

**Information Paper for the
Legislative Council Panel on Manpower
Meeting on 25 May 2000**

Occupational Safety and Health Management Information System

PURPOSE

This paper informs Members of Labour Department (LD)'s proposal to install an Occupational Safety and Health Management Information System (OSHMIS) in its Occupational Safety and Health Branch (OSHB). Funding approval for the proposed system will be sought from the Finance Committee at its meeting on 9th June 2000.

BACKGROUND

2. The OSHB is responsible for enhancing the occupational safety and health (OSH) performance in all sectors of employment through enforcement of relevant legislation, publicity as well as provision of OSH-related training and advice. To improve operational efficiency, to cope with the increasing public demand for services and to enhance accident prevention, the OSHB needs an effective computerised management information system to take up functions that are currently manually operated.

3. To assess the cost and benefit of such a system, the Commissioner for Labour, with the assistance from Director of Information Technology Services, engaged a consultant to conduct a feasibility study. The study concluded that the OSHMIS should be implemented early.

PROBLEMS

4. In discharging its functions of law enforcement, the OSHB has to maintain some 130,000 workplace records and produce statistics on work-related accidents and illnesses regularly. Besides, there is a need for it to acquire latest information on worldwide development in OSH in order to deliver quality consultation and training services.

5. Currently, record keeping and data analysis in the OSHB are mainly operated manually. Only a very minor portion of work is automated by small-scale locally-networked computer systems. The lack of computerisation has hampered the work of OSHB in a number of areas -

- (a) Records are kept in hard copies and stored in more than 60 district offices. They are indexed and searched manually, which is labour-intensive and cost-ineffective. It inhibits timely retrieval of structured information for strategic planning purpose.
- (b) When Occupational Safety Officers (OSOs) notice unsafe conditions in a workplace during a routine inspection or accident investigation, they usually need such information as comprehensive safety records of the workplace, legal advice, court rulings, etc. to decide action to be taken. However, this information is kept in different offices. If improvement notices or suspension notices should be served, they would usually need to obtain visual records of the unsafe conditions to seek authorisation from their supervisors. The lack of digital connections with the LD Headquarter and a centralised online database greatly limits on-the-spot actions OSOs could take.
- (c) OSOs usually inspect a workplace more frequently if its safety performance is unsatisfactory. The relevant reports and statistics, however, are compiled manually and the work processes involved are labour-intensive and time-consuming. Delays in compiling key statistics affect the OSHB's ability to identify and respond quickly to new hazards.
- (d) Databases of micro-scale computer systems in various divisions within the OSHB are incompatible with one another. Transfer of information is, in many cases, done in hard copy media, which is inefficient and ineffective.

THE PROPOSED SYSTEM

6. The feasibility study identifies a mid-range computer system as the most cost-effective solution to run the OSHMIS. The proposed system will -

- (a) provide a network infrastructure to support communication among outdoor staff, their supervisors at district offices and the Headquarters;
- (b) provide a complaint and inquiry handling system;

- (c) automate the submission of legal documents and applications by the public via the Internet;
- (d) provide a performance monitoring system;
- (e) provide a document management system to create centralised records and a centralised reference library;
- (f) provide enquiries and statistical and management reporting facilities for operational and planning purposes;
- (g) enable public access to safety and health reference material via the Internet;
- (h) provide office automation facilities; and
- (i) enable system interface with other computer systems in LD.

COST AND BENEFIT

Cost

7. The estimated non-recurrent expenditure for implementing the OSHMIS is \$25.841 million with additional staff cost of \$815,000. The annual recurrent expenditure in operating and maintaining the system is estimated to be \$5.452 million, plus staff cost of \$1.205 million. All the staff costs will be absorbed by the existing manpower resources in LD and ITSD.

Savings

8. There will be annual savings of \$10.807 million when the system is fully implemented. This comprises realisable savings of \$6.073 million per annum due to the deletion of 15 posts in the OSHB (\$4.609 million) and reduction in photocopying and printing of OSH publications (\$1.464 million), as well as notional savings of \$4.734 million from staff savings in various related grades.

Benefits

9. The proposed OSHMIS will bring about the following benefits-

(a) *Improve strategic planning and policy formulation*

The proposed system will facilitate monitoring of trends and patterns of accidents/occupational illness in various industries. This will enable OSHB to identify high-risk areas or hazardous process and map out programmes and initiatives to prevent work-related accidents and occupational illnesses in a proactive manner. With more timely and wider range of management information readily on hand, the OSHB can objectively evaluate the effectiveness of its operations and campaigns and fine-tune its strategy and action plans. Better strategic planning and policy formulation will help reduce the number of occupational accidents and illnesses.

(b) *Reduce the leadtime for issuing suspension and improvement notices*

The proposed system will provide accurate records of workplaces and establishments including number of accidents, warnings issued, previous convictions, machinery and chemicals used. This will help to identify the problematic workplaces or establishments for appropriate enforcement action and enable OSOs to give timely warning/advice and to make on-the-spot decisions on prosecution.

(c) *Improve quality of safety and health information*

The proposed system will allow field officers to transmit live images of serious accident scenes to the Headquarters for senior management's information and instruction within half an hour on arrival. The proposed system will also provide online information sharing to all offices and reduce the time for making reference to OSH related information.

(d) *Improve management of staff resources*

The proposed system will enable the management to deploy staff resources more efficiently through shortening the time for compilation of performance management reports. The proposed system will provide electronic mail services and enhance efficiency in giving instructions and reporting back between officers.

(e) *Enhance safety and health services to public*

The proposed system will speed up information searching process. This will improve replies to public enquiries in terms of time and comprehensiveness. The proposed system also provides for public access to OSH information and submission of applications for training course and safety officer registration through the Internet.

(f) *Improve social economic benefits*

The high accident figure and compensation paid out have inflicted heavy losses to the community in terms of manpower and financial cost. The reduction in the number of accidents and illnesses upon the implementation of the proposed system can contribute to the reduction of compensation paid out and other hidden costs incurred to society. With the system in place, field OSOs, while following up a suspension notice, can seek approval on the spot from their seniors to revoke a suspension notice, thereby help minimise loss of production.

IMPLEMENTATION PLAN

10. It is estimated that system implementation will take 22 months. LD plans to call for tender in August 2000 if the project is approved by the Finance Committee.

CONCLUSION

11. There is growing public awareness of and concern for OSH. For the huge social cost accruing from the large number of occupational injuries each year, it is important to reduce accidents through further improving safety and health at work. The OSHMIS is capable of providing important information to the OSHB for strategic planning, policy formulation and identification of problems, and help the OSHB to strengthen its enforcement, education, training and publicity functions. It will also provide OSH-related information through the Internet to employers and help them in their safety management and in discharging their legal responsibilities.