



CLP's Integrated Vegetation Management (IVM) Program

Practical Arboriculture

Training Development and Challenges

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Why IVM ?

- As trees will grow
- A CLP's business need and regulatory requirement to maintain a "proper" distance between the power lines and trees
- Power lines and Trees can co-exist in Harmony with Nature
- Enhances the quality of utility arboriculture

IVM Program Highlights

- Program has implemented since 2001
- **Every pruning has its purpose !**
- Employs around 40 workers (14 skilled / trainee climbers)
- Manages over 3,000km circuit length
- System performance improves over 80%
- Promotes and develops the HK arboriculture industry

Can you see the power lines?



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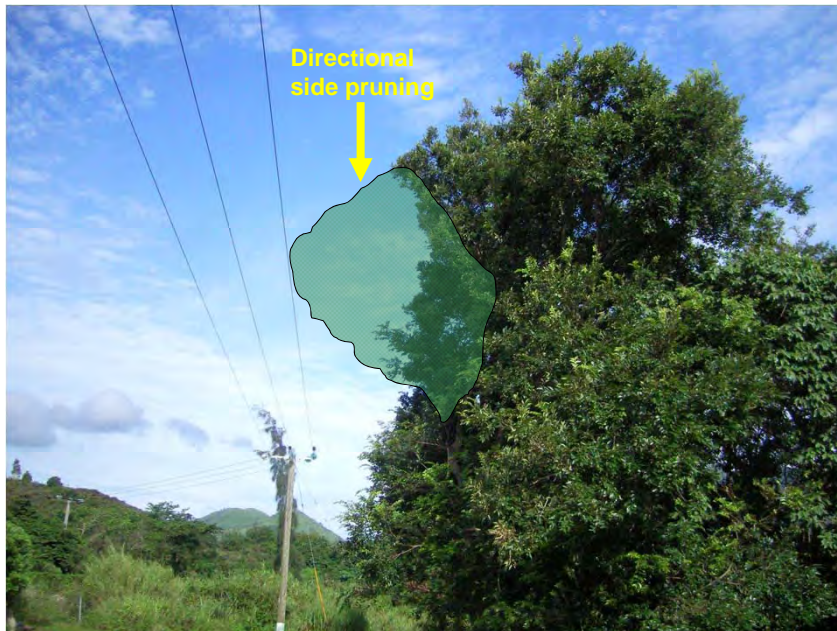
3

When a tree in contact with a power line...



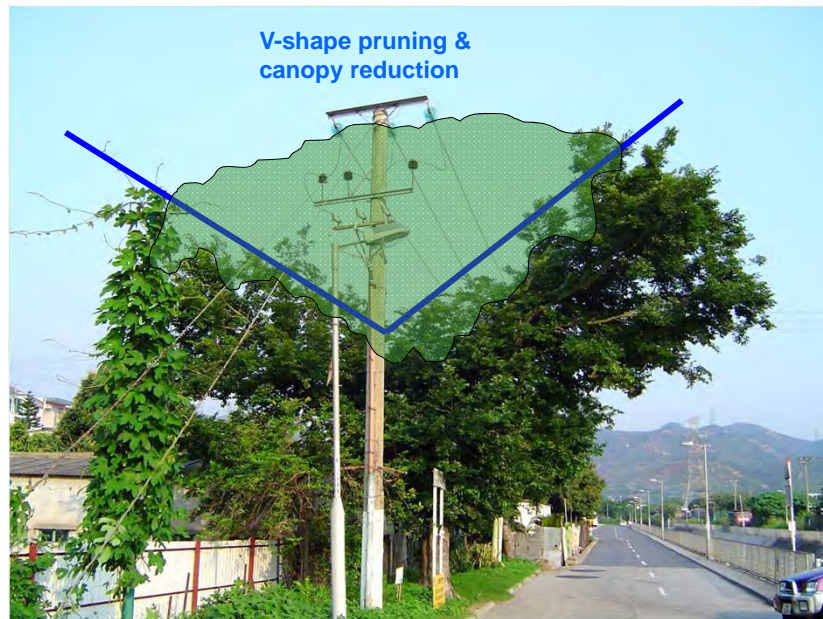
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Before

