
Cylinder Design Documents Appraisal Procedure

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Article 1 According to the Regulations on Safety Supervision of Special Equipment (hereinafter referred to as the “Regulations”) and the Gas Cylinder Design Documents Appraisal Administration Regulation, design documents of cylinders that will be used within the territory of the P. R. China and within the scope stipulated in the “Regulations” shall be appraised.

Article 2 The Procedure is applicable to design documents appraisal of cylinders which are fabricated by manufacturers outside the territory of the P. R. China and will be used inside the territory of the P. R. China and within the scope stipulated in the “Regulations”.

Article 3 The **China Special Equipment Inspection and Research Institute** (hereinafter referred to as the “CSEI”) has been authorized by General Administration of Quality Supervision Inspection and Quarantine of the P. R. China (hereinafter referred to as the “AQSIQ”) to appraise design documents of cylinders fabricated by manufacturers outside the territory of the P. R. China.

Article 4 Design Documents Appraisal defined in the Procedure refers to review and assess whether the safety performance of cylinder appointed for appraisal meet the requirements of Chinese safety technical standards and codes.

Article 5 Appraisal of cylinder design document should be antecedent to fabrication. The cylinder design document that has not been appraised or fails to appraisal is forbidden to be used in fabrication.

Article 6 Any cylinder manufacturer applying for design document appraisal (hereinafter referred to as “Applicant”) must hold Manufacture License of Special Equipment (hereinafter referred to as “Manufacture License”) with corresponding levels.

Manufacturers, who are applying for Manufacture License, can apply for Cylinder Design Documents Appraisal if their Manufacture License application have been accepted and within the term of validity.

The level of the cylinder that is appraised should be in accordance with the Manufacture License or the Manufacture License application.

Article 7 The technical requirements for Cylinder Design Documents Appraisal are based on the Chinese safety technical regulations, national standards and trade standards such as the Gas Cylinder Safety Supervision Rules, Gas Cylinder Safety Supervision Regulations, etc.

Manufacturers outside the territory of the P. R. China, who have difficulties to completely carry out the above-mentioned Chinese cylinder safety technical regulations and standards in short time, are allowed to adopt the technical codes and standards, which are conventional and complete in system and are used by most countries, after having been approved by the Bureau of Safety Supervision of Special Equipment of AQSIQ of the P. R. China (hereinafter referred to as the “SESA”). However, in this case, they must meet the requirement as stipulated Article 58 of the Requirements for Boiler and Pressure Vessel Manufacture Licensing simultaneously.

Chapter 2 Essentials of Appraisal

Article 8 For the cylinder design which is first applying for appraisal, the Applicant shall submit design documents according to the requirements of Appendix 3. For the design documents which have passed appraisal, the Applicants shall submit the changed design documents only.

Article 9 According to the different structures, the appraisal institution may ask the Applicant to submit other relevant technical documents and data needed for appraisal.

Article 10 Gas standards approved by authority organization or official technical documents supplied by gas supplier containing essential information such as gas property parameters needed in cylinder design should be supplied, when the gas in cylinder is not referred in Gas Cylinder Safety Supervision Rules.

Article 11 According to the standard and the request of user, the manufacturer should determine the type and supplier of cylinder valves safety accessories, and be responsible for that. A written notification should be submitted to the original appraising organization, when the type of valves or safety accessories defined in the design document is changed.

Chapter 3 Appraisal Procedure

Article 12 Before fabrication of cylinders which will be exported to the P. R. China, Manufacture License holder outside the territory of the P. R. China can download from CSEI’s website (www.csei.org) or directly ask the International Division of CSEI for the “Application Form of cylinder Design Documents Appraisal” and relevant documents (See Appendix 2 for the form and filling out requirements of the “Appraisal Application Form of Boiler Design Documents”). On design appraisal fee rates and payment way, please directly ask the International Division of CSEI.

Article 13 Manufacturers outside the territory of P. R. China, who have difficulties to completely carry out Chinese cylinder safety technical regulations and codes, shall apply to Bureau of Special Equipment Safety Supervision of AQSIQ for approval for adopting other technical codes and standards which are conventional and complete in system and are applied by most countries before they submit the boiler design document stipulated in Article 14. The submitted cylinder design documents must meet the requirements of Article 58 in Requirements for Boiler and Pressure Vessel Manufacture Licensing.

For detailed information about this application, please see Appendix 1.

