



INDUSTRIAL SAFETY DIVISION

DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH MALAYSIA

APPLICATION GUIDE FOR ALTERATION APPROVAL OF STEAM BOILER DESIGN

2025

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1.0 INTRODUCTION

This application guide serves as a reference for applicants submitting online applications of steam boiler 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 certificate of fitness is required. These regulations come into operation on **1 June 2024**.

This guide is issued pursuant Section 27C, 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

Pursuant to Regulation 2, Occupational Safety and Health (Plant Requiring Certificate of Fitness) Regulations 2024;

- a) "steam boiler" means any closed vessel for any purposes which steam is generated under pressure greater than atmospheric pressure and includes any economiser used to heat water being fed to the vessel and any super heater used for heating steam and any pipes and fittings connected to the closed vessel;
- b) "heating surface" means, in respect of a steam boiler, the total surface of all plates and tubes exposed to heat on one side and in contact with water on the other, measured on the water or fireside, whichever is the greater, and excluding the heating surface of any economiser and superheater connected to it;
- c) Steam boiler alteration means any alteration to;
 - (i) the design that may affect the strength, integrity or functional capability of steam boiler;

- (ii) the safe working pressure or/and design temperature that may affect the integrity of the steam boiler.

4.0 SCOPE OF APPLICATION

The application for steam boiler design alteration is divided into four categories.

4.1 SCOPE 1: ALTERATION (MODIFICATION)

- a) 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 steam boiler.
- b) Examples include (but are not limited to):
 - i) Replacement of pressure part materials with materials of lower allowable stress compared to the existing one, provided it complies with the recognized standards. Example: Replacing existing construction material from carbon steel (SA 516 Gr 70) to carbon steel (SA 516 Gr 55).
 - ii) Replacement of pressure part materials with different materials from the existing one, provided it complies with the recognized standards. Example: Replacing existing construction material from carbon steel (SA 516 Gr 60) to stainless steel (SA 240 Gr 316).
 - iii) Addition of a nozzle.

4.2 SCOPE 2: ALTERATION (ECONOMIZER AND SUPER HEATER)

- a) The scope of alteration (economizer and super heater) defined by the Department is the addition of an economizer and/or superheater to a steam boiler registered with the Department of Occupational Safety and Health (DOSH) and holds a certificate of fitness.

4.3 SCOPE 3: ALTERATION (RE-RATING)

- a) The scope of alteration (re-rating) refers to any changes to the safe working pressure and/or design temperature that may affect the integrity of the steam boiler.
- b) Reducing pressure, temperature, or both, is not included in the steam boiler design alteration (re-rating) application as it falls under the jurisdiction of the respective DOSH State Office.

4.4 SCOPE 4: ALTERATION (MODIFICATION AND RE-RATING)

- a) Refer to clauses 4.1, 4.2, and 4.3 of this application guide.

5.0 APPLICATION REQUIREMENTS

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

5.1. SCOPE 1: ALTERATION (MODIFICATION) APPLICATION REQUIREMENTS

- a) The scope of application only applies to steam boilers modified by the **origin manufacturer or a competent person (company)** registered with the Department.
- b) **Only the owner or the competent person (company) carrying out the alteration work** is allowed to apply the proposed steam boiler design alteration must be clearly stated in the application letter.
- c) The design, materials, construction, performance quality, inspection and testing of the steam boiler shall comply with the latest edition or amendment of recognized standards listed in Fourth Schedule, Occupational Safety and Health (Plant Requiring Certificate of Fitness) Regulations 2024 and shall be verified by an authorized inspecting body.
- d) The application for design alteration approval must meet the requirements of application document as specified in **Document A**.

5.2. SCOPE 2: ALTERATION (ECONOMIZER DAN SUPER HEATER) APPLICATION REQUIREMENTS

- a) **Only the owner or the competent person (company) carrying out the alteration work** is allowed to apply for alteration approval for the addition of an economizer and/or superheater to the steam boiler. The proposed steam boiler design alteration must be clearly stated in the application letter.
- b) The design, materials, construction, performance quality, inspection and testing of the steam boiler shall comply with the latest edition or amendment of recognized standards listed in Fourth Schedule, Occupational Safety and Health (Plant Requiring Certificate of Fitness) Regulations 2024 and shall be verified by an Authorized Inspecting Body.
- c) The application for design alteration approval must meet the requirements of application document as specified in **Document B**.

