

● S.2 Workplace Well-being

Corresponding material topic: Park occupational safety and health (including labor inspection)



Policy/strategy

Establish a conducive working environment to attract talents to work in park, encouraging the manufacturers to comply with related laws and regulations of Occupational Safety and Health Act in order to build a safe and healthy park.

Targets and goals

Promote the implementation of safety and health in every unit, establish an autonomous management system for safety and health and improve the overall safety culture of the park.

Management evaluation system

Practise labor supervision and inspection according to OSH-related laws and regulations. Ministry of Labor (MOL) assessment group will evaluate the HSPB implementation outcomes of annual labor inspection every year.

2021-2022 performance and adjustment

- ▶ HSPB held 7 recruitment events with Hsinchu Employment Center and Yilan County Government respectively.
- ▶ Conducted 381 inspections on labor conditions and 2,565 safety and health inspections
- ▶ A total of 28 project audits and 1,598 sessions of labor supervision and inspection programs were carried out.
- ▶ Conducted 247 counseling sessions on OSH-related projects and 26 training sessions and presentations on OSH-related laws and regulations.

Prevention or remedial measures

- ▶ Establish Online Self-Service Chemical Declaration Platform which requires manufacturers to implement industry chemical management and regularly report chemical disposal information to assist the fire department in disaster relief.
- ▶ Implement the Safety and Health and Chemical Substance Counseling and Inspection Program for High Risk Businesses to promote the of safety and health practices among park manufacturers.
- ▶ Establish Park Safety and Health Expert Platform with a benchmark learning model of large factories leading small factories.
- ▶ Implement the Chemical Disaster Response Training and Drill Program to enhance the emergency response to chemical disasters and improve overall defense capability.

S.2.1 Labor Safety

In order to optimize the entrepreneurial and sustainable environment, HSPB is actively promoting autonomous management capability of OSH among park manufacturers to guarantee the employees' occupational safety and health by means of advocacy, counseling and inspection. HSP is entrusted by MOL to perform labor inspections and OSH advocacy and counseling. In addition to implementation of labor inspections (including inspections of dangerous machinery and workplace), HSPB also cooperates with MOL to plan and carry out project inspections (e.g., labor physical and mental health care project), and actively conducts advocacy on labor regulations and hazard prevention to convey information about workplace hazards, in order to enhance the professional ability of the occupational safety and factory workers.



Hsinchu Science Park GRI-403 Writing Guidance Session

Year	2021	2022
Labor inspection	1,232 sessions	1,333 sessions
Advocacy on labor regulations and hazard prevention	13 sessions/672 people	14 sessions/858 people

For the purpose of enhancing emergency response capability, the manufacturers are advised to set up Park Joint Defense Organization and conduct relevant training and drills on a regular basis. Besides, Online Self-Service Chemical Declaration Platform is also established which requires the manufacturers to enforce chemical management and regularly report the chemical disposal information to assist the fire safety unit in disaster management. In addition, Safety Health and Chemical Counseling and Audit Program for High-risk Operations is in place to prompt the park manufacturers to execute safety health practices. Safety and Health Experts Platform is also established to allow professionals from large factories with relevant practical experiences to guide small and medium-sized business units in setting up their own safety health management systems and thus improving the overall safety culture in the park.



Chemical spill drill by Hsinchu Science Park Joint Defense Group

The Ministry of Labor conducted the 111th Year Annual Labor Inspection Organization Performance Evaluation in 2022. The evaluation included the performance of occupational disaster reduction, labor inspection execution, disaster reduction strategy tools implementation and civil services. HSPB was rated Excellent in the evaluation and awarded a medal during National Conference on Occupational Safety Health and Labor Inspection on March 13, 2023, acknowledging HSPB's outstanding performance in labor inspection.

For encouraging manufacturers and employees to enforce occupational safety and health practices to prevent occupational accidents, the Selection of Excellent Occupational Safety and Health Units and Employees was held. 12 business units and 15 excellent employees were honored from 2021 to 2022. The award-winning units and personnel were formally presented at the opening ceremony of the Occupational Safety and Environmental Protection Month.



Excellent medal awarded by MOL



Awarding 2022 Excellent Occupational Safety and Health Winners

S.2.2 Safe and Protective Environment

Strengthen the security system in view of expanding park area

HSPB has invested in intelligent and mobile electronic camera systems. Electronic surveillance and license plate recognition systems have been installed at each main road junction in Hsinchu, Jhunan, Longtan, Tongluo, Yilan and Biomedical Science Park, acting as an important aid in crime prevention and detection. There are also security police teams or squads stationed in each of the 6 parks, which greatly enhance the park security.