The SELO of AQSIQ is responsible for Application form for the use of boiler design code/standard

Article 14 The oversea applicants shall submit the following documents to CSEI:

(1). A copy of the approved Application Form for Cylinder Design Technical Code/Standard (please see Appendix 1).

(2). A copy of the applicant's Manufacture License (or a copy of the acceptance of the application for Manufacture License).

(3). Three copies of the Application Form of Cylinder Design Documents Appraisal (please see Appendix 2) written in Chinese or English.

(4) The document list for cylinder design and the design documents.

For applicants who submit the documents for appraisal for the first time, the applicant shall submit the cylinder design documents list and the design documents as per the requirements in Appendix 3.

For applicants who have passed the appraisal and submit the documents only for modification, the applicants shall submit only the changed design document list and the changed design documents.

(5) Other supplementary documents.

Article 15 The Applicant outside the territory of the P. R. China can invite also the design appraisers to conduct design appraisal at the manufacturer's location if there are difficulties to supply all the design documents to CSEI. In this case, in addition to the appraisal fees, the Applicant shall bear costs for the airfare, board and lodging, accident insurance and communication of the appraisers arising from the design appraisal.

Article 16 After receipt of manufacturer's cylinder design documents and Application Form of cylinder Design Documents Appraisal, the CSEI will check application documents, appoint the serial No. of appraisal item and collect fees for appraisal according to regulations. The CSEI will endorse on the application form and return one copy to the Applicant, submit one copy to SESA, and keep one copy by CSEI.

Article 17 The CSEI shall decide whether accept it or not within 2 days after received appraisal application and complete the appraisal within 15 working days (30 working days for special cylinder), and issue to the Applicant the "Report of Cylinder Design Document Appraisal" (see Appendix 3) and give one of the following appraisal conclusions:

(1) Pass the appraisal (agree to register)

The design conforms to requirements of relevant safety technical regulations and codes, and manufacturer can proceed with manufacture according to the design.

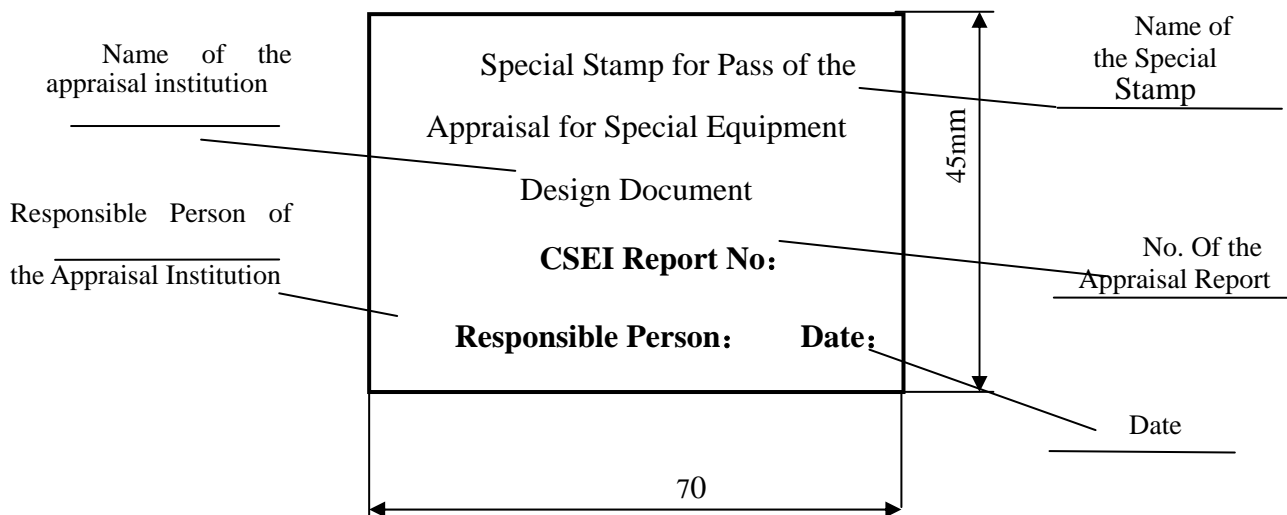
(2) To modify design

The parts of the design, which are in unconformity with requirements of relevant safety technical codes and regulations, should be modified. Appraiser shall point out the parts need to be modified by Applicant and re-appraise the modified documents according to the procedures of this Chapter.

(3) Not pass the appraisal (refuse to register)

The design, which has big safety problems, seriously violates relevant safety technical regulations and codes, is completely denied, and the appraiser shall state the reasons meanwhile.