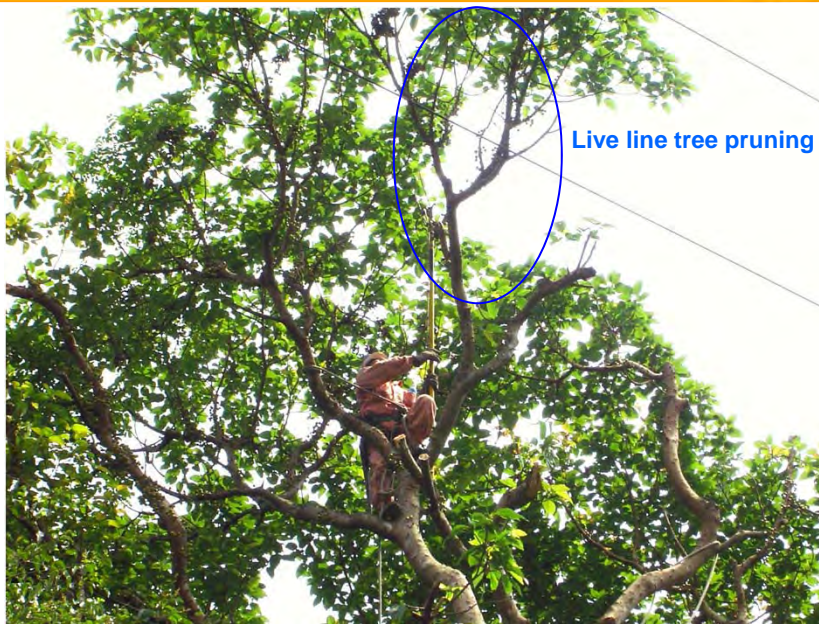
After



Hide the cut

Hazard tree branch removal by rigging





IVM Training Scope

Effective IVM training should be well structured, systematic and comprehensive. Essential elements should include:

- IVM Knowledge and Skills Training
- Regular Refresher Training
- SHEQ Training
- Establish System and Documentation
- Competence Assessment and Certification



IVM Knowledge and Skills Training

Training program should cover all the knowledge and skills that a tree worker could work on a tree safely and effectively:

- Theory and classroom training
- Equipment inspection and maintenance
- Site pre-work inspection
- Tree risk assessment / Hazard tree identification
- Climbing practices
- Pruning practices
- Chainsaw safety, operation and maintenance
- Felling practices
- Aerial rescue
- Rigging practices
- Using and setting of cambium saver / false crotches
- Work positioning, tree mastering and stabilization in tree
- Use of new / advanced tools and equipment
- Electrical hazard awareness and safe work near energized power lines
- **Refresher training program**