In addition, due to the large number of employees and in order to improve service, besides police forces who are responsible for park security maintenance, outsourced security officers are also assigned to support the surveillance in public and residential areas of the park as well as to perform safety and order maintenance work that are not under public authority.



Security personnel helping with traffic flow

Strengthen the disaster prevention and management

The fire safety operation of HSP has been transferred to Hsinchu City and County Government in 2019 and 2020 respectively. Up until now, fire safety operation will be under the responsibility of the fire department of each county and city government where the science park is located. In order to improve the fire safety, HSPB has allocated a 5-year budget of NTD 37.66 million for Hsinchu County and City Fire Service Subsidy Program since the beginning of the handover. Hsinchu City and County governments will also be subsidized each year during the 5-year period to improve firefighting equipment and firefighting teams' skills. Plus, a communication platform for fire safety operation has been established in the HSP with the fire departments of Hsinchu County and City governments and ASIP being invited to join the platform to strengthen the communication mechanism between the county and city, manufacturers and HSPB through regular meetings. This will not only eliminate the uncertainties among park manufacturers which extend from inspections conducted by different firefighting units, but also raise their awareness of fire safety laws and regulations.

Meanwhile, HSPB has started fire safety counseling program in 2021 to help upgrading fire safety and emergency response skills among manufacturers. Experts from the Hsinchu County Fire Department and major companies in the science park were invited to become speakers, conduct fire safety regulatory advocacy and on-site counseling, with the aim of strengthening companies' regulatory and rescue capabilities so as to prevent disasters and minimize impact.



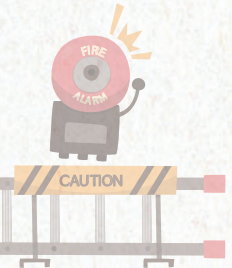
Fire safety operation communication platform meeting



Fire safety regulations advocacy



On-site fire service counseling



S.2.3 Safety Maintenance

■ Establish emergency notification system in the park

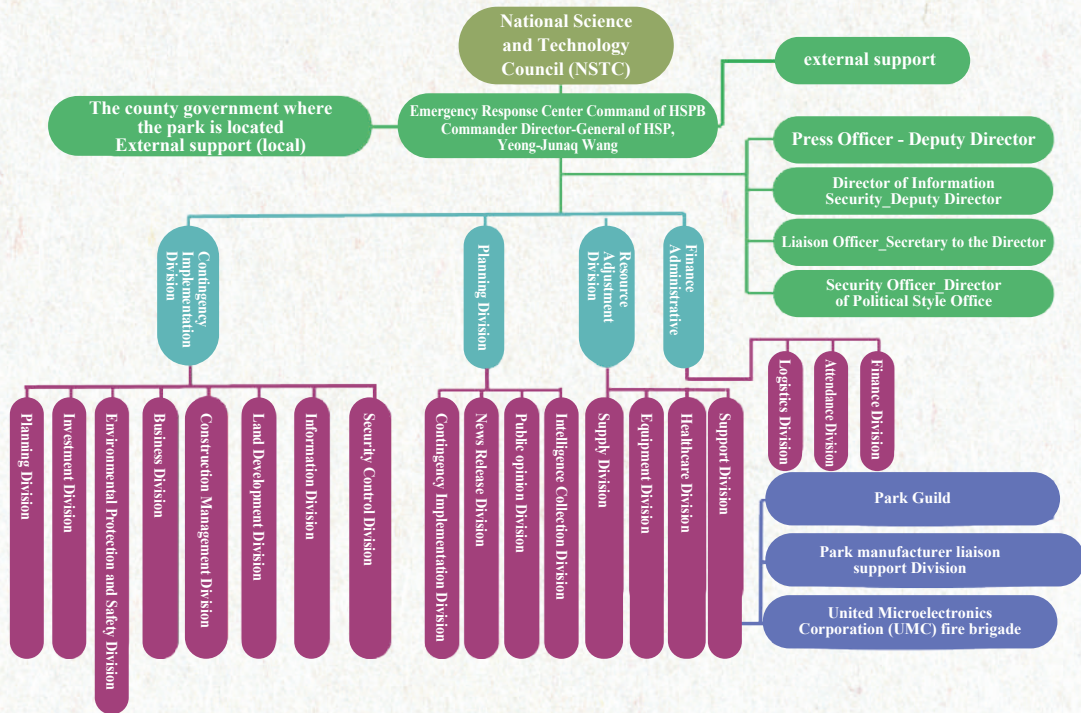
As to strengthen the emergency notification mechanism in the park, HSPB has set up a 24-hour emergency hotline (Tel: 03-5776666), which is responsible for answering disaster notification calls in Hsinchu Science Park (including the six science parks in Hsinchu, Jhunan, Longtan, Tongluo, Biomedical and Yilan) and assisting in compiling disaster information and contingency management, thus allowing HSPB to be aware of the disaster situation and notify higher authorities as well as request for external support to enhance emergency response efficiency.