Article 18 After the design documents pass the appraisal, CSEI shall stamp on the main design documents with "Special Stamp for Pass of the Appraisal for Special Equipment Design Document"(see picture 1).



Picture 1: Special Stamp for Pass of the Appraisal for Special Equipment Design Document

For design of cylinder, the Special Stamp shall be stamped on the cylinder proper drawings or general drawings, the drawings of main pressure parts, cylinder design specifications, cylinder design calculations, finite element stress analysis reports (for needed), cylinder design instructions, investigation reports on standardization, instructions for use.

Special Stamp for Pass of the Appraisal for Special Equipment Design Document shall be stamped at the upper or right side of the caption column of the design drawings.

The CSEI shall fill and register the above mentioned stamped documents.

Article 19 If the applicant wants to make any Change to the cylinder design documents that have passed the appraisal, the original cylinder type and numbers of the design drawings should not be changed.

Under following situations, the changed parts of design documents shall be re-appraised as per the Procedure:

- (1) Change of Design Wall Thickness.
- (2) Change of material type of cylinder shell.
- (3) Change of structure of cylinder shell.

(4) Under the same design parameters (wall thickness, diameter, pressure), the nominal volume changes more than one volume series. As far as the middle-volume series and big-volume series, the length-increasing is bigger than 50%.

Note: The volume of cylinder is divided into three volume series. The Volume smaller than 12L is small-volume series, bigger than 100L is big-volume, the else is middle-volume.

(5) Change of type of thread on cylinder opening, such as changing outside thread to internal one, or the reversed.

(6) Change of structure of cylinder ends.

(7) Change of size of cylinder opening.

(8) Change of manufacturing technology of the seamless steel cylinder.

(9) Change of size of holes in valve holder and stopple base. A renewed opening reinforcement calculation should be done, when the hole changed to be a bigger one.

(10) Change of opening position of welded gas cylinder.

(11) Change of heat-insulating material or type of cryogenic cylinder.

(12) The other changes defined as new design in interrelated cylinder standards.

The Applicant should apply to CSEI for name change registration with name change certification while changing the applicant name (including the supplier's name for supplying design documents) on cylinder design documents.

Chapter 4 Responsibilities and Supervision Administration

Article 20 The International Division of CSEI is responsible for Appraisal Acceptance. The Cylinder Division of CSEI is responsible for Implementation and Registration of Appraisal.

Article 21 CSEI should keep objective and impartial position when conducting the appraisal, and issue the appraisal conclusion without delay. The CSEI should take good care of the technical documents submitted by the Applicant and keep its secret of any concerned information.

Article 232 For any dispute between the CSEI and Applicant, or if Applicant finds some members of CSEI violate the rule or have any dereliction of duty during the appraisal, Applicant have right to appeal to AQSIQ or other related departments.

Article 23 When applicant violates the Regulation, the CSEI shall report to AQSIQ and impose administrative penalty on the violation according to Regulations on Safety Supervision of Special Equipment and relevant stipulations.

Article 24 The CSEI should report the affairs of cylinder design documents appraisal for Applicants outside the territory of the P. R. China to AQSIQ every year, and publish on website.

Chapter 5 Supplementary Provisions

Article 25 The CSEI is responsible for the interpretation of the Procedure.

Article 26 The Procedure will become effective as October 1, 2010.

Application form for the use of cylinders code / standard

Name of Applicant			
Address of Applicant			
Manufacture License(or Safety Quality License) No.		Applicable Code / Standard	
Contact Person		Tel.No	
Email		Fax.No.	
Products description and main Technical parameters			
Name of Product		Material of Shell	
Test Pressure(MPa.)		Design Temp.(°C) (Service Temp.)	
Water Capacity (L)		Medium	
Item and requirement of mechanical performance		Requirement for bursting testing,	
Calculation equation for design		Requirement for NDE	
<p>We plan to export the cylinders to China, but we are difficult to completely carry out the Chinese cylinder code/standard. Therefore, we would like to adopt the above mentioned applicable code/standard to design and fabricate the cylinders .In addition, we confirm we will comply with Article 58 of “Requirement for Boiler and Pressure Vessel Manufacture Licensing”(down load at http://www.cbpmi.org/selo/selo/download.asp)</p> <p style="text-align: center;">Authorized signature of applicant: (Signature)</p> <p style="text-align: center;">Title: Date:</p>			
(Filled by Special Equipment Licensing Office)	Person in Charge :		Date
(Acceptance view and result filled by SESA of AQSIQ)	Person in Charge :		Date