5.3. SCOPE 3: ALTERATION (RE-RATING)

- a) Only the **owner** is allowed to apply for alteration (re-rating) approval. The proposed steam boiler design alteration (re-rating) must be clearly stated in the application letter.
- b) The applicant must provide a new nameplate containing updated information on the re-rated design temperature/pressure.
- c) The application for design alteration (re-rating) approval must meet the requirements of application document as specified in **Document C**.

5.4. SCOPE 4: ALTERATION (MODIFICATION AND RE-RATING)

- a) The scope of application only applies to steam boilers altered by the **origin manufacturer or a competent person (company)** registered with the Department.

- b) **Only the owner or the competent person (company) carrying out the alteration work** is allowed to apply for alteration approval. The proposed steam boiler design alteration must be clearly stated in the application letter.
- c) The applicant must provide a new nameplate containing updated information on the re-rated design temperature/pressure.
- d) The design, materials, construction, performance quality, inspection and testing of the steam boiler shall comply with the latest edition or amendment of recognized standards listed in Fourth Schedule, Occupational Safety and Health (Plant Requiring Certificate of Fitness) Regulations 2024 and shall be verified by an authorized inspecting body.
- e) The application for design alteration (modification and re-rating) approval must meet the requirements of application document as specified in **Document D**.

6.0 INSTRUCTION FOR FILLING OUT APPLICATION DETAILS

Required information for the steam boiler design alteration approval application form:

| DETAILS | NOTES |
|---|---|
| APPLICATION CATEGORY | |
| 1) Verification Category | Select> Steam Boiler Design Alteration |
| APPLICATION FOR STEAM BOILER DESIGN ALTERATION | |
| 2) Application Sub Information | Select> Alteration (Modification) (Includes the addition of an economizer and/or superheater as part of the modification scope) or ;- Select> Alteration (Re-Rating) Select> re-rating of Temperature, re-rating of Design Pressure and Testing, or Both, if applicable, or ;- Select> Alteration (Modification) and Alteration (Re-Rating) |

| DETAILS | NOTES |
|--|---|
| | Select this option if the application involves both alteration and re-rating. |
| APPLICANT INFORMATION | |
| 3) Applicant Name and Applicant Address * | Please ensure that all information is filled in accurately. |
| 4) Name of Contact Person* | Name of applicant who can be contacted |
| 5) Position, Phone Number, e-mail | Fill in the position, phone number, and email of the applicant mentioned above. |
| 6) Technical Officer's Name* | The name of the technical officer responsible for the design of the steam boiler. |
| 7) Position, Phone Number, e-mail Technical Officer* | Fill in the position, phone number, and email of the technical officer mentioned above. |
| STEAM BOILER INFORMATION | |
| 8) Steam Boiler Information* | <p>Registration Number (PMD) of steam boiler to be alter Example: WP PMD 12345</p> <p>The application cannot proceed if the plant information is not available in the system.</p> <p>Please fill in the boiler category and boiler details.</p> |
| 9) Model* | Fill in the steam boiler model information as per design drawing Enter (-) if not related |
| 10) Year manufactured* | Fill in the manufacturing year of the steam boiler. |
| 11) Serial number* | Fill in the steam boiler serial number. |
| 12) Capacity (m ³) | Fill in the steam boiler volume information Enter (-) if not related |

| DETAILS | NOTES |
|---|---|
| 13)Evaporation Capacity (tons per hour)* | Fill in the steam boiler's evaporation capacity Enter (-) if not related |
| 14)Power (kW) | Fill in the steam boiler's heating power Enter (-) if not relevant (other than autoclave and electric steam boiler) |
| 15)Design Drawing Number* | Fill in all design drawing numbers complete with revisions number as per attached. |
| 16)Alteration scope* | <p>Please specify in detail the scope of modifications, including dimensions, quantity, material specifications, and any other relevant information.</p> <p>Example (a): Replacement of 10 superheater tubes from SA-192 with an outer diameter of 70 mm and a thickness of 6 mm to SA-210-A1 with an outer diameter of 70 mm and a thickness of 5.4 mm.</p> <p>Example (b): Addition of an economizer and/or superheater to the existing steam boiler.</p> |
| 17)Technical Justification (Alteration)* | <p>Please provide a detailed technical justification for the steam boiler modification.</p> <p>Supported by a technical report (if available).</p> |
| ORIGIN STEAM BOILER MANUFACTURER INFORMATION | |
| 18)Manufacturer Name* | <p>Company Name of Steam Boiler Manufacturer</p> <p>Note:</p> <p>a) Local Manufacturer</p> <p>Enter the company name and registration number as stated in the approval letter for a competent person recognized as an approved steam boiler manufacturer by the Department, and whose approval is still valid.</p> <p>Example: ABC Sdn. Bhd.</p> <p>b) Origin Manufacturer</p> |

