

COMMISSION FOR RAIL REGULATION



CHARTERED INSTITUTE OF TRANSPORT AND LOGISTICS IN
IRELAND



**Syllabus for the Dangerous Goods Safety Adviser Examination for
the Transport of Dangerous Goods by Rail**

Version 3.0 – 29.09.2022

Contents

Introduction	2
Format of the Examination.....	3
DGSA Training.....	6
Examination Syllabus.....	8

Introduction

Legislation governing the carriage of dangerous goods by rail requires undertakings involved in the consigning, the carriage or the related packing, loading, filling or unloading of dangerous goods to appoint one or more dangerous goods safety advisers (DGSA's). The role of the DGSA is to help prevent the risks inherent in such activities with regard to persons, property and the environment. For candidates to become qualified and obtain a DGSA certificate for the rail mode they must undergo training and pass an examination approved by the Commission for Rail Regulation (CRR). The Chartered Institute of Logistics and Transport in Ireland (CILT) has been appointed under Regulation 4 (1) (a) (ii) of the European Commission (Transport of Dangerous Goods by Rail) Regulations 2010 as amended to administer the examination function.

To maintain certification candidates must re-sit the examination on a 5 yearly cycle.

This document details the subjects covered by the DGSA rail mode examinations. It has been prepared by the Chartered Institute of Transport in Ireland on behalf of the Commission for Rail Regulation.

You can obtain information on DGSA training and enrolling for the examination from the Chartered Institute of Logistics and Transport Ireland -

www.cilt.ie

Tel: +353 (0) 1 676 3188

Free phone: 1890 25 25 99

Fax: +353 (0) 1 676 4099

General email: info@cilt.ie

Format of Examination

The DGSA examination is based on the current edition of Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) and the EUROPEAN COMMUNITIES (TRANSPORT OF DANGEROUS GOODS BY RAIL) REGULATIONS, 2010 as amended (the national regulations). The examinations are intended to ascertain whether candidates possess the necessary level of knowledge and understanding to carry out the duties incumbent on a safety adviser set out at 1.8.3.3 of the RID. Until such time as there may be an examination offered in line with 1.8.3.13 of the RID limiting an examination to a specific class or specific classes, the examination is an “all classes” examination meaning the successful candidate may act as a DGSA without restriction to any specific hazard class or classes under RID.

It should be noted that the RID is updated and re-issued every two years. Only the latest edition may be used in the exams. The national regulations are updated from time to time as required including to bring into law the latest edition of the RID.

As an open book written examination, permissible materials that may be brought into the examination are limited to a clean hard copy of the national regulations and a hard copy of the current RID. No electronic devices are permitted.

The DGSA examination is split over three examination papers. Each paper is marked separately and a candidate is required to pass all three papers before being awarded the DGSA rail certificate. The examinations are a CORE, CLASSES and rail MODE paper. Successful candidates may act as a DGSA without restriction to any specific class(es) under the RID.

The three written examination papers are provided up to three times a year depending on demand for the rail mode qualification. These are designated “CORE”, “ALL CLASSES” and the “MODE” papers. The CORE paper is of 1 hour 15 minutes duration. The CLASSES and rail MODE papers are both 1 hr. 45 minutes duration. Please contact the CILT directly if you wish to sit any of the DGSA rail mode papers for dates, times and locations as these are subject to demand.

Candidates will be given an examination booklet for each of the three exams with a series of questions and space provided for answers. Candidates may use blue or black ink pens to answer the questions in their booklets. The completed examination booklets are handed to the invigilator at the end of each paper.

Each paper is marked out of a total of 50 marks. To pass, candidates must achieve a mark of 65% (32 marks) or more. All three papers must be passed to gain a rail mode DGSA certificate.

Should a candidate fail one part of the examination, he/she may re-sit the failed paper within 12 months of the original examination date to gain the DGSA certificate. Should the candidate be unable to pass any of the examinations that he or she originally failed within 12 months of his or her first attempt then any passes which the candidate has obtained during that 12 month period automatically lapse.

Examinable subjects are set out in this document in line with the RID and the national regulations for the transport of dangerous goods by rail.

The following subjects will form a significant proportion of each examination:

- General preventive and safety measures including the notification of occurrences involving dangerous goods
- Security provisions
- Classification and identification of dangerous goods - how to choose Proper Shipping Names and UN numbers including NHM codes
- Training requirements
- Safety obligations of the participants
- General packing provisions, including portable tanks, tank-containers, tank wagons, etc.
- Danger marking, labelling of packages (to include intermediate bulk containers, large packagings and pressure receptacles) and the marking placarding of cargo transport units specific to rail transport
- Information contained in the rail mode transport document
- Other document requirements and transport certificates
- Instructions in writing for the rail mode
- Provisions concerning the conditions of carriage, loading, unloading and handling including protective distances
- Piggyback transport,

- Express Parcels.

