**January 2021**

# Diesel engine systems

## About this form

This form is to be used to apply for design registration of diesel engine systems used in underground coal mines.

Clause 177 of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014 and Part 5.3 of the Work Health and Safety Regulation 2017 set out requirements for the design registration of specific plant used in mines.

In this form, words have the same meaning as that defined in the *Work Health and Safety (Mines and Petroleum Sites) Act 2013* and *Work Health and Safety Act 2011* and their respective Regulations.

# Type of registration

Is this (only tick one):

a new registration, or

alteration of an existing plant design registration?

|  |  |
| --- | --- |
| If this is an alteration of an existing registration, provide the existing NSW plant design registration number |  |
| Provide a short description of the alteration to the existing plant design |  |

**Note:** A reference to the alteration of a design is a reference to an alteration that may affect health and safety (refer to clause 244(2) of the Work Health and Safety Regulation 2017).

# Applicant details

The person conducting a business or undertaking (PCBU) that designs an item of plant or a person who has management or control of an item of plant may register the design of an item of plant.

|  |  |  |
| --- | --- | --- |
| Applicant type (tick one) | Individual | Body corporate |
| Is the applicant the: | Designer | Person with management control of the item of plant |

## Body corporate (if applicable)

Registered name

|  |
| --- |
|  |

| **ACN** |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

Registered business (trading) name, if applicable. (If the organisation is a trustee for a trust, include the name of the trust. Attach a certificate or other written evidence of the registration of the business name to the application.

|  |
| --- |
|  |

| **ABN** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

## Individual or contact person for body corporate

|  |  |
| --- | --- |
| First name |  |
| Other given name |  |
| Last name |  |
| Salutation |  |
| Email address\* |  |
| Daytime contact telephone number (contact will primarily be via email) |  |
| Mobile number |  |

\* The primary means of correspondence will be via email. A general email address is preferred so that through organisational changes in your company the department can maintain contact.

## Street address (must NOT be a PO Box)

Body corporate to provide their registered business address. Individuals to provide their residential address.

|  |  |
| --- | --- |
| Unit/Street/Property |  |
| Street name |  |
| Suburb |  |
| State |  |
| Postcode |  |
| Country (if other than Australia) |  |

### Postal address

Same as the street address above

|  |  |
| --- | --- |
| Unit/street/property |  |
| Street name |  |
| Suburb |  |
| State |  |
| Postcode |  |
| Country (if other than Australia) |  |

## Jurisdiction

If you or your company does not reside in NSW, you must provide a justification for the granting of the registration and demonstrate how you will ensure compliance with NSW legislative requirements below.

|  |  |
| --- | --- |
| Demonstrate why you cannot have a registered office or reside in NSW |  |
| How will you ensure compliance with NSW legislative requirements? |  |

# Plant details

Representational drawings of the design must be attached to the application. The drawings and other documents submitted with the application must be submitted in English and be capable of being kept in electronic form.

|  |  |
| --- | --- |
| Make |  |
| Description of plant |  |
| Name of DES manufacturer and their factory address |  |
| Base engine value |  |
| Base engine model number |  |

Representational drawing information, if there is more than one drawing, please provide details on a separate piece of paper and attach to this application.

|  |  |
| --- | --- |
| Title of representative drawing |  |
| Drawing number (Please ensure the drawing number of identical to that on the representational drawing) |  |
| Revision number |  |
| Base engine value |  |

## Specific information

|  |  |
| --- | --- |
| Combustion system (e.g. direct injection, exhaust driven turbo charged) |  |
| Piston displacement |  |
| Cylinder bore and stroke | mm |
| Firing order |  |
| Compression ratio |  |
| **Testing dynamometer** |  |
| Power rating/speed | kW/rpm |
| Rated torque/speed | nm/rpm |
| Fuel setting |  |
| Fuel timing |  |
| **In service** |  |
| Torque stall power/speed | kW/rpm |
| High idle | rpm |
| Idle speed | rpm |
| Minimum ventilation requirements (gas) | m3/sec |
| Diesel particulate signature (QDP(min)) with filter | m3/sec |
| Diesel particulate signature (QDP(min)) without filter (if applicable) | m3/sec |

## Typical test results at rated power

|  |  |
| --- | --- |
| Speed | rpm |
| Torque | Nm |
| Power | kW |
| Turbo boost | kPa |
| Inlet vacuum | kPa |
| Exhaust pressure | kPa |
| Fuel consumption | l/s |
| Maximum surface temperature/location with 0% methane | kg/hr |
| Maximum surface temperature / location with 1.25% methane | 0C |
| Conditioner water consumption over 1 hour | 0C |
| Carbon dioxide CO2 (before / after treatment) | litre |
| Carbon monoxide CO (before / after treatment) | % |
| Oxides of nitrogen NOx (before / after treatment) | ppm |
| Nitrogen oxide NO (before / after treatment) | ppm |
| Nitrogen dioxide NO2 (before / after treatment) | ppm |
| Particulate (before / after treatment) | mg/m3 |
| Particulate after filter | mg/m3 (EC fraction) |
| Time for engine to shut down by:  a) emergency shutdown system ESS  b) manual fuel shut off valve  c) methane monitor | sec        sec        sec |

