

Innovative Safety Design for Substation Works

HK Electric is committed to protecting the health and safety of our employees, customers, contractors and the public. We have improved the working environment inside substations to ensure workplace safety. Our areas of improvement cover working inside the preformed trench, high voltage switchgear operations and high voltage cable laying for temporary supply provision.

Improved Preformed Trench Design in Distribution Substations

Working personnel need to conduct cable laying and termination work inside the preformed cable trenches during substation erection or enhancement. Various safety considerations have been incorporated into the design of the facilities such as safe access via manholes, sufficient lighting in the preformed trenches, and installation of pad-eyes to facilitate bending and termination of high-voltage cables inside the preformed trenches.

Innovative Arc-Proof Door Design for High Voltage Switchgears

In the past, front panel doors of some of the switchgears have to be opened for the racking operations which may expose the working personnel to electric arc if there is switchgear failure or mal-operation. As such, we re-designed the front panel arc-proof doors which can be kept closed during racking of the switchgear. The new design provides a barrier between the racking mechanisms during switchgear operations which enhances the safety factor of the switchgear. Modification of switchgear is kept minimal without compromising the switchgear integrity. In addition, training of new switchgear design for operational staff is very minimal since the operation of switchgear is very similar to the previous one.

Innovative Cover Design for Temporary Supply Provision using High Voltage Cables

When there are multiple faults in the high-voltage electricity supply distribution network, laying of temporary high-voltage cables is necessary in order to speedily restore the temporary supply to our customers. Our new design of cable trunking system for temporary high-voltage cables can greatly enhance the safety of the pedestrians as it provides better integration to the walkway which can minimise tripping hazards.

變電站工作的創新安全設計

港燈一向致力保障員工、客戶、承辦商和公眾的健康及安全。我們改善了變電站內的工作環境以確保工地安全，當中包括在預製壕坑內工作、高壓開關設備操作以及臨時高壓電纜鋪設。

改進預製溝槽設計

在變電站安裝進過程中，工作人員需要在預製壕坑內進行電纜鋪設和端接工作。設施設計中包含各種安全考慮因素，例如井口進出安全，預製壕坑內提供充足照明，以及安裝眼螺栓以便於預製壕坑內彎曲及端接高壓電纜等。

創新高壓開關防電弧門設計

以前，開關設備的前面板門必須打開以進行開關設備的絞入/絞出操作，這使工作人員在發生開關設備故障或操作不當時有機會暴露於電弧中。因此，我們重新設計了前面板防電弧門，使開關設備的絞入/絞出過程中可以保持關閉以避免工作人員暴露於電弧的風險。開關設備的修改很小而不會影響開關設備的完整性。此外，新的開關設備操作與舊設計非常相似，操作人員對此新設計容易上手。

創新臨時高壓電纜線槽設計

當高壓配電網發生多個故障時，需要安裝並鋪設臨時高壓電纜以便快速恢復對客戶的臨時供電。與傳統的線槽系統相比，新設計的高壓電纜線槽系統可以減少途人絆倒風險，大大提高行人的安全。