| DETAILS | NOTES |
|---|--|
| | <p>Company Name of Steam Boiler Manufacturer Example: ABC Pvt Limited.</p> <p>Note: Please enter the full name of the steam boiler manufacturer.</p> |
| 19)Manufacturer's Address* | <p>Address of the Steam Boiler Manufacturer</p> <p>Note:</p> <p>a) Local Manufacturer: Enter the address as stated in the approval letter for a competent person recognized as an approved steam boiler manufacturer by the Department.</p> <p>b) Origin Manufacturer: Enter the full address of the steam boiler manufacturer.</p> |
| <p align="center">ORIGIN MANUFACTURER / COMPETENT PERSON (COMPANY) INFORMATION FOR MODIFICATION WORKS</p> <p align="center">*Applicants are not required to fill in this section for Re-Rating Modification applications.</p> | |
| 20)Name of Original Manufacturer / Competent Person (Company) | <p>Company Name Performing Steam Boiler Alteration Example: ABC Sdn. Bhd.</p> <p>Note: Enter the company name and registration number as stated in the approval letter for a competent person (company) steam boiler recognized by the Department, and whose approval is still valid.</p> |
| 21)Address of Original Manufacturer / Competent Person (Company) | <p>Address of the company performing steam boiler alteration</p> <p>Note: Fill in the address as stated in the approval letter for a competent person (company) steam boiler recognized by the Department.</p> |
| 22)Approval Date and Expiry Date* | <p>Will be automatically filled by the system for the competent person (company).</p> |

| DETAILS | NOTES |
|--|--|
| DESIGN TEMPERATURE, DESIGN PRESSURE AND TEST PRESSURE INFORMATION | |
| 23) Origin Design Pressure and Test Pressure* | Fill in the origin design pressure and test pressure information for the steam boiler and/or economizer and/or superheater in kilopascal (kPa) as specified in the design drawing. |
| 24) Re-rating Design Pressure and Test Pressure* | Fill in the re-rating design pressure and test pressure information for the steam boiler and/or economizer and/or superheater in kilopascal (kPa) as specified in the design drawing. |
| 25) Origin Design Temperature* | Fill in the original design temperature information for the steam boiler and/or economizer and/or superheater as specified in the design drawing. |
| 26) Re-rating Design Temperature* | Fill in the re-rating design temperature information for the steam boiler and/or economizer and/or superheater as specified in the design drawing. |
| 27) Heating surface (m ²)* | Fill in the total heating surface of the steam boiler |
| 28) Recognized standards* | Fill in the recognized standard information (design code) according to the latest edition or amendment as per Fourth Schedule, Occupational Safety and Health (Plant Requiring Certificate of Fitness) Regulations 2024. |
| 29) Authorized inspecting body* | Select the information of 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. |
| OWNER INFORMATION | |
| 30) Owner Name* | Fill in the owner's information |
| 31) Owner Address | Fill in the steam boiler owner's address. |

7.0 APPLICATION DOCUMENTS

Please upload the required documents for the steam boiler design alteration application. Documents marked with (*) are mandatory.

| No. | List of Supporting Documents for Alteration |
|---|--|
| Document A: Alteration (Modification) | |
| 1. | Justification letter / technical reasons for carrying out the alteration * |
| 2. | Design appraisal certificate from an authorized inspecting body* |
| 3. | Design drawings of the modified part verified by an authorized inspecting body* |
| 4. | Design calculations of the modified part using the latest edition of recognized standards and verified by an authorized inspecting body* |
| 5. | A copy of the originally approved / verified design drawings * |
| 6. | A copy of the original design approval / verification letter that has been approved / verified* |
| 7. | A copy of the latest certificate of fitness* |
| 8. | Appointment letter of the competent person (company) appointed by the owner* |
| 9. | Procedure for the alteration works to be carried out * |
| 10. | Welding procedure and qualification records (WPS, PQR, WQT) * |
| 11. | A copy of the survey and inspection report for the steam boiler to be modified. |
| 12. | Material certificate or certificate of replaced finished components. |
| 13. | Other supporting documents |
| Document B: Alteration (Economizer and Super Heater) | |
| 1. | Justification letter / technical reasons for carrying out the alteration * |
| 2. | Design appraisal certificate from an authorized inspecting body* |
| 3. | Design drawings of the economizer or/and super heater verified by an authorized inspecting body* |