24-hour emergency hotline of Hsinchu Science Park

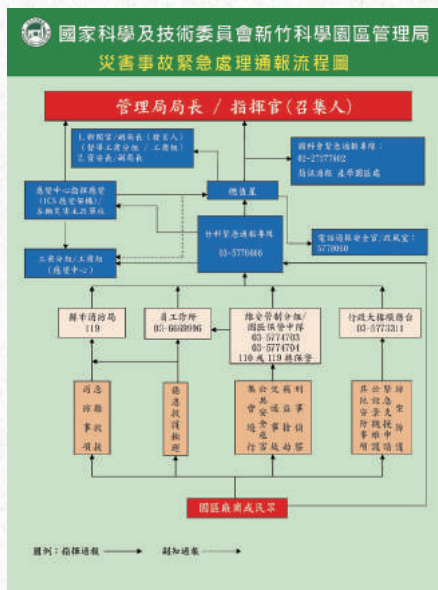
■ Strengthen the overall response capacity of key infrastructure

As a national science and technology and economic hub, the importance of Hsinchu Science Park is well understood. In order to strengthen the response capacity of the key infrastructures of science park and to respond to the impact of various disasters, HSPB has drafted the Operation Directions of Disaster Relief and Recovery Response Center of Hsinchu Science Park Bureau, National Science and Technology Council as the basis for setting up the Disaster Relief and Recovery Response Center in case of major disasters in the science park to be responsible for the disaster response and assist the manufacturers in resuming their operations.



Emergency Response Center Command and Response Structure of HSPB

In order to encourage disaster prevention and response work in the park, HSPB has compiled the Disaster Prevention and Rescue Operation Manual, formulated the procedures of responding to various accidents and disasters (such as earthquakes, fires, toxic and chemical disasters, floods, droughts, windstorms, etc. and other 21 types), which include disaster prevention, pre-disaster preparation, emergency response and recovery and reconstruction, etc. The procedures are also reviewed and amended on a rolling basis in accordance with the regulations of the central disaster prevention and rescue authorities.



Operation Directions of Disaster Relief and Recovery Response Center of Hsinchu Science Park Bureau, National Science and Technology Council

<https://www.sipa.gov.tw/home.jsp?serno=201001210034&mserno=201001210023&menu=ChineseMenu&contlink=include/menu03.jsp>



Aiming to continuously improve the emergency response and fire safety capacity among manufacturers, HSPB held the 111 Year Earthquake Evacuation and Fire Prevention and Rescue (including Commander Handover) Drill at Cyntec Co., Ltd. on September 22, 2022, in conjunction with the Hsinchu County Fire Department and National United University.

Taiwan is a seismic zone and therefore reducing casualties and damage caused by earthquakes is a topic that everyone needs to work on. The government has designated September 21 (921) as National Disaster Prevention Day. The main purpose is to raise awareness of earthquake prevention. The drill was designed with the setting of a 5-weak magnitude felt earthquake in HSP, which caused a chemical spill that led to a fire. The drill included the activation of notification, evacuation of personnel, rescue and ambulance actions, as well as how to quickly and accurately hand over the disaster situation and command to the fire department, while assisting and protecting the firefighters in subsequent rescue measures to prevent the disaster from expanding. HSPB hopes that this exercise not only verifies the effectiveness of the emergency self-rescue and cooperation with Fire Department, but also demonstrates the best team understanding and disaster relief capability of each unit.



2022 Earthquake Evacuation and Fire Prevention and Rescue (including Commander Handover) Drill

■ Improve Smart Technology Security System in park

Through the construction of smart technology security system, the park performs crime prevention, criminal investigation, traffic safety and disaster prevention and relief. The park has installed full-featured dome cameras at important and high-incident intersections to monitor traffic conditions and determine the responsibility of accidents. In addition, license plate recognition cameras are installed at the entrance and exit lanes of the park to identify car plate number in real time and utilize the high-speed license plate search feature of the website platform to assist the police in investigating criminal cases such as hit-and-run vehicles, in order to improve the intelligent technology security system and continuously maintain the overall security and traffic safety in the park.



