CHARTERED INSTITUE OF LOGISTICS AND TRANSPORT IN IRELAND

PRINCIPAL MARKER'S REPORT FORM

DANGEROUS GOODS SAFETY ADVISER EXAMINATION

SUBJECT: PAPER 2

EXAMINATION DATE: 6th November 2019

PART TWO – COMMENTS MAY BE CIRCULATED

No Attempting Examination:	71
No Passing Examination:	59
% Pass Rate:	83.10%
Average Mark	52.21

A. General Comments

- This was the third set of exams to be based on the new examination system with two papers per day only. For this second paper the pass rate has gone up from 75% in July to 83%. The average mark has also increased by three.

- No one candidate scored 100%. However, 10% of candidates scored 90% or more.

- The compulsory case study concerned the transport of for items of packaged dangerous goods, one of which was a Limited Quantity.

- Of the other two questions, candidates choose from:

  - The second concerned the international transport of a highly corrosive and toxic substance in RID/ADR tank-containers (not to be confused with UN multimodal portable tanks though they may look similar)

  - The third concerned the domestic transport of radioactive instruments and a solid oxidising substance of Class 5.1

- The average marks attained by candidates were 25.49%, 26.13% and 24.45% respectively. Of the optional case studies, the number of candidates who selected the second far outweighed the third in the ratio of six to one.

- Many candidates resorted to carrying out a multiplication exercise when this was not necessary. However, another group of candidates should have carried out a multiplication exercise did not seem realise this was necessary. This will be explained below further in Case Study 1.

- The importance of Special Provision (SP) 274 when applying Proper Shipping Names needed to answer questions and not to neglect this SP when it applies including giving all the references for this SP. On this occasion there was a similar but more important SP, SP61 to take account of which few candidates did properly.

- Candidates should familiarise themselves with the term “forwarder”. The forwarding country, for example, is *not* the country to where the goods are going but the country in which the goods originated.

- Candidates should remember that tunnel codes must be written in brackets on ADR transport documents.

- Comments on the three case studies now follow.

B. Comments on Individual Questions

Please make comments as appropriate for each question.

Case Study 1

In the first case study candidates were asked to say what was wrong with the entry for one of the four substances on the dangerous goods transport document. There were two faults. The first fault was that the substance concerned had a flammable liquid subsidiary danger, but this had been left out of the sequence of information. There should have been a "(3)" label number after the 6.1 label number. Majority of candidates found this mistake though 8.5% of candidates did not.

The second and more significant mistake was that Special Provisions (SP) 61 and 274 applied to the substance concerned. The latter requires a technical name to be inserted in brackets after the main part of the Proper Shipping Name while the first of these, perhaps the more important of the two provides more information about what that technical name may be and from where it may be sourced. This part of the question was not answered well. Very few candidates – 3% of candidates got this right. Some candidates may have found SP 274 and wrote something about its requirements though they did not say anything about the key SP 61.

Some candidates (15%) thought that one of the faults was that the Proper Shipping Name was not written in capital letters. It is not compulsory to show the Proper Shipping Name on the ADR transport document. The purpose of the words in column (2) of the Dangerous Goods List, Table A is explained at the beginning of Chapter 3.2 where there is an explanation of what each column in the table is about on page 277 of the 2019 English edition of the ADR, volume I.

A second part of this question on the ADR dangerous goods transport document concerned the languages in which it was written. It was stated that the consignment concerned had originated in the Czech Republic and had been transhipped in a transit warehouse in southern Germany. 17% of candidates thought that because the consignment had been transhipped Germany became the new forwarding country, this is incorrect. For ADR purposes in this example the forwarding country remains the Czech Republic so what was required to improve the transport document was to add the same details in one of the three official languages of the ADR, English, French or German. Of those that realised this and gave the correct action to take, some tried to be specific in their choice e.g. German because that is where the consignment now resided or English because travelling on to Ireland. That is not the way the ADR works. For the purposes of ADR writing the information in French, for example, has to be accepted by the enforcers in Germany and in Ireland. And, of course, if the consignment were to be shipped through a French or Belgian port to Ireland, there would be a case on that the document could be written in French. The candidates role here was to show their understanding of this situation of languages to the marker,