Theory discussion



Chainsaw safety, operation and maintenance



Tree climbing practice



Tree risk assessment



Tree pruning practice



Aerial rescue practice

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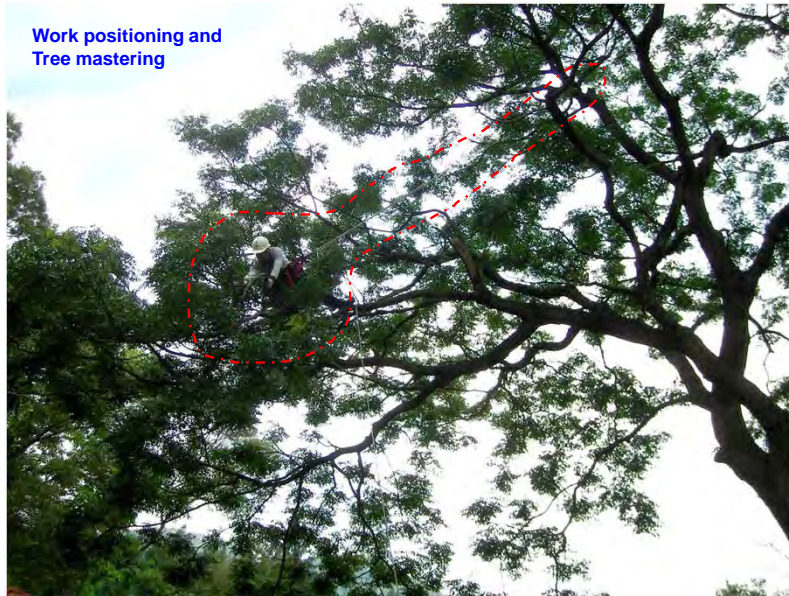
Footlock practice



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Work positioning and Tree mastering



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SHEQ (Safety, Health, Environment and Quality) Trainings



A professional tree worker shall finish his job effectively and safely, taking consideration to himself, his work crew and the people around.

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SHEQ (Safety, Health, Environment and Quality) Trainings

CLP believes in three core safety values:

Be Responsible 盡己任

Be Caring 互照應

Be Proactive 齊主動

- Customer Service Training 客戶服務培訓
- Team Building Workshop 團隊工作坊
- Safety Attitude Assessment 安全態度評估
- Safety Culture Workshop 安全文化工作坊
- Behavior Based Safety Observation 行為模式安全觀察計劃 (BBSO)
- Risk Management Training 風險管理培訓
- Quality Control Circle Program 品管圈 (QCC)
- First Aid Training 急救訓練
- Cardiopulmonary Resuscitation 心肺復蘇法 (CPR)

The screenshot displays the CLP PSBG SHEQ website interface. The main content area features a calendar for June 2010, a list of news articles such as '安健環資訊 - 第七期 (PSBG SHEQ Newsletter - Issue 7)', and a sidebar with various navigation and utility links. A blue circle highlights the '新聞及活動' (News and Activities) link in the sidebar.

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ImageBank - Windows Internet Explorer
 http://npsweb-sspp01/sheq/amt/imagebank.aspx

Live Search

ImageBank

風險知識測量站

危害圖片庫

圖片搜尋器

搜尋結果: 385 頁數檢索: 上一頁 12345678910 下一頁

工種類別: 全部 | 危害類別: 全部

工種類別: 輸電架空天綫
 危害類別: 人體下墜
 工序名稱: 分隔工地範圍

工種類別: 一般電站工作
 危害類別: 昆蟲或動物襲擊
 工序名稱: 在郊外支站內工作

工種類別: 一般電站工作
 危害類別: 昆蟲或動物襲擊
 工序名稱: 電站內工作

工種類別: 辦公室及運作中心
 危害類別: 化學品
 工序名稱: 處存化學物品

工種類別: 輸電架空天綫
 危害類別: 昆蟲或動物襲擊
 工序名稱: 在樹叢或草叢旁邊工作

工種類別: 輸電架空天綫
 危害類別: 火災
 工序名稱: 戶外工作

工種類別: 輸電架空天綫
 危害類別: 山泥傾瀉
 工序名稱: 惡劣天氣之後在斜坡旁工作

工種類別: 輸電架空天綫
 危害類別: 酷熱天氣
 工序名稱: 在猛烈陽光下工作

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CLP 中電

Establish System and Documentation

- Vegetation Management Policy
- Technical Instructions and Specifications
- Quality Assurance System
- Administration System
- Annual Performance Review and Monitoring

CLP 中電 Policy

Power Systems Business Group
Asset Management Department

Vegetation Management Policy

Document No.: PS-EP-0026

Engineering Policy

Owned by: Manager - Asset Management
 Administered by: Asset Utilization Manager
 Classification: Restricted - For CLP Power Internal Use Only
 Revision No.: 2
 Issue Date: 18 June 2008
 Effective Date: 20 June 2008
 Next Review Before: 20 June 2011