Image of smart technology security system

Industrial Park Safety and Health Counseling Program

As the benchmark of domestic industry and economic development as well as the home to many technological talents, HSPB organizes annual Industrial Park Safety and Health Counseling Program in order to assist the manufacturers in adapting to the rapidly changing labor environment, improve the current status of occupational safety and health and provide more sound care and protection for the employees. Major manufacturers and scholars and experts with practical experiences are invited to be the counselors, facilitating labor inspection through proactive counseling approach such as educational training, on-site counseling, professional consultation, observation and hands-on. The program aims at guiding manufacturers to promote safety and health effort, thus building a better working environment.

1. Building a safe and friendly workplace

The National Council for Sustainable Development (NCSA) of Executive Yuan has set Taiwan's Sustainable Development Core Goal 3 (T-SDG 03) as Ensure healthy lives and promote well-being for all at all ages. In response to this goal, HSPB aims to be a model for the park and plays a supervisory role to actively promote sustainable development, encouraging manufacturers to uphold a human-centered spirit and pay attention to occupational safety. In order to protect the occupational safety, health and hygiene of all employees, HSPB actively promotes and counsels occupation-related hazard prevention, formulates a number of policies based on the vision of zero workplace injuries and zero workplace accidents, and discloses the results in voluntary inspection report as a guide for constructing a friendly workplace environment.

2. Labor Inspection and Risk Classification Counseling

In order to provide a single window service for the technology industry in the industrial park, the Ministry of Labor has authorized the Labor Inspection Center of HSPB to perform labor inspections, hazardous workplace inspections, and hazardous machinery and equipment inspections. In 2022, 1,333 labor inspections, completion inspections of dangerous machinery and 15 inspections of dangerous workplaces were conducted. In addition, 1,245 applications for occupational safety and health (establishment of management staff, work rules, education and training programs, and establishment of medical personnel) were filed. Besides, regarding dangerous workplaces or small and medium-sized enterprises (SMEs) in the park, according to their risk classification, experts with experience in labor inspection are invited to conduct on-site counseling on topics such as safety management of machinery and equipment, chemical storage/use, explosion-proof electricity, chemical equipment, and occupational safety and health management system.



On-site counseling for SMEs by experts

3. Safety and health personnel improvement plan

In order to enhance the knowledge of the occupational safety and health personnel in the park, HSPB plans relevant thematic courses based on actual needs. 10 safety and health educational trainings and advocacy sessions were held in 2022 (Table 1, items 1 to 10). In line with the evaluation program of high-tech factory construction, HSPB hosted a construction engineering exchange meeting and invited the outstanding occupational safety and health construction industry to share their construction management guidelines at the meeting (Item 11). In addition, HSPB also organized self-evaluation training and improvement seminars for 2022 SME counseling program (Item 12 and 13), combining the experiences of safety and health experts to provide more resources for business units to improve counseling.



2022 Occupational Safety and Health Courses Conducted by HSPB

Item	Educational training	Attendance
1	Construction risk assessment practical training briefing	47
2	Construction project (including sewerage, confined space and construction frame assembly and disassembly) hazard identification and safety and health self-management promotional meeting	37
3	GRI Occupational Safety and Health Standard Disclosure practical briefing	41
4	Seminar on workplace pandemic prevention and health management promotion practices	44
5	Annual repair and high-risk operation hazard prevention seminar (including process exhaust safety management)	45
6	High-pressure gas hazard identification and self-management seminar	44
7	Practical training on hazard zoning and the selection of explosion-proof electrical products (Machinery management at source)	42
8	Practical training on corrosion deterioration assessment and non-destructive testing (including visual inspection techniques)	44
9	Practical training on safety management of high-tech factory processes	53
10	Hazard prevention and exposure assessment techniques for organic/specified chemical substance operations technical seminar	42
11	Science park construction engineering exchange meeting	105
12	Self-assessment training for small and medium-sized high-risk units	52
13	Seminar on safety and health improvement	107

4. Safety Partners

Labor Safety and Health Promotion Association: ASIP established Hsinchu Science Park Labor Safety and Health Promotion Association on January 1, 2005, and formed a safety partnership with the HSPB in 2007 to jointly establish an industrial safety and health care operation network to help reinforce intrinsic safety and encourage the autonomous management mechanism of the industry. In 2019, the association joined the Industrial Intrinsic Safety Promotion Alliance of Occupational Safety and Health Administration (OSHA) of Ministry of Labor and won the championship for three consecutive years from 2020 to 2022 for its implementation results.