## Steady state specific and transient emissions

|  |  |
| --- | --- |
| Steady state cycle used | rpm |
| Weighted brake specific emissions | g/kWh |
| * CO | g/kWh |
| * NOx | g/kWh |
| * NMHC | g/kWh |
| * DP | g/kWh |
| Weighted grams/hr emitted | g/hr |
| * CO | g/kWh |
| * NOx | g/kWh |
| * NMHC | g/kWh |
| * DP | g/kWh |
| Transient cycle DP | g/hr |

# Documents to be provided

The following documents (or documents containing the following information) must be provided for assessment with the application. Tick boxes to confirm these mandatory documents are attached to the application.

representational drawings of the design

|  |  |  |  |
| --- | --- | --- | --- |
| Document No | Issue | Date | Title |
|  |  |  |  |
|  |  |  |  |

test reports for all tests specified in part 3 of MDG 43

|  |  |  |  |
| --- | --- | --- | --- |
| Document No | Issue | Date | Title |
|  |  |  |  |
|  |  |  |  |

a report by the design verifier that documents the design verification process and the results of that process including how the diesel engine system complies with all the requirements in the *Registration of Diesel Engine Systems Design Order 2018.*

|  |  |  |  |
| --- | --- | --- | --- |
| Document No | Issue | Date | Title |
|  |  |  |  |
|  |  |  |  |

# Designer’s statement

If more than one person assisted or was involved with this plant design, each designer must separately complete and submit this designer’s statement.

## Details of the designer

|  |  |
| --- | --- |
| First name |  |
| Other given name (if applicable) |  |
| Last name |  |
| Daytime contact number |  |
| Mobile number |  |
| Email |  |

## Street address (must NOT be a PO Box)

|  |  |
| --- | --- |
| Organisation or company name if applicable |  |
| Unit/Street/Property |  |
| Street name |  |
| Suburb |  |
| State |  |
| Postcode |  |
| Country (if other than Australia) |  |

### Postal address

Same as street address above

|  |  |
| --- | --- |
| Unit/Street/Property |  |
| Street name |  |
| Suburb |  |
| State |  |
| Postcode |  |
| Country (if other than Australia) |  |

## Plant details

Are the plant details specified in sections 3 and 4 of this application form correct?

Yes  No

Does the plant design comply in full with the Registration of Diesel Engine Systems Design Order 2018?

Yes  No

|  |  |
| --- | --- |
| Specify all published technical standard(s) and engineering principle(s) used in the design in addition to the design order. |  |

## Designer’s statement

I declare that:

* I designed the plant; and
* I have complied with the designer’s obligations under Section 22 of the *Work Health and Safety Act 2011* and Clause 177 of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014 in relation to the plant design; and
* the plant design was produced in accordance with the *Registration of Diesel Engine Systems Design Order 2018*.

|  |  |
| --- | --- |
| Name |  |
| Signature |  |
| Date |  |

Note: Giving false or misleading information is a serious offence under section 268 of the *Work Health and Safety Act 2011*, and Part 5A of the *Crimes Act 1900.*

# Design verifier’s statement

If more than one person assisted or was involved with this design verification, each design verifier must separately complete and submit this design verifier’s statement.

## Details of design verifier

|  |  |
| --- | --- |
| First name |  |
| Other given name (if applicable) |  |
| Last name |  |
| Daytime contact number |  |
| Mobile number |  |
| Email |  |

## Business details (if applicable)

|  |  |
| --- | --- |
| Name |  |
| Organisation or company name if applicable |  |
| Unit/Street/Property |  |
| Street name |  |
| Suburb |  |
| State |  |
| Postcode |  |
| Country (if other than Australia) |  |

### Postal address

Same as street address above

|  |  |
| --- | --- |
| Unit/Street/Property |  |
| Street name |  |
| Suburb |  |
| State |  |
| Postcode |  |
| Country (if other than Australia) |  |

## Jurisdiction

If you or your company do not reside in NSW, you must provide a justification for why you are not based in NSW for the granting of the registration.

|  |  |
| --- | --- |
| Detail any circumstances that justify you or your company verifying this design while not in NSW. |  |

## Design verifier’s qualifications

|  |  |
| --- | --- |
| Qualifications or skills and design experience relevant to this design (include professional association membership if applicable) |  |

## Plant details

Are the plant details specified in sections 3 and 4 of this application form correct?