That part of the case study went on to ask why it would not be necessary to have an ADR transport document for one of the consignments, the reason being that it qualified as a Limited Quantity

(LQ). A small number tried to answer the question from the Excepted Quantities (EQ) provisions but if for no other reason these provisions do not allow packing in trays. Most tried the LQ route and established that the inner packaging limit for this method of packing for the substance concerned was 5 litres. To comply with the LQ provisions two quantity limits have to be met – the inner packagings must be no more than the quantity specified in column (7a) of the Dangerous Goods list and the total gross mass of the trays (in this case) must not exceed 20 kg. Some divided the 20 kg by 5 litres to try to show how many inner packagings were allowed, which is incorrect.

Those candidates who scored well identified that to claim the LQ allowances all that is needed was to check the inner packagings were less than 5 litres by saying at 0.5 litres (given in the case study) was well within this limit and that the packages at 1.75 kg (also given in the the case study) was well within the 30 kg limit. They also stated that that the ADR does not require a transport document for LQ.

In the fourth part of this case study candidates were asked to name three documents which must accompany the load from start to finish. Candidates had a choice of the transport document, the instructions in writing for the driver, the driver's ADR training certificate and the vehicle crew's photographic identification. Some thought that the vehicle approval certificate as an FL vehicle was needed: not so, this only applies to tank vehicles. 42% of candidates said that the Vehicle Packing Certificate should be present from end to end, this is incorrect. This is primarily a document required for the transport of dangerous goods by sea. The ADR only requires it to be present (a) if transport by sea is intended and then (b) only as far as the port of departure – see 5.4.2 – as it is a document which has to be handed over to the shipping line who are entitled to retain it. 42% of candidates offered this document as a part of their answer and were marked wrong.

Part (f) of the case study asked candidates to name any four items of *additional* miscellaneous safety equipment which must be carried on the vehicle. Candidates were then asked to say why the items were needed. 21% of candidates provided items of normal safety equipment such as self-standing warning signs, wheel chocks, eye protection etc. and were marked wrong. The correct answer was (a) an escape mask which was needed because one of the substances in the load is allocated to a No. 6.1 toxic label and then (b), a shovel, drain seal and a collecting container because other items in the load were allocated a No. 3 flammable liquid label or a No. 8 corrosive label. To gain full marks for this part, candidates had to say these four items and to justify in the way just shown why they were needed.

Part (g) of the case study required candidates to say whether the four items were allowed to be carried as a *mixed load* on the vehicle. It required candidates to consult the segregation table 7.5.2.1 of Chapter 7.5 of the ADR. However, before candidates looked at this table they were expected to say that the item which qualified as a Limited Quantity could be eliminated from consideration as 3.4.1 (g) does not list this table as being one of the parts of Chapter 7.5 which applies to LQ. This point was made by very few candidates - 83% of candidates overlooked this and lost marks accordingly. Some tried to answer the question from the *mixed packing* provisions or from the small load exemptions of 1.1.3.6 neither of which were relevant to the question.

Turning to the small load exemptions, in the final part of the case study candidates were asked to say how many 200 litre drums of the corrosive liquid in the load could be carried without the need to display orange plates at the front and rear of the vehicle. It required candidates to discover that Transport Category 2 applied to the substance and that this allowed up to 333 litres to be carried

as per the table for small loads in 1.1.3.6.3. Thus, only one drum of this capacity could be carried without displaying the plates. This final question was not answered well and only 22.5% of candidates attempted it. A further 17% offered some other incorrect solution such as the LQ provisions or Packing Instruction P001.

