



INDUSTRIAL SAFETY DIVISION

DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH MALAYSIA

**APPLICATION GUIDE FOR ALTERATION APPROVAL OF PRESSURE VESSEL
DESIGN
2025**

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1.0 INTRODUCTION

This application guide serves as a reference for applicants submitting online application of pressure vessel design alteration approval via MySKUD system. This aims to provide applicants with clear and accurate guidance to help them meet all application requirements.

2.0 ENABLER

The Occupational Safety And Health (Plant Requiring Certificate Of Fitness) Regulations 2024 are provisioned under the Occupational Safety and Health Act 1994, Section 27B, whereby the Minister may specify any plant for which a certificate of fitness is required. These regulations **came into operation on 1 June 2024**.

The enabler power to application guide is pursuant to Section 27C of the Occupational Safety and Health Act 1994, whereby the Director-General may grant an approval subject to such terms and conditions as the Director General may impose.

3.0 INTERPRETATION

- i. Pressure vessel means an enclosed vessel with pressure greater or less than atmospheric pressure.
- ii. Fired pressure vessel (FPV) means a closed pressure vessel with pressure greater or less than atmospheric pressure that has any heating element that does not generate steam. Examples of FPV machinery include Hot Water Boilers, Fired Heaters, Electrical Heaters, and others.

4.0 SCOPE

4.1 SCOPE OF APPLICATION

- i. Application for plant (pressure vessel) design alteration approval are divided into two pressure vessel categories:
 - a. fired pressure vessels
 - b. unfired pressure vesselsApplications submitted in the MySKUD system must accurately reflect the vessel category.
- ii. Application for alteration approval of pressure vessel design is divided into two scopes:

4.1.1 SCOPE 1: ALTERATION (MODIFICATION)

- a) The scope of alteration (modification) stipulated by the Department involves activities such as cutting, welding, patching, or riveting of pressure parts which may affect the strength, integrity, or functional capability of the pressure vessel.
- b) Examples include, but are not limited to:
 - Replacement of pressure part materials with materials of lower allowable stress compared to the existing one provided it complies with the recognized standards. Example: Existing construction material carbon steel (SA 516 Gr 70) to carbon steel (SA 516 Gr 55).
 - Replacement of pressure parts using different materials from the existing, provided it complies with the recognized standards. Example: construction material carbon steel (SA 516 Gr 60) to stainless steel (SA 240 Gr 316).
 - Addition of nozzles.

4.1.2 SCOPE 2: ALTERATION (RE-RATING)

- a) Alteration of the safe working pressure or/and the design temperature of the pressure vessel.
- b) Applications for pressure vessel alteration (re-rating) are divided into **two categories**:
 - Pressure vessels exceeding or equal to 3000 psig.in
 - Pressure vessels where the internal diameter (inch) x design pressure (psig) \geq 3000 psig.in.
 - Design drawings and design calculations must be verified by an Authorized Inspecting Body.
 - Pressure vessels less than 3000 psig.in
 - Pressure vessels where the internal diameter (inch) x design pressure (psig) $<$ 3000 psig.in.
- iii. Any alteration (modification) involving eighty percent (80%) or more of the entire pressure vessel must obtain a new design approval and must be re-registered with a new registration number (PMT). Please refer to the application guidelines for design verification of local pressure vessels (clause 4.1(ii)(c)).
- iv. The process of reducing pressure, temperature, or both is not included in the pressure vessel design alteration (re-rating) as it falls under the jurisdiction of the respective DOSH State Office.

4.2 NON-APPLICATION

The scope of this application shall not apply to the pressure vessels as specified in the Second Schedule, Occupational Safety And Health (Plant Requiring Certificate Of Fitness) Regulations 2024.

5.0 APPLICATION REQUIREMENTS

- i. Every document submitted must be either in **Malay or English**. Any translations must be done by the manufacturer or an official translation institution.

5.1. SCOPE 1: ALTERATION (MODIFICATION)

- a) The letter of application must be submitted from the owner or a Competent Person (Company) Manufacturer for Pressure Vessel before applying for pressure vessel design alteration approval.
- b) The application for pressure vessel design alteration approval must meet the requirements of the application documents as specified in **Document A**.

5.2. SCOPE 2: ALTERATION (RE-RATING)

- a) **Only the owner** can submit the application for pressure vessel alteration approval. The applicant must clearly state in the application letter the proposed re-rating to be carried out on the pressure vessel.
- b) The application for pressure vessel design alteration approval (re-rating) must meet the requirements of the application documents as specified in **Document B**.
- c) The applicant must provide a new nameplate containing the updated information regarding the re-rated design temperature/pressure.