Group photo of Director-General of Occupational Safety and Health Administration (OSHA) of Ministry of Labor (MOL) Tzou Tzu-Lien (center) and President of Promotion Association Shen Zhou (second from left)

Experts platform: HSPB invites industry experts, either from outstanding units or individual personnel, with practical experiences in safety and health to assist small and medium-sized business units in need to carry out relevant improvement measures. Through the guidance and sharing of practices, not only can we meet the law requirements, but also help the enterprises to better meet their own needs and current situation. In 2022, according to the needs of small and medium-sized enterprises, HSPB provided 20 on-site counseling sessions on topics such as labor health protection, chemical substance operation management, emergency response procedures and respiratory protection plans, etc. On-site surveys are carried out to understand the current situation and needs of safety and health, bringing more direct and diversified counseling to the manufacturers through one-on-one discussions, experience sharing, and on-site observation.

Emergency Response and Joint Defense Organization: HSPB expects to reduce casualties and property damage and minimize environmental impact through mutual support of the members of the group in the shortest possible time when a disaster occurs, based on the convenience of geographical location of each business unit. Therefore, Emergency Response and Joint Defense Organization has been established and divided into six groups, including Hsinchu City Group A, Hsinchu City Group B, Hsinchu County Group, Longtan Group, Tongluo Group, and Jhunan Group, which carry out hazard prevention and emergency response work according to the annual plan. The following table shows the demonstration drills conducted by each group in 2022. In addition, in order to enhance the knowledge of emergency response personnel, HSPB organized toxic and chemical disaster awareness level certification training and two off-site training sessions for 102 participants.

2022 Joint Defense Organization groups emergency response demonstration drills



Tokyo Electron Limited on 17th November



Nuvoton Technology Corporation on 1st December



Taiwan Semiconductor Manufacturing Company (TSMC) Fab 2 on 10th November



Grape King Bio Ltd. On 7th December



Powerchip Semiconductor Manufacturing Corporation (PSMC) on 27th November



Namics Taiwan Co. Ltd. on 9th December

5. Deepen the culture of industrial safety

Occupational Safety and Health Sustainable Development Seminar

In line with the Ministry of Labor's Occupational Safety and Health Administration (OSHA) promotion of SDGs 2030, the Occupational Safety and Health Seminar was held on October 20, 2022, as part of the Occupational Safety and Environmental Protection Month serial activities. The seminar was designed to encourage enterprises in the park to consider employee safety and health as an important capital in their sustainable development and to set important goals for corporate development. At the beginning of the seminar, OSHA introduced the ESG Occupational Health and Safety Sustainable Development Program to assist domestic enterprises in constructing occupational safety and health information disclosure practices for stakeholders, followed by sharing of the highlights of occupational safety and health implementation in factories. Innolux Corporation shared case studies on the promotion of physical and mental health at workplace to convey the company's philosophy of human-centered governance; United Microelectronics Corporation shared the digital safety management system developed by the company for smart chemical plants, which digitizes the information before being processed by AI intelligent management. Finally, AUO Corporation shared the whole process of contractor management, using high-tech personnel dynamic positioning and other technologies to track the contractors' compliance in the plant. At the same time, occupational safety equipment was also displayed outside the venue to make the seminar more attractive.



Occupational Safety and Health Seminar-Deputy Director-General, Hu, Shi-Min is giving opening speech



Occupational safety equipment display booth live photo

Emergency response drill for toxic and chemical disasters

In order to strengthen the ability of the park's business units to prevent and handle chemical disasters, a large-scale tabletop toxic and chemical disaster drill was held on November 10, 2022. Before the drill, Dr. Fuh-Yuan Shih, an expert in emergency response management and a doctor at National Taiwan University Hospital, was invited to introduce the tabletop disaster drill, guiding the course step by step on how to design a tabletop drill and set the drill objectives. After the participants understood the essence of the tabletop exercise, a tabletop disaster drill was conducted by TSMC, with the process following the ideas of Federal Emergency Management Agency (FEMA) and ISO 22301 business continuity management standard, while the decision making process was simulated by a random compound disaster problem and was made live. Afterwards, members of the contingency team review the drill objectives and continuously revise the contingency plan and standard operating procedures (SOPs) on a rolling basis.



TSMC conducting tabletop disaster drill