In a second example of 'multiplication exercise' in this set of exams, although the question only concerned one substance, several candidates insisted in multiplying the 333 by 3 to get 999 as the limit before orange plates are needed, this is incorrect. The multiplication rules for these small loads only apply to *mixed loads* when the substances are allocated to two *different* Transport Categories. A general suggestion to all concerned including trainers pay more attention to how the small load limit is determined for a mixed load where the goods belong to different Transport Categories.

Case Study 2

Only one individual made the mistake (and then for only a part of the case study) of looking for some of the solutions from Chapter 6.7 for UN multimodal portable tanks instead of Chapter 6.8 which covers RID/ADR tank-containers. The two types of tank may look like each other but there are significant differences between the two, not least of which is that the former uses a "reference steel" for calculating equivalent thickness while RID/ADR keeps to "mild steel" values for calculating equivalent thickness.

The RID/ADR tank code for the substance in the question was "L21DH$^{(+)}$". Candidates were asked to explain each field of this code, most did so successfully. The question was that candidates must explain the $^{(+)}$ feature of the code, meaning the tanks must be dedicated to the transport of just one or may be one or two more substances for which they have been specifically designed. The rule can be found at 4.3.4.1.3 in Chapter 4.3 of ADR. 10% of candidates who took this case study could not answer this part of the tank code.

There was an extensive three-part question about the documentation requirements for the consignment. Most correctly showed the entry required for the dangerous goods concerned on the transport document for the outbound tank.

In the second part candidates were asked to say how the original transport document could be used for the return of the RID/ADR tank-container empty, uncleaned to Amersfoort. The correct answer can be found at 5.4.1.1.6.2.3 i.e. that the quantity should be effaced and replaced by the words "EMPTY UNCLEANED, RETURN". 27% of candidates who took this case study gave some alternative answer to this one and were marked wrong as their alternative, though valid in general, did not answer the question.

In the third part of this question candidates were asked about the languages in which the document has to be prepared for the outbound RID/ADR tank-container going from Holland to Poland. 8% of candidates who took this case study thought that it should be in Polish as the forwarding country. As remarked above, candidates should make sure they understand the terms "forwarding" and to where "forwarded". According to the question, the forwarding country must be Holland, not Poland. Candidates who gave this answer were marked wrong. Some gave an answer concerning the languages for the driver's Instructions in Writing which was not relevant to the question.

In a brief question following on, candidates were asked what regulations applied to the rail leg of the journey as it was proposed to send the RID/ADR tank-container by rail for a part of the journey. Candidates are required to know of the existence of the regulations for other modes of transport even though, for a road mode paper, they will not be asked any questions about the content of these other modal regulations. The correct answer was RID and 35% of candidates who took this case study could not answer or gave some alternative incorrect answer.

There was a reason as to why that question about the RID was asked as candidates were then asked about the marking plates and placards which needed to be affixed to the RID/ADR tank-container and the vehicle carrying it to the terminal for transfer to rail. The first part required candidates to recognise that there are *two* sets of rules for marking plates in this situation. The primary rule applicable in ADR to all tank loads is that *plain* orange plates are displayed at the front and rear of the vehicle and that two further orange plates with the appropriate Hazard Information Number (HIN) and UN number are placed on each side. This is the primary method described in 5.3.2.1.1 and 5.3.2.1.2 of Chapter 5.3 of ADR.

The ADR then goes on to give an *exemption* from the requirements of 5.3.2.1.1 and 5.3.2.1.2 if only one substance is being carried whereby the plates on the side of the tank may be dispensed with providing the HIN and UN number are displayed on the front and rear (in our case) of the vehicle *carrying* the RID/ADR tank container. This exemption is found at 5.3.2.1.6. Although the use of this exemption is commonplace candidates should always bear in mind that this is an *exemption* and not the normal rule.

What was required from the candidates was to deduce that if they went for the 5.3.2.1.6 option, when the RID/ADR tank-container is lifted off its carrying vehicle for transfer to rail, there would be no orange plates of any kind left on it so that this option could be deemed to be unsuitable for the kind of "combined transport" journey taking place. Of the 60 persons who took this case study only 3 candidates worked this out and suggested the unsuitability of the 5.3.2.1.6. As above, candidates are not expected to be aware of the detail of the RID requirements there is actually a warning about this in the RID itself.