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|---|---|
| 4. | Design calculations of the economizer or/and super heater using the latest edition of recognized standards and verified by an authorized inspecting body* |
| 5. | Copy of the Approved / Verified Original Steam Boiler Design Drawing* |
| 6. | Copy of the Approved / Verified Original Steam Boiler Design Approval / Verification Letter* |
| 7. | A copy of the latest certificate of fitness* |
| 8. | Letter of Appointment of a Competent Person (Company) by the Owner as an Installer* |
| 9. | Procedure for the alteration works to be carried out * |
| 10. | Welding procedure and qualification records (WPS, PQR, WQT) * |
| 11. | Other supporting documents |
| Document C: Alteration (re-rating) | |
| 1. | Justification letter / technical reasons for carrying out the alteration (re-rating) * |
| 2. | Design appraisal certificate from an authorized inspecting body* |
| 3. | Design drawings involving alteration to the design pressure and/or new design temperature, verified by an authorized inspection body.* |
| 4. | Design calculations involving alteration to the design pressure and/or new design temperature using the latest edition of recognized standards, verified by an authorized inspection body.* |
| 5. | Copy of the Approved / Verified Original Steam Boiler Design Drawing* |
| 6. | Copy of the Approved / Verified Original Steam Boiler Design Approval/Verification Letter* |
| 7. | A copy of the latest certificate of fitness* |
| 8. | Latest thickness inspection record for the steam boiler. |
| 9. | Integrity inspection report. |
| 10. | Boiler operation record |

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|--|--|
| 11. | NDT record |
| 12. | Other supporting documents |
| Document D: Alteration (Modification and re-rating) | |
| 1. | Justification letter / technical reasons for carrying out the alteration (modification and re-rating)* |
| 2. | Design appraisal certificate from an authorized inspecting body* |
| 3. | Design drawings of the alteration part verified by an authorized inspecting body* |
| 4. | Design calculations of the alteration part using the latest edition of recognized standards and verified by an authorized inspecting body* |
| 5. | Copy of the Approved / Verified Original Steam Boiler Design Drawing* |
| 6. | Copy of the Approved / Verified Original Steam Boiler Design Approval / Verification Letter* |
| 7. | A copy of the latest certificate of fitness* |
| 8. | Appointment letter of a competent person (company) appointed by the owner* |
| 9. | Procedure for the alteration works to be carried out* |
| 10. | Welding procedure and qualification records (WPS, PQR, WQT) * |
| 11. | A copy of the survey and inspection report for the steam boiler to be altered. |
| 12. | Material certificate or certificate of replaced finished components. |
| 13. | Latest thickness inspection record for the steam boiler. |
| 14. | Integrity inspection report. |
| 15. | Boiler operation record |
| 16. | Non-Destructive Testing record |
| 17. | Other supporting documents |

8.0 INFORMATION

- 8.1 Any incomplete application will be rejected.
- 8.2 The Department reserve the right to reject the application or withdraw the design verification approval at any time if it is found that:
- a) 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) Falsifies application documents and information; or
 - c) Has violated any other terms and conditions issued by the Department from time to time.
- 8.3 Each steam boiler 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 alteration approval of steam boiler design shall be accompanied with a processing fee as follow:

| No. | Matter | Fee (RM) |
|-----|--|----------|
| 1. | Process for alteration of steam boiler | RM 300 |

Any fee paid for this steam boiler design alteration approval application shall not be refundable.

10.0 CLIENT CHARTER

Applications submitted with complete documents will be processed within 25 working days from the date of receipt of the application.

**Steam Boiler Unit
Design Approval Section
Industrial Safety Division
Department of Occupational Safety and Health
Ref. Update: 1/2025**