5.3. SCOPE 3: ALTERATION (MODIFICATION & RE-RATING)

- a) Applications for pressure vessel design alteration approval involving both modification and re-rating must meet the requirements of the application documents as specified in **Document C**.

6.0 INSTRUCTION FOR FILLING OUT APPLICATION DETAILS

Required information for the Pressure Vessel Design Alteration Approval Application Form:

DETAILS	NOTES
VESSEL TYPE	
1) Vessel Type*	Select the type of vessel based on the interpretation of vessels, whether it is a fired pressure vessel or an unfired pressure vessel
SUB-APPLICATION INFORMATION	
2) Sub-Application*	Select the sub-application information based on the scope of alteration, whether it is Alteration (Modification) , Alteration (Re-Rating) or Alteration (Modification & Re-Rating) .
APPLICANT INFORMATION	
3) Applicant's Name*	The application can only be made by the owner or a Competent Person (Company) Manufacturer for local or imported pressure vessel
4) Applicant's Address*	The address of the party making the application
5) Name of Contact Person	Name of the company officer who can be contacted
6) Phone Number*	Telephone number of the company officer mentioned above
7) Email*	Email of the company officer mentioned above
8) Technical Officer's Name*	Name of the technical officer who can be contacted
MANUFACTURER INFORMATION	
9) Manufacturer Name*	Name of the company that manufactures pressure vessels Example: KNZH Sdn. Bhd. Note: Fill in the company name as listed in the Competent Person (Company) Manufacturer for Pressure Vessel approved by the Department and still within the valid period.

DETAILS	NOTES
10) Manufacturer Address*	Address of the company mentioned above.
VESSEL INFORMATION	
11) Registration Number*	Fill in the machinery registration number information (PMT / PMD No.)
12) Type of Pressure Vessel*	Select the type of pressure vessel information as stated in the MYSKUD system
13) About Pressure Vessels *	Fill in the name of the pressure vessel as shown in the design drawing
14) Model*	Fill in the model information of the pressure vessel as shown in the design drawing. Enter (-) if not applicable.
15) Year of Manufacture*	Select the manufacturing year of the pressure vessel
16) Serial No.*	Fill in the serial number of the pressure vessel. Enter (-) if not applicable.
17) Working Media*	Fill in the working media of the pressure vessel
18) Dimension (mm)*	Fill in the dimensions such as length, width, and height of the pressure vessel. Enter (-) if not applicable.
19) Diameter (mm)*	Fill in the internal and external diameters of the pressure vessel.
20) Volume (m ³)*	Fill in the total volume capacity of the pressure vessel.
21) Design Drawing No.*	Fill in design drawing numbers as attached.
22) Recognized standard*	Fill in the recognized standard (design code) information according to the latest edition or amendment as listed in the Fourth Schedule, Occupational Safety And Health (Plant Requiring Certificate Of Fitness) Regulations 2024.

DETAILS	NOTES
23) Design Temperature and Rerated Temperature*	Fill in the design temperature and the re-rated temperature if applicable.
24) Technical Reason for Alteration*	Provide explanation in detail the technical reasons for the pressure vessel design alteration.
25) Scope of Alteration*	Please state in detail the scope of the alteration, including dimensions, quantities, material specifications, and any other relevant information.
DESIGN PRESSURE AND TESTING INFORMATION	
26) ID x DP Information*	If the Sub-Application is Alteration (re-rating); Select whether ID x DP is greater than or equal to 3000 psig.inch
27) Total ID x DP*	If the Sub-Application is Alteration (re-rating); Fill in the product of the internal diameter (inch) and the design pressure (psig).
28) Design Pressure (kPa) and Pressure Test*	If the Sub-Application is Alteration (Modification); Fill in the design pressure information in kilopascal (kPa) and the pressure test as stated in the original approval letter.
29) Design Pressure (kPa) and Re-rated Pressure Test*	If the Sub-Application is Alteration (Re-rating); Fill in the pressure information in kilopascal (kPa) and the re-rated pressure test.
OWNER INFORMATION	
30) Owner's Name*	Fill in the owner's name of the pressure vessel
31) Owner's Address*	Fill in the owner's address of the pressure vessel

7.0 APPLICATION DOCUMENTS

Please upload the required documents for the application of pressure vessel design alteration approval. Documents marked with (*) are mandatory. If necessary, enter any comments in the remarks section.