32% of candidates also did not make it clear that any marking plates were needed on the vehicle at all.

Apart from the issue of combined road and rail transport candidates were asked to give all the dimensions of the plates and their contents. This meant the height requirement for the digits forming the HIN and UN number on the plates which are 10 cm high and 15 mm stroke thickness. 47% of candidates did not give these details.

Candidates were then asked what placards were required on the RID/ADR tank-container and were. Most candidates answered that placards were required on each side and each end but not all candidates answered which one(s). In fact, a No. 8 and a No. 6.1 placard were needed. 18% of candidates who took this case study did not answer the actual placard numbers which was a requirement of the question.

Finally in this extensive question in the case study candidates were asked to give the dimensions of the placards. Placards have *three* dimensions specified in Chapter 5.3 of the ADR. These are:

1. An outer dimension of 250 mm x 250 mm
2. A line all the way around the placards 12.5 mm from the outer edge
3. A minimum dimension of at least 25 mm for the height of the class number in the lower corner.

All three were needed for a correct answer. No less than 58% of the candidates who took this case study did not answer the third dimension listed above.

The second last question concerned a speed limitation requirement for AT tank vehicles. The answer was 90 kph and is found at 9.2.5 in Chapter 9.2 of ADR. Most found the answer however, 17% of candidates who took this case study could not answer the question.

The final question required candidates to say whether drivers were required to have an escape mask when driving vehicles carrying the highly corrosive and highly toxic substance in the question. The answer lay in 8.1.5.3 of Chapter 8.1 of ADR which says that a mask is necessary if the substance has a No. 6.1 label assigned to it in Table A of the Dangerous Goods List. 17% of candidates could not answer this question given the severity of the dangers of the substance concerned.

Case Study 3

Fewer candidates took this case study. Although centred on a Class 7 item and a Class 5.1 item, the more substantial questions in this case study could occur in any.

The two opening parts of the case study which were about Class 7 issues were well answered on the whole as was a connected third question about the entry for the Class 7 item on the transport document.

Details about the Class 5.1 substance were answered well.

Where candidates tended to lose marks was in a demanding question about the small load thresholds and when would the vehicle carrying the two items have to display two plain orange plates at the front and rear. It required candidates to realise that this was a small loads question based on the provisions of 1.1.3.6 of Chapter 1.1 of ADR. It required candidates to realise that the Class 7 item had Transport Category 4 allocated to it meaning that an unlimited load of this item without the need for any orange plates whatsoever. Not one candidate who took this case study showed any use of the allowances provided by Transport Category 4 or that Transport Category 4 applied in the first instance.

Having eliminated the Class 7 item from consideration, the next step was to find the Transport Category for the Class 5.1 item (actually TC2) and work out whether the load exceeded the 333 kg allowance before orange plates were required. Some came close to an answer of this kind but not near enough. Of all the candidates who took this case study, not one could attempt any part of this question or came anywhere near the answer required as explained above.

There was a question about the validity of an ADR driver training certificate shown in the case study. Most recognised that it was out of date. No one noted that it did not cover Class 7. As it happened, this did not matter because the Class 7 item is allocated to Transport Category 4,

unlimited amount being able to be carried without the need for the driver to hold an ADR training certificate.

In a second part of this question candidates were asked to say what fixed penalty could be imposed on a *carrier* if a driver does not have his/her ADR training certificate with them. In the domestic regulations there are two fixed penalty offences which can be imposed – one on the driver and one on the carrier or consignor. Anyone who gave the penalty which could be imposed on the *driver* was marked wrong.

C. Comments on Candidates' Performance (include identification of any gaps in knowledge\areas of weakness)

Any comments appear above.

D. Comments on the Marking Process

None.

SIGNATURE: .....…… DATE: 03.12.2019

Paper2 report/
dgsa