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CLP 中電 Technical Instructions

Power Systems Business Group
Asset Management Department

Technical Instructions for Vegetation Management

Document No.: PS-TI-0134

Technical Instructions

Owned by: Manager - Asset Management
 Administered by: Asset Utilization Manager
 Classification: Restricted - For CLP Power Internal Use Only
 Revision No.: 2
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Competence Assessment and Certification

Internal assessment will be conducted every year to uphold and maintain tree climber's knowledge and skill to achieve the required professional level.

All tree climbers will participate external examinations to obtain international certifications as far as possible.



Internal assessment



External certification

Challenges

The development of practical arboriculture in Hong Kong is relatively slow. The following are some constraints:

- Lack of new recruits
- Trained tree worker ≠ Equipped with required experience
- Limited training materials in Chinese
- Insufficient certified / competent trainers
- Limited professional tools and equipment supply
- A demand for regulations on practical arboriculture
- Lack of training sites / training resources
- Lack of examinations / certifications
- Uncertainty in professional career development

Hong Kong Legislation, Chapter 59 Factories and Industrial Undertakings Ordinance CAP 59I

Chapter: 59I Title: CONSTRUCTION SITES (SAFETY) REGULATIONS Gazette Number: L.N. 258 of 2003
 Regulation: 38B Heading: Prevention of falls Version Date: 28/11/2003

(1) Subject to paragraphs (2), (3) and (4), the contractor responsible for any construction site shall take adequate steps to prevent any person on the site from falling from a height of 2 metres or more.

(1A) Subject to paragraphs (2), (3) and (4), any contractor who has direct control over any construction work shall take adequate steps to prevent any person on any place where the construction work is being carried out from falling from a height of 2 metres or more. (L.N. 258 of 2003)

(2) For the purpose of paragraphs (1) and (1A), "adequate steps" (足夠的步驟) shall include the provision, use and maintenance of one or more of the following-

- (a) working platforms;
- (b) guard-rails, barriers, toe-boards and fences;
- (c) coverings for openings;
- (d) gangways and runs.

(3) Paragraphs (1) and (1A) shall not apply to any opening, corner, break or edge exposed in the course of demolition operations if adequate precautions have been taken to prevent any person from being exposed to the risk of falling therefrom.

(4) Every working platform (other than a suspended working platform), guard-rail, barrier, toe-board, fence, covering for an opening, gangway or run provided for the purpose of paragraphs (1) and (1A) shall comply with the provisions of the Third Schedule applicable to it.

(5) For the avoidance of doubt, it is hereby declared that-

- (a) paragraphs (2) and (4) do not prejudice the generality of paragraphs (1) and (1A);
- (b) the reference to working platform in paragraph (4) does not prejudice the operation of the provisions of the Factories and Industrial Undertakings (Suspended Working Platforms) Regulation (Cap 59 sub. leg. AC) in relation to a working platform which is a suspended working platform.

(Part VA replaced L.N. 76 of 1999; L.N. 258 of 2003)

Strategy

Develop **Best Industry Practice 最佳作業模式** on Practical Arboriculture, through the establishment of a voluntary committee. The committee should involve the following key stakeholders:

- Professional institutions
- Universities
- NGOs
- Utilities
- Major consultants
- Major contractors
- Government departments



Best Industry Practice

The followings are some critical tasks that the committee should focus its attention on:

- Allow grace period from 3 to 5 years
- Promote practical arboriculture
- Develop training system (structure, training materials, examination and certification program)
- Communicate with the government to seek support to resolve challenges like training sites, establish training programs, etc
- Continue education, promotion to enhance public awareness
- Establish registered instructor system
- Establish standards of work equipment
- Network with renowned international organizations
- Review and recommend tree work regulations / requirements
- Help to develop the service markets



Thank You