

**Safety Management Measures of Shenzhen Institute of Advanced  
Technology, Chinese Academy of Sciences**

**Chapter 1 General**

**Article 1** In order to prevent accidents involving special equipment, ensure personal and property safety, and create favorable conditions for scientific research, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences (SIAT) has formulated these Measures based on the basic principles of the *Special Equipment Safety Law of the People's Republic of China*, *Regulations on the Supervision and Management of Special Equipment Safety*, *Special Equipment Safety Regulations of Shenzhen Special Economic Zone*, and relevant laws, administrative regulations, and combined with the actual situation of SIAT.

**Article 2** Special equipment refers to instruments and equipment recognized by the State in the form of administrative regulations, including equipment components and supporting devices. The term "special equipment" in these Measures refers to boilers, pressure vessels (including gas cylinders), pressure pipelines, elevators, lifting machinery, and other special equipment subject to these Measures as stipulated by laws and administrative regulations, which pose significant risks to personal and property safety.

**Article 3** The public affairs functional management department of SIAT is responsible for the management of general special equipment, while the laboratory functional management department is responsible for the management of special equipment used for scientific research.

**Chapter 2 Procurement and Installation of Special Equipment**

**Article 4** Special equipment procurement shall aim to select equipment produced by manufacturers with special equipment production qualifications. The user unit is not allowed to design, manufacture, or use self-made special equipment, nor to modify or repair existing special equipment without authorization. Special equipment purchased from abroad shall undergo inspection and quarantine procedures upon entry into the country, and those that do not meet national regulatory requirements shall be promptly returned.

**Article 5** Special equipment shall be installed and commissioned by qualified units, and self-installation and use are not allowed. After the construction unit accepts the equipment, the technical data shall be transferred to the user unit for archiving as soon as possible. For special equipment used in places with explosion hazards, the installation and use conditions shall meet the technical requirements for explosion protection.

**Article 6** Before putting special equipment into use, the user unit shall submit relevant materials to the Special Equipment Safety Supervision Department according to national regulations and apply for registration.

**Article 7** If there is a transfer, relocation, or scrapping of special equipment, or if there is a change in operating parameters, relevant materials shall be submitted to the Special Equipment Safety Supervision Department according to national regulations for changes or cancellation of registration.

**Article 8** Special equipment that has reached the end of its service life, been judged as scrap after inspection, or cannot be used normally for other reasons, shall be immediately stopped from use, and then an application for scrapping shall be submitted, followed by the necessary cancellation of registration procedures.

### **Chapter 3 Training of Special Equipment Management and Operation**

#### **Personnel**

**Article 9** After the purchase of special equipment, a dedicated person shall be assigned to manage it, with clear responsibilities. The equipment responsible person shall carefully clean, register, and keep the accompanying documents and materials, establish technical files for the equipment, handle the asset entry procedures in a timely manner, organize installation, maintenance, and upkeep of the equipment, conduct regular inspections and periodic inspections, and develop corresponding rules and regulations based on the situation of the special equipment they are responsible for. Adhere to national and SIAT's regulations and requirements, and carry out standardized management to ensure use safety.

**Article 10** Personnel responsible for the management and operation of special equipment must pass training and assessment and obtain a certificate of qualification for special equipment operators before engaging in relevant work. During operations, strict adherence to the operating procedures and relevant safety regulations for special equipment is required.

#### **Chapter 4 Establishment of Rules and Regulations and Technical Archives for Special Equipment Management**

**Article 11** Establishment of rules and regulations for special equipment:

- (I) Safe operation procedures;
- (2) Contingency plans for accidents.

**Article 12** Technical archives shall be established for all special equipment, including:

- (I) Inventory of archival documents;
- (II) Technical documents accompanying the equipment and components when leaving the factory;
- (III) Contracts and technical materials for installation, maintenance, overhauls, and modifications;

(IV) Registration cards, special equipment use registration certificates, inspection reports, and safe operation procedures;

(V) Operation records and daily inspection records;

(VI) Records of faults and accidents, emergency rescue plans;

(VII) Registration of operators' information.

**Article 13** The management of technical archives for special equipment is the responsibility of the special equipment functional management department.

## **Chapter 5 Periodic Inspection and Examination**

**Article 14** For in-use special equipment, it is necessary to adhere to regular inspections of its technical safety performance.

**Article 15** The work of periodic inspections is organized by the special equipment functional management department, and the inspection is carried out by special equipment testing institutions, with inspection reports issued.