- Note:1、 Fill in this application form and send to SELO of AQSIQ by mail (Address: B208, Building 2, Xiyuan, Hepingjie, Chaoyang District, Beijing, China. Postcode: 100013)(email:selo@csei.org.cn)
- 2、 Once approved, SELO will send the Approval for the use of boiler code/standard via fax at +86 10 59868666

Appendix 2:

Application form for gas cylinder design document appraisal

Name of Applicant	(Seal/stamp)		
Address of Applicant			
Tel. No.		Fax. No.	
Email Address		Cylinder design responsible person	
Manufacture Licensing Certificate (acceptance) No.		(Acceptance) Category of Manufacture Licensing	
Expire Date of Licensing Certificate		Design category	(New, modify, changed)
Basic conditions of designed cylinder			
Cylinder type		Standard of design	
Method of Manufacture		Specification	Length mm
Nominal water capacity	L		Inside diameter mm
Material		Filling medium(standard)	
Design wall thickness	Mm	Nominal wall thickness	mm
Nominal working pressure	MPa	Hydraulic test pressure	MPa
Liner material of wire wound gas cylinder		Wound material (Reinforced layer) of wire gas cylinder	
Remarks:			
comments of last appraisal			
<p>Note: (1) This Column is applicable for failed for last appraisal or modified according to last appraisal; therefore need to reapply for an additional appraisal.</p> <p style="padding-left: 40px;">(2) Please state briefly about inconformity or modification indicated by last appraisal.</p> <p style="padding-left: 40px;">(3) Please ignore this column when apply for first time.</p> <p>Please provide appendix (<i>instruction on design modification</i>) if necessary.</p>			

Design changing after approved			
Approved agency		Original Approved report No.	
<p>Note: (1) This Column is applicable for passed last appraisal but need to change any design.</p> <p>(2) Please state the changed parts.</p> <p>(3) Any other needed to explain.</p> <p>(4) Please ignore this column when apply for first time, or reapply after modified according to last appraisal.</p> <p>Please provide appendix (<i>instruction on design modification</i>) if necessary.</p>			
Technical assurance engineer of applicant:		Date:	
Name of applicant:		Date:	
Acceptance comment:		Acceptance No.:	
Accepted by:		Date:	(Seal/stamp of Acceptance)

Note:

(1) Three copies of this form, one for applicant, one for AQSIQ China, the other for CSEI.

(2) Please send this form and the design document by mail to International Division of China Special Equipment Inspection and Research Institute (In brief of CSEI)

Address: B212, Building 2, Xiyuan, Hepingjie, Chaoyang District, Beijing, China. Postcode: 100013

TEL: ++86-10-59068350 FAX: ++86-10-59068383.

Appendix 3

Listing of gas cylinder design documents offered by the applicant

Serial No.	Name of Documents		Class	Number of Documents
1	“Application form for gas cylinder design document appraisal”		A	
2	Copy of “Approval for the use of cylinder codes/standards” (only applied to the applicant abroad adopting non-Chinese safety technical codes and standards of gas cylinder)		A	
3	Copy of the Manufacture License of special equipment, or Copy of the Application Form of Special Equipment Manufacture Licensing with the acceptable conclusion		A	
4	Design description documents	The list of documents applied for design appraisal	B	
5		The Design headline of gas cylinder	B	
6		Design instruction of gas cylinder	B	
7		The user manual of gas cylinder	B	
8	Design drawings	The general drawing of gas cylinder	B	
9		The drawing of the bottle	B	
10		The drawing of other parts and components	B	
11		The drawing of the fittings (valves, etc.)	B	
12		The location drawing of safety appurtenances and instruments	B	
13	Calculation documents	The calculation sheet of volume	B	
14		The strength calculation sheets for pressure parts and the summary of the calculation results	B	
15		The necessary rigidity verification of gas cylinder	B	
16		The set-point value of each protective device	B	
17		The detailed description of filled medium in the gas cylinder	B	
18		The necessary stress analysis and calculation reports of finite element method and other calculation methods stated in relevant standards	B	

Note: (1) The design documents for class A should be submitted one copy. The design documents for class B should be submitted three copies.

(2) Design headline

Stating design reason, requirements, standard, usage, using field, product structure, etc.

(3) Design instruction

Covering design basis, design parameter, structure, material choosing, calculation interpreting, structure interpreting, instruction on valve and safety-device, producing procedure, etc.