No.	List of Supporting Documents for Alteration
Document A: Alteration (Modification)	
1.	Design drawings of the parts involved in the alteration*
2.	Design calculations of the parts involved in the alteration calculated using the latest edition of recognized standards*
3.	Copy of approved original design drawings*
4.	Copy of approved original design approval/design verification letter*
5.	Copy of latest Certificate of Fitness*
6.	Letter of appointment of the Competent Person (Company) Manufacturer for Pressure Vessel / Origin manufacturer appointed by the owner*
7.	Procedure for the alteration (modification) works to be carried out*
8.	Welding procedure and specifications (WPS, PQR, WQT)*
9.	Material certificates or certificates of replaced components*
10.	Approved welder certificates
11.	Welder Continuity Record
12.	Inspection Test Plan (ITP)
13.	Forming Certificate
14.	Material Receiving Report
15.	Weld Map
16.	Visual Inspection Report
17.	Copy of survey & inspection report for the pressure vessel to be altered

No.	List of Supporting Documents for Alteration
Document B: Alteration (Re-rating)	
1.	Justification letter / technical reasons for carrying out the alteration (re-rating)*
2.	Design drawings involving the alteration (re-rating) of new design pressure or/and design temperature*
3.	Design calculations involving the alteration (re-rating) of new design pressure or/and design temperature*
4.	Confirmation Letter by an Authorized Inspecting Body confirming the scope of re-rating (For pressure vessels exceeding or equal to 3000 psig.in)*
5.	Copy of approved original design approval/design verification letter*
6.	Copy of latest Certificate of Fitness*
7.	Copy of the approved design drawings*
8.	Latest thickness inspection records for the pressure vessel conducted by inspection company and verified by the vessel owner
9.	Integrity inspection report on the pressure vessel for internal and external parts of the vessel.
10.	Vessel operation records from the owner.
11.	NDT records on welding joints.

No.	List of Supporting Documents for Alteration
Document C: Alteration (Modification & Re-rating)	
1.	Design drawings of the parts involved in the modification & re-rated design data information*
2.	Design calculations with modification & re-rating values calculated using the latest edition of recognized standards*
3.	Confirmation Letter by an Authorized Inspecting Body confirming the scope of re-rating (For pressure vessels exceeding or equal to 3000 psig.in)*
4.	Copy of approved original design drawings/design approval/design verification letter*

No.	List of Supporting Documents for Alteration
Document C: Alteration (Modification & Re-rating)	
5.	Copy of Certificate of Fitness*
6.	Letter of appointment of the Competent Person (Company) Manufacturer for Pressure Vessel / origin manufacturer appointed by the owner*
7.	Procedure for the alteration works to be carried out*
8.	Welding procedure and specifications (WPS, PQR, WQT)*
9.	Material certificates or certificates of replaced components*
10.	Approved welder certificates
11.	Welder Continuity Record
11.	Inspection Test Plan (ITP)
12.	Forming Certificate
13.	Material Receiving Report
14.	Weld Map
15.	Visual Inspection Report
16.	Copy of survey & inspection report for the pressure vessel to be modified
17.	Latest thickness inspection records for the pressure vessel conducted by inspection company and verified by the vessel owner
18.	Integrity inspection report on the pressure vessel for internal and external parts of the vessel.
19.	Vessel operation records from the owner.
20.	NDT records on welding joints.

8.0 INFORMATION

- i. The Department reserves the right to reject the application or withdraw design verification approval at any time if it is found that:
 - a) It does not comply with or violates any terms and conditions stipulated by the Director General under Section 27C.(3), Occupational Safety and Health Act 1994 as stated in the verification letter; or
 - b) It falsifies application documents and information; or
 - c) It has violated any other terms and conditions issued by the Department from time to time.

- ii. Each pressure vessel shall be tested as specified in the design verification before being operated and witnessed by an authorized inspecting body recognized by the Department as listed in the First Schedule, Occupational Safety And Health (Plant Requiring Certificate Of Fitness) Regulations 2024.

9.0 FEES

Every application for approval of alterations of pressure vessel design shall be accompanied with a processing fee as follow:

NO.	MATTER	FEE (RM)
1.	Process for alteration of pressure vessel	300

Any fee paid for this pressure vessel design alteration approval application shall not be refundable.

10.0 CLIENT CHARTER

Applications submitted with complete documents will be processed within 15 working days from the date of receipt of the application.

Pressure Vessel Unit
Design Approval Section
Industrial Safety Division
Department of Occupational Safety and Health
Reference: 5/2025 (Updated)