Yes  No

## Design verifier’s statement

I declare that:

* I carried out the verification of the plant design; and
* I am eligible to verify this plant design under the provisions of [Division 3 of Part 5.3](https://www.legislation.nsw.gov.au/#/view/regulation/2017/404/chap5/part5.3/div3) of the Work Health and Safety Regulation 2017; and
* the plant design was produced in accordance with the [Registration of Diesel Engine Systems Design Order 2018](https://www.resourcesregulator.nsw.gov.au/__data/assets/pdf_file/0008/566378/Govt-Gazette-9-Nov-2018-plant-design-registration-orders-diesel-engine-systems.pdf); and
* I was not involved in the production of the design; and
* I have documented the process used to verify the design and the results of that verification process.

|  |  |
| --- | --- |
| Name |  |
| Signature |  |
| Date |  |

Note: Giving false or misleading information is a serious offence under section 268 of the *Work Health and Safety Act 2011*, and Part 5A of the *Crimes Act 1900.*

# Additional documents supporting this application

If you require more space to list the supporting documents, please attach another copy of this page to your application.

|  |  |  |  |
| --- | --- | --- | --- |
| Document No | Issue | Date | Title |
|  |  |  |  |
|  |  |  |  |

# Fees

A fee is payable for an application for a plant design registration. The Resources Regulator uses a third-party secure payment service to receive payments. Refer to [our website](https://www.resourcesregulator.nsw.gov.au/safety-and-health/applications/licensed-activities/schedule-of-fees-for-authorisations) for instructions on how to make payment.

Enter your receipt number below:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

# Applicant’s declaration

I declare that:

* an equivalent registration granted by a corresponding regulator under a corresponding work health and safety law is not held; and
* the information supplied in this application is true and correct to the best of my knowledge; and
* I confirm that the design verifier/s were not involved in the production of the design; and
* none of the information supplied by me in this application or any documents attached or submitted in support of this application is false or misleading; and
* in making this application, I have not failed to provide material information relating to the matters addressed above; and
* I consent to the department making enquiries and exchanging information with SafeWork NSW and other work health and safety regulators in other states regarding any matter relevant to this application.

|  |  |
| --- | --- |
| Name |  |
| Signature |  |
| Date |  |

Note: Giving false or misleading information is a serious offence under section 268 of the *Work Health and Safety Act 2011*, and Part 5A of the *Crimes Act 1900.*

# Checklist

## Type of registration

Is this an alteration of an existing NSW plant design registration? If YES, have you stated the NSW plant design registration number and provided a short description of the alteration on the form?

## Applicant details

Have you completed all the relevant fields in the applicant details?

Have you attached the certificate or other written evidence of the registration of the business name?

## Plant details

Have you completed all the fields for plant details?

Have you attached all representational drawings?

Have you checked that the drawing number(s) (including revision number(s)) on the drawing(s) provided are correct and match the drawing number(s) on the representational drawing(s)?

Have you provided all the specific plant details required in sections 3.1, 3.2 and 3.3 of the form?

## Documents to be provided

Have you checked that all the documents have been attached to the application and the document details listed in section 4 of the form?

## Designer’s statement

Did more than one person participate in the plant design? If so, ensure a design’s statement is provided by each person and a principal designer has been nominated?

Has the designer/s completed all fields in section 5 of the form?

Has the designer/s signed and dated the statement?

Has the designer/s attached a report for any declarations of areas of equivalent levels of safety?

## Design verifier’s statement

Did more than one person participate in the design verification? If so, ensure a design verifier’s statement is provided by each person and a principal design verifier has been nominated?

Has the design verifier/s completed all fields in section 6 of the form?

Has the design verifier/s documented the process used to verify the design?

Has the design verifier/s signed and dated the statement?

## Additional documents supporting this application

Has all supporting documentation been listed and referenced in the table?

Has all supporting documentation been provided in electronic format? It is a condition of application that all documentation is provided electronically.

## Applicant’s declaration

Has the applicant signed and dated the applicant declaration of the form?

**If you have been able to tick all of the sections above, you may proceed with your submission.**

## Submitting the form

Email this form and all accompanying documentation to the Mining Competencies and Authorisation team at the Resources Regulator at:

* Email: [mca@planning.nsw.gov.au](mailto:mca@planning.nsw.gov.au)

**Please note:** applications can only be accepted by email.

If you have any queries or need assistance submitting your supporting documentation, please contact the Resources Regulator on 1300 814 609 or at [mca@planning.nsw.gov.au](mailto:mca@planning.nsw.gov.au)

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