These subjects may be included in the questions in any of the three papers.

Candidates are required to be aware of the regulations for the other modes of transport – air, inland waterways, road and sea – and the interface between the rail mode regulations and the regulations for these other modes of transport though they will not be examined on the specifics of the regulations for the other modes of transport.

In the third rail MODE paper candidates will be asked to complete one case study style question in keeping with the duties of the DGSA (RID 1.8.3.3). Candidates will have a choice of three to attempt. 35 marks (of the total of 50) are allocated to the case study. This paper will also contain some further questions for the remaining 15 marks.

Candidates must have an understanding of the requirements of the RID and of the national regulations especially of specific national provisions and exemptions. Candidates may be examined on any or all parts of the RID and the EUROPEAN COMMUNITIES (TRANSPORT OF DANGEROUS GOODS BY RAIL) REGULATIONS, 2010 as amended.

In addition to the subjects upon which candidates may be examined concerning the RID, candidates may also be examined on the following parts of the national regulations as amended:

- Application
- Competent Authorities
- Training of persons involved in the transport of dangerous goods by rail
- General and specific compliance with the RID, and other requirements for all dangerous goods
- Duties of all participants in transport of dangerous goods by rail and other general duties of persons engaged in the transport of dangerous goods by rail
- Duties of railway undertakings as carriers
- Obligation on undertakings to appoint safety advisers, safety adviser training certificates
- Accident reporting

- Exemptions contained in the RID, temporary derogations and transitional measures, certificate of exemption, general derogations especially with respect to the transport of dangerous goods by rail within the Irish Republic
- Security and safety measures
- General Derogations
- Enforcement provisions, prohibition notices and improvement plans

DGSA Training Reference Material and Training

It is a requirement that candidates undergo training prior to sitting the examination. Training may be carried out by individuals through self-learning or by attending a training course. The main aim of the training is to provide candidates with sufficient knowledge of the risks inherent in the transport of dangerous goods, of the applicable regulations, administrative provisions and the duties of a DGSA.

This syllabus in conjunction with the RID and national regulations should form the basis of any training. This may be supplemented with other referenced material as may be specified by the CRR from time to time. As and when additional material is prepared, notices about this will be published on the CILT website.

Training Providers

A list of training providers is available from the CILT web site. This is not intended as a comprehensive list of all trainers as there is no obligation on the part of training providers to notify the CRR nor the CILT that they provide such training nor is there any obligation on the part of the CRR or the CILT to approve any training materials used by such trainers.

Appeals Procedure

Any candidate dissatisfied with the outcome of his or her exam results may appeal to the CILT for a review of his or her attempt at any or all of the three papers. CILT will instigate a review using the offices of the CILT chief examiner for the rail mode or another specialist examiner for this mode. CILT will

endeavour to provide a response within 30 calendar days. Any candidate still dissatisfied with the outcome of the review provided by the CILT may ask the CRR for a process review. The decision of the CRR shall be final.

DGSA Examination Syllabus

1. Dangerous goods safety adviser (DGSA) role and duties (RID Part 1 and the National Regulations)

Candidates must have an understanding of:

- The international and national legal framework governing the transport of dangerous goods by rail including transitional measures
- The relationship with the air regulations, the inland waterway regulations and the sea regulations for the transport of dangerous goods addressed by RID
- Definitions and units of measurement used in the RID
- Training of persons engaged in any way with the transport of dangerous goods by rail
- The legal provisions concerning the appointment of a DGSA to an undertaking
- The duties of the DGSA in monitoring compliance with RID and national regulations including the provision of advice to help ensure safety and compliance
- The system of DGSA examination, qualification, re-validation and recognition of the certificate throughout by all Contracting States to the RID (1.8.3.15)
- The requirement to prepare an annual report and the preserving of such reports for 5 years
- Internal emergency plans for marshalling yards

2. Classification of dangerous goods (RID Part 2 and Part 3)

Candidates must have an understanding of:

- The principles for the classification of dangerous goods – substances, articles, preparations, solutions, mixtures and hazardous waste

- The physical state of dangerous goods – solid, liquid and gas
- The nature of dangerous goods – physical, chemical and toxicological properties
- Classification criteria and procedures including the use of test methods
- Class specific dangerous goods
- Secondary hazards and use of the rules of precedence and the table of precedence
- The rules for the classification of environmentally hazardous substances (aquatic pollutants)
- Assignment of packing groups
- The principles of the international framework on UN numbering of dangerous goods and the choice of proper shipping names
- The structure of the dangerous goods list (RID 3.2 Tables A and B) and be able to use information contained in the list to establish appropriate provisions for specific entries
- NHM codes
- The special provisions for the transport of dangerous goods
- The rules and derogations applicable to the transport of dangerous goods in Excepted Quantities and Limited Quantities

