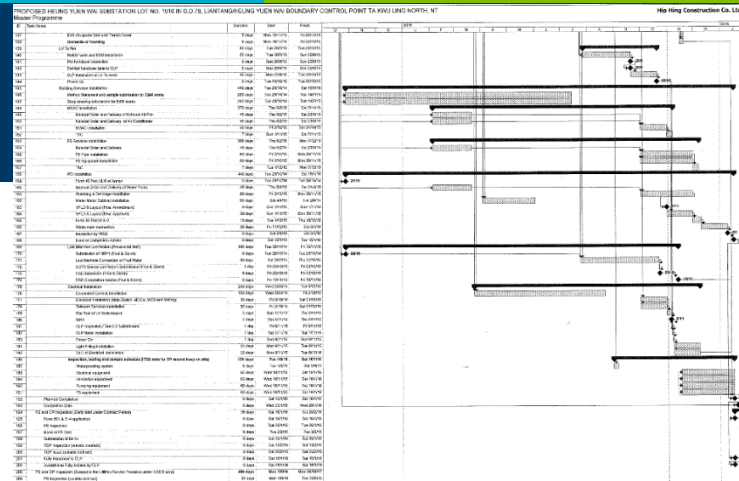
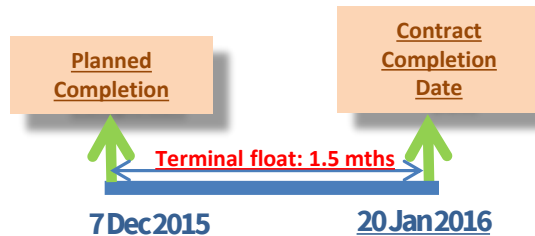
(*) for Piling

Substation	NEC Option	Site Possession Date	Civil Completion Date	Commission Date
CYS (completed)	B	June 2012*	Dec 2013	2014
LWI (completed)	B	April 2013*	May 2014	2015
LMT (completed)	D	Mar 2012*	Mar 2014	2015
WKC (completed)	D	Oct 2014*	Sep 2015	2016
HYW (completed)	D	Oct 2014	Dec 2015	2018
HMB	D	Nov 2015*	Mar 2019	2020
QUH	D	Oct 2017*	Jun 2019	2020

3. Merits of NEC Process

i. Stringent Programme Control

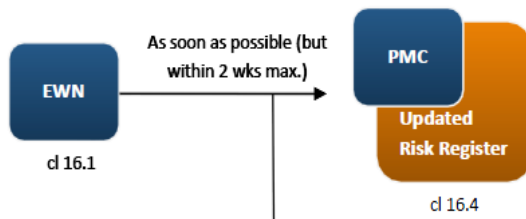
- Monthly Programme submission and approval
- Terminal float clearly shown



ii. Facilitate Risk Management

- Various risks identified to be logged in Risk Register
- Contractor to issue early warning for follow up
- Review monthly to avoid delay to programme

Early warning notification (EWN)

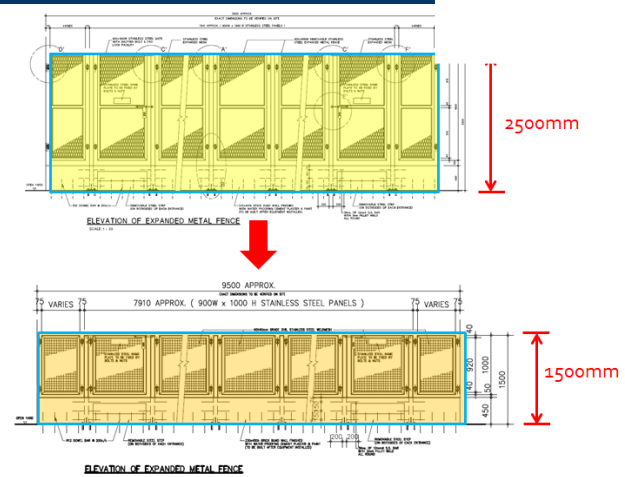
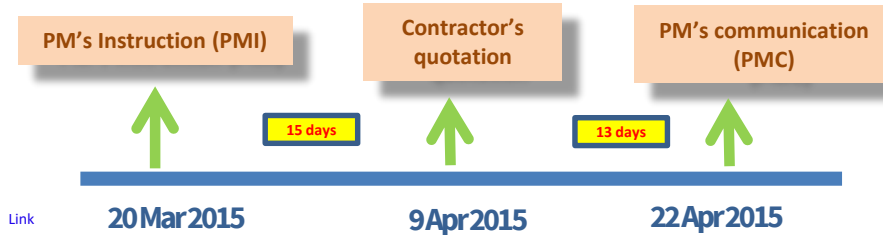