**Article 16** Special equipment that needs to be out of service for more than six months shall apply for suspension registration with the special equipment safety supervision department in advance. For those needing to be put back into service, they shall undergo qualified inspections and obtain re-registration before reuse. Special equipment can be exempted from regular inspections during the period of suspension.

**Article 17** Special equipment that has been out of service for more than six months or has experienced accidents, as well as those affected by natural disasters that may affect safety performance, must undergo comprehensive inspection and maintenance and upkeep before use. After self-check by the construction unit and acceptance inspection by the special equipment inspection agency, they can only be used after obtaining a special equipment use registration certificate again.

**Article 18** The commissioning of special equipment for maintenance, overhauls, and modifications shall be entrusted to the original manufacturer. In special circumstances, qualified units can also be selected for construction, and construction contracts shall be signed. After completion, the construction unit conducts self-check, submits an acceptance inspection application, and requests the Special Equipment Safety Supervision Department to conduct on-site acceptance inspection. After passing the inspection, the special equipment use registration certificate shall be handled with the Special Equipment Safety Supervision Department.

**Article 19** Regular inspections of in-use special equipment are an effective means to ensure their use safety. Inspection work shall be institutionalized and rigorously implemented.

**Article 20** The use of the following five types of special equipment is prohibited: (I) Scrapped special equipment; (II) Special equipment judged as unqualified after inspection; (III) Special equipment and related products explicitly eliminated, prohibited from manufacturing, or mandatory scrapped by the State; (IV) Special equipment with unresolved faults; (V) Special equipment with unresolved faults.

## Chapter 6 Pressure Cylinders

**Article 21** For scientific research units needing to use pressure cylinders containing toxic, hazardous, flammable, or explosive gases, an application and safety self-assessment report must be submitted to the special equipment functional management department for approval before use.

**Article 22** Units needing to use pressure cylinders shall rent them from units with qualified pressure cylinder filling and leasing qualifications recognized by the State, and any research unit is not allowed to use self-purchased pressure cylinders or fill any medium by themselves.

**Article 23** According to the requirements of the *Regulations on the Supervision and Management of Gas Cylinders*, the unit filling the cylinders is fully responsible for the safety of the cylinders provided. Matters such as regular inspection, scrapping, and destruction of cylinders shall be arranged by the unit filling the cylinders.

**Article 24** During the use of pressure cylinders, a dedicated person shall be responsible, measures to prevent tipping shall be taken, collisions, heating, and exposure to direct sunlight shall be avoided, and pressure cylinders containing media susceptible to chemical reactions under radiation shall be kept away from radiation sources or shielded.

**Article 25** No welding or modification of pressure cylinders is allowed by any research unit; alteration of the steel stamp or color marking of cylinders is prohibited; scrapped cylinders must not be used; the residual liquid in the cylinders cannot be handled by themselves, and the media in cylinders cannot be transferred to other containers.

**Article 26** Pressure cylinders containing flammable, explosive, or toxic media must be used in accordance with safety regulations.

**Article 27** Flammable and combustible gas cylinders should be kept separate.

**Article 28** A centralized storage room meeting the requirements shall be set up for research units that need to use a large number of cylinders simultaneously. Necessary measures such as fire prevention, explosion prevention, electrostatic prevention, poison prevention, and radiation prevention shall be taken according to the characteristics of the cylinder medium.

## **Chapter 7 Accident Handling**

**Article 29** In the event of an accident with in-use special equipment, rescue measures shall be taken immediately, the scene shall be protected, and the special equipment functional management department shall be notified promptly. If it is possible to extinguish the fire by oneself, immediate organization of firefighting shall be carried out while reporting. In urgent situations, reporting to the police first and then reporting to the special equipment functional management department is also acceptable.

**Article 30** After an accident occurs, the cause shall be promptly investigated, lessons shall be learned, and hidden dangers shall be eliminated. The causes, lessons learned, and results of dealing with accidents shall be recorded in writing and entered into the special equipment technical archives as formal documents.

**Article 31** Those who violate operating procedures and cause safety accidents will be punished according to the severity of the accident.

## **Chapter 8 Bylaw**

**Article 32** These Measures shall come into effect from the date of promulgation and shall be interpreted by the Department of General Affairs and the Department of Public Service Platform for Science and Technology. The original *Management Measures of Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences on Special Equipment Safety* (SYK ZI [2019] No. 108) shall be repealed simultaneously.