Safety Issues Relating to the Construction of Dangerous Goods Stores

As you have noticed that we are currently undertaking a construction project, funded by Additions, Alterations and Improvements (AA&I) Vote, to build dangerous goods (DG) stores near the vehicular entrance of the Ho Sin Hang Campus. Apart from the rather immediate impact of causing parking inconvenience, some colleagues have also raised some safety concerns over what will be stored at the location. This paper serves to provide more background information on the DG stores project and inform the University community as to what has been done on the safety related issues.

What are DG

The Dangerous Goods Ordinance (DGO) of Hong Kong stipulates very strict controlling measures for manufacturing, storage, use and conveyance of DG. As defined under the DGO, over thousand of substances and chemicals are classified as DG into categories/classes in accordance with their potential hazardous nature i.e. explosives, compressed gases, flammable liquids and solids, spontaneous combustible, dangerous when wet, oxidizing substances, organic peroxides, and toxic substances. At our University, we only have a few categories of DG which include flammable liquids (e.g. alcohols), corrosive chemicals (e.g. acids) and compressed gases cylinders (e.g. nitrogen gas).

Why we need DG stores

The DGO also specifies quantity of these classified DG substances allowed to be stored at premises. In the case of teaching institutions, varying quantities of these substances are used for research and teaching purposes. In order to comply with the DGO, these substances/chemicals must be stored in an approved location i.e. DG store if the volume/amount exceeds specified quantity in laboratories.

What are being stored

We already have 2 DG stores (one for Category 5 - flammable liquids and the other for Category 3 - corrosive chemicals) located at Level 5, OEE, Ho Sin Hang Campus. As our teaching and research activities increase, there is a need to expand our storage capacity for accommodating these chemicals. So we initiated this request to UGC in 1998 to build more DG stores mainly for storing additional flammable liquids, corrosive chemicals and compressed gas cylinders. The project was subsequently approved along with other requests to comply with the newly enacted Occupational Safety and Health Ordinance. The total DG storage area of the new location has also included spare capacity for future needs.

Site selection of DG store

All possible locations within our campus environment were considered based on the criteria for safety, access by users and emergency vehicles, transport and availability of an appropriate land. After careful consideration of all options, it was decided that the present site was the best available location even though the construction cost would be much higher and the safety provisions would be more stringent.

What safety measures have been taken

The construction of DG stores is governed by the Dangerous Goods Regulations and the details have to be approved by Fire Services Department and Buildings Department for ensuring the safety standards and provisions are met. These safety provisions include automatic fire fighting equipment, spillage containment and access control. Upon completion of construction, the operation of the DG stores will be managed by the Science Faculty assisted by the Environmental Health & Safety Unit (EHSU).

We hope that it would alleviate some safety concerns that you might have on the captioned subject. The Laboratory Safety Sub-Committee (LSSC) has also been addressing the logistical management issues of the DG stores and its contents. Any specific safety issues could be directed to Dr. Frank Lee, Chairman of the LSSC or Mr. Michael Kwok, Head of EHSU.