



**Committee of Experts on the Transport of Dangerous Goods
and on the Globally Harmonized System of Classification
and Labelling of Chemicals****Sub-Committee of Experts on the Transport of Dangerous Goods****Forty-third session**

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Item 6 (a) of the provisional agenda

**Miscellaneous proposals for amendments to the Model Regulations
on the Transport of Dangerous Goods: fuels in machinery or equipment****Fuels in machinery and equipment (SP363/UN3166)****Transmitted by the Dangerous Goods Advisory Council¹****Introduction and background**

1. As DGAC noted at the forty-second session in document ST/SG/AC.10/C.3/2012/81, implementation of special provision 363, introduced in the seventeenth edition of the Model Regulations, has raised concerns over its use. In particular, there is confusion over the relevance of SP363 in the case of machinery historically transported under UN3166.

Use of UN 3166 Engines/Vehicles - Internal Combustion – Flammable Liquid Powered

2. UN3166 was introduced into the Model Regulations based on a proposal by ICAO which had long regulated vehicles, machinery and engines under this description (see for example, Packing Instruction 950 in the ICAO Technical Instructions). The philosophy at ICAO has been that regardless of whether an engine is incorporated in a vehicle, an immobile piece of machinery (e.g., a generator) or a standalone engine, the inherent dangers remain the same (i.e., the fuel, and other included dangerous articles such as batteries).

3. The scope of UN 3166 is less clear in the Model Regulations. The proper shipping name for UN3166, while clearly indicating applicability to engines and vehicles through

¹ In accordance with the programme of work of the Sub-Committee for 2013-2014 approved by the Committee at its sixth session (refer to ST/SG/AC.10/C.3/84, para. 86 and ST/SG/AC.10/40, para. 14).

proper shipping names, does not clearly indicate that immobile machinery powered by engines is also covered. That machinery is also covered is implied by special provision 312 which is assigned to UN 3166 and which refers to machinery. Like the ICAO TI, the IMDG Code also covers machinery under UN3166 in that relevant IMDG Code special provisions 961 and 962 refer to equipment and this term is regarded as including both machinery and engines.

Background SP 363

4. Special provision 363 was developed out of concern for large pieces of machinery that contain large amounts of fuel. As indicated in the initial paper by the United Kingdom (informal document INF.10, 35th session) the tanks in these units could hold up to 3000 L.

5. As it currently appears in the Model Regulations, SP 363 applies to machinery when it contains more than a limited quantity of fuel (500ml for PG I, 1L for PG II or 5L for PGIII). However, it has to be questioned whether the intent was really to cover small generators and other machinery historically transported under UN 3166.

Applicability of SP 363 vs UN 3166

6. The applicability of SP363 to machinery and the lack of clarity on the applicability of UN 3166 to machinery has created some confusion:

- Is UN 3166 to be used for machinery and SP363 to be disregarded; or
- Should SP363 apply to machinery and as such machinery should be transported under a fuel entry such as gasoline or diesel fuel.

While there may be special circumstances when it is advantageous to transport machinery tanks fully loaded, there are also many instances where only a limited amount of fuel is contained in machinery tanks in transport.

Implementation of SP363

7. There has been considerable variation in the adoption of SP363. While it was included verbatim in the IMDG Code, it was not adopted for inclusion under the ICAO TI. It was adopted for inclusion in the ADR/RID after modification. While it was considered, it was not adopted into US domestic regulations.

8. The differences in approach suggest that there are issues with SP363 in its present form:

- Should SP363 be applicable in the case of small quantities of fuel in machinery? It is noted that applicability of SP363 was limited to machinery with more than 60L in the case of ADR/RID. Under the IMDG Code machinery may contain up to one quarter tank but not more than 250 litres under UN3166 to which SP363 does not apply.
- Would it not be more appropriate to regulate machinery containing large amounts of fuel under the existing UN 3166? This entry deals with other dangerous goods that may be included as part of machinery (e.g., batteries) whereas fuel entries (e.g., UN1203) do not. It is understood that transport of vehicles is not subject to the ADR/RID, but would it not be possible for engines and machinery to still be regulated under UN3166? Or, alternatively, could a new UN number be established for machinery to overcome legal issues associated with the use of UN3166 under ADR/RID?

- Could the applicability of SP363 be limited to a quantity of [250 liters or more] so that machinery with a lesser amount need not be labelled? This was identified as one possible option in the course of informal discussions at the 42nd session and appeared to be a limiting value used in regulations of some other countries.

Proposal

9. DGAC appreciates that there may need to be extensive discussion on this issue. As a basis for further discussion DGAC proposes:

- (a) Delete SP363 from existing entries and place SP 363 against UN3166.
- (b) Revise SP363 to read as follows:

"363 When an integral means of fuel containment for machinery or equipment other than a vehicle, contains more than 250L of a fuel, the following additional requirements apply: This entry also applies to dangerous goods above the quantity specified in Column 7a of the Dangerous Goods List of Chapter 3.2 in means of containment (other than vehicles or means of containment defined in Part 6 of these Regulations subject to special provision 301) integral to equipment or machinery (e.g. generators, compressors, heating units, etc) as part of their original design type. They shall meet the following requirements:

- (a) The means of containment shall be in compliance with the construction requirements of the competent authority **where the machinery or equipment is manufactured;**
- (b) Any valves or openings (e.g. venting devices) in the means of containment containing dangerous goods shall be closed during transport;
- (c) The machinery or equipment shall be loaded in an orientation to prevent inadvertent leakage of dangerous goods and secured by means capable of restraining the machinery or equipment to prevent any movement during transport which would change the orientation or cause it to be damaged;
- (d) Where the means of containment contains not more than 450 litres of fuel, the labelling requirements of 5.2.2 shall apply and where the capacity is greater than 450 litres but not more than 1 500 litres the machinery or equipment shall be labelled on all four external sides in accordance with 5.2.2. The label used shall correspond to the hazard of the fuel. Labels may be applied to the machinery where application to the means of containment is not practicable or does not ensure visibility of the label(s);
- (e) Where the means of containment contains more than 1500 litres of fuel, the machinery or equipment shall be placarded on all four external sides in accordance with 5.3.1.1.2. The placards used shall correspond to hazard of the fuel.

Modify the shipping name for UN3166 to provide alternative shipping names that include the word "Machinery" in the possible PSNs. For example:

"MACHINERY, INTERNAL COMBUSTION"