3. Packaging, tank and vehicle Provisions (RID Part 4 and 6)

Candidates must have an understanding of:

- The principles for the design, construction, testing and coding of packagings, pressure receptacles, intermediate bulk containers (IBCs), large packagings and bulk containers
- The requirements for and differences between excepted and limited quantity packaging and fully regulated packaging
- The requirements and restrictions for the mixed packing of dangerous goods
- The principles of design, type approval, construction, inspection and testing of tanks (tanks, tank-containers, portable tanks, demountable tanks and tank-wagons), Multiple Element Gas Containers (MEGCs), vacuum operated waste tanks and other containment systems referenced in in parts 4 and 7 of the RID

- The provisions concerning the use of packagings, IBCs, large packagings, bulk containers and all kinds of tank
- The appropriate containment systems for dangerous goods, the extent to which the various containment systems are permitted for the transport of dangerous goods and identify special provisions relevant to the permitted containment systems

4. Marking, labelling and placarding (RID Part 5)

Candidates must have an understanding of:

- The general provisions concerning consignment procedures specified in Part 5 of the RID
- What is meant by the term “overpack” and the rules for the marking and labelling of overpacks
- Provisions concerning marking, labelling appropriate for packages of all kinds
- The provisions for the marking and placarding of containers, rail wagons, and tanks of all kinds
- How to assess specific circumstances and apply appropriate marks, labels and placards as appropriate

5. General provisions and participant safety obligations (RID Part 1)

Candidates must have an understanding of:

- The provisions concerning general safety measures such as when to notify emergency services and provide information concerning the load
- Restrictions applicable to rail in the interests of safety
- The safety obligations placed upon the various participants (Chapter 1.4 of RID)
- The requirements for proper cleaning and decontamination procedures as may be required during the transport of dangerous goods
- The need for written procedures covering the principal and specific operations associated with the transport of dangerous goods

- The meaning of the term “piggyback transport” and the provisions in the RID for piggyback transport operations

6. RID and competent authority authorisations, limited and excepted quantities (RID Part 1, Part 3 and National Regulations)

Candidates must have an understanding of:

- The exemptions, approvals and agreements applicable nationally and internationally, as provided for in the RID and by national competent authorities in relation to domestic transport
- Exemptions, limited quantities and excepted quantities as may be appropriate to specific circumstances
- The impact of quantity thresholds in relation to exemptions in the RID and the national regulations for the transport of dangerous goods by rail

7. Handling and stowage (RID Part 7)

Candidates must have an understanding of:

- The general principles concerning loading , filling, unloading, handling, and load security
- The need for verification procedures such as pre-loading checks and general compliance prior to loading
- The key safety provisions and be able to advise accordingly on filling ratios, load security guidelines, mixed loading prohibitions, segregation requirements, loading limitations and provisions applicable to certain classes of dangerous goods.
- The requirements for express parcel (colis express) consignments
- The requirements concerning protective distances

8. Transport equipment, documents and instructions in writing (RID Part 5 and 8)

Candidates must have an understanding of:

- The requirements for personal protective equipment to be provided for locomotive crews including class specific requirements

- The provisions for rail mode transport documents to include
 - packaging certificates
 - training certificates
 - instructions in writing for locomotive drivers
 - competent authority authorisations
 - container/vehicle packing certificates and when container/vehicle packing certificates are not required
- The languages requirements for the various documents needed for the transport of dangerous goods by rail
- How to assess specific circumstances and apply the relevant provisions and complete transport documents including mandatory language provisions

9. Security provisions and vehicle supervision (RID Part 1)

Candidates must have an understanding of:

- The general provisions concerning security to prevent the theft or misuse of dangerous goods that may endanger persons, property or the environment
- The additional measures required for high consequence dangerous goods and the requirements for high consequence dangerous goods security plans

10. Cause and consequence of accidents involving dangerous goods

Candidates must have an understanding of:

- The types of consequences which may be caused by an accident involving dangerous goods, for example:
 - injury to persons, including fatal or debilitating injury or harm to a person's immediate or long term health
 - damage to property - vehicles, buildings, transport infrastructure
 - damage to the environment from environmentally hazardous substances affecting land, air or waterways
- The main causes of accidents, for example,

- failure of containment - stress fracture/corrosion failure in tanks, valve/seal failure in IBCs, poor maintenance of transport equipment
 - rail traffic incidents such as shunting accidents, derailments, collisions etc.
 - human error - improper choice and or use of packaging, failure to secure loads,
 - exposure to harmful chemicals or articles - physical contact, inhalation, injection or irradiation
-
- Measures required to minimise the likelihood of an accident, such as appropriate training, correct choice and use of containment systems, use of PPE, safety audits, maintenance and inspection of transport equipment etc.
 - The requirement to investigate and report on accidents involving dangerous goods,
 - The need for emergency procedures and the needs of the emergency services when attending an incident