Risk Register (27 Sep 2015)										
Risk ID No.	Risk Description	Consequence of Risk	Risk Classification	Likelihood Occurring (1-5)	Impact on Time/Cost (1-5)	Severity Pxd (1-25)	Overall Ranking (R, H, L)	Risk Owner	Proposed Mitigation Measures	Action Clear or not
EWN002	Backfill of soil around site boundary	Time implication	Construction	2	1	2			The backfill of soil work was completed on 4/3/2016	Yes
EWN003	Outstanding BD approval of Drainage Plan	Time implication	Construction	1	1			HH	The drainage amendment plan has been submitted to BD for approval on 1 April, 2015	Yes
EWN004	Notification of Delay Completion (Outstanding BD approval of Drainage Plan)	Time implication	Construction	1			Low	HH	The drainage amendment plan has been submitted to BD for approval on 1 April, 2015	Yes
EWN005	Removal and relocation of existing hoarding	Time implication	Construction			1	Low	HH	HH reported that all hoarding outside the site boundary have been removed and been handed over to CEDD on 2 May 2015	Yes
EWN006	Delay provision of dual source power supply	Time implication		1	1	1	Low	HH	The issue has been noted and is being followed up with NRCLP	on going

3. Merits of NEC Process (cont'd)

iii. Enhance Cost Control and Awareness

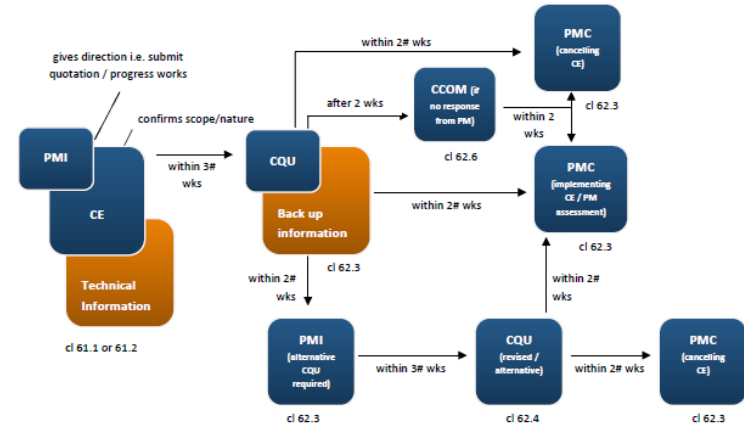
- Each Compensation Event (CE) assessed timely within contractual timeframe (5 weeks)
- Final account to be ascertain at early stage



Compensation event (CE) notified by the Project Manager

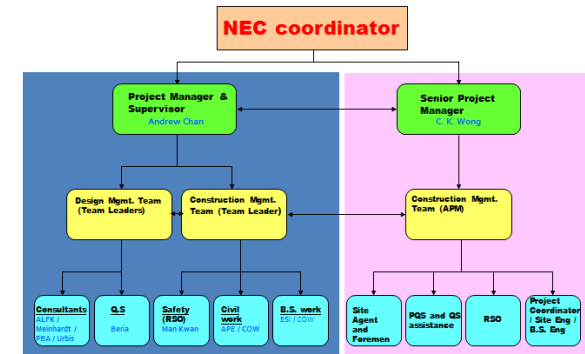
iv. Smoothen procedures and communication

- Fixed response time for each type of communication
- Encourage collaborative communication between CLP and contractor to resolve problem timely
- No more outstanding submissions as conventional contract



4. Critical Success Factors in NEC

- i. Common values with CLP Power on trust, partnership and collaboration based on a long term vision
- ii. Early involvement of consultant, contractor, QS
 - a. Design refinement
 - b. Risk management
- iii. Committed and open-minded project team to produce quality output in risk management, value engineering, etc.
- iv. Project team members competence in NEC process
 - a. NEC consultants
 - b. NEC workshops
 - c. NEC Procedural Manual/ Proforma
 - d. NEC coordinator



5. Way-forward

i. Challenges to adopt NEC4 for future major civil projects

- a. Submissions in early project implementation stage, such as PM's 1st Early Warning Register and Contractor's subcontractors submission
- b. New clauses, such as cl 66.2 "implementing CE"

ii. Improve on NEC process/ readiness

- a. CLP Power
- b. Main contractor
- c. Sub-contractors
- d. Consultants

iii. Explore applications of NEC options and details in contract clauses

- a. Pain/gain and target cost arrangement
- b. Application for one-off project and term contract

5. Way-forward – Smart Contract Smart Substation

VR Application in design & construction





- CLP Power's systematic **Sustainable Development Approach** demonstrate the company's commitment to environmental protection.
- Continue improvement and innovations are developed over the traditional practices and customs for the development of green substations.
- Continuous improvement in the Sustainable Development for new projects.
- Continue to validate our approach by sharing, benchmarking and accreditation (BEAM Plus Assessment, NEC Contract... etc)



Safer ✓

Smarter ✓

Greener ✓

Thank you