QUALITY MATTERS	**SHIPS CLASSIFICATION MALAYSIA** # SCM CIRCULAR **TO SHIPOWNERS, SHIPYARDS, MASTERS, AGENTS AND RELEVANT INTEREST PARTIES**			MS ISO 9001 REG. NO. AR2998
	Issue No	08/2015	Issue Date	11 SEPTEMBER 2015
TITLE	**SCM CLASSRULES V1P1C2 SUPPLEMENT 2015 (1)**			

To All Owners, Managers, Ship Builder and Designer of Malaysian Vessels,

1. This SCMClassrules Volume 1, Part 1, Chapter 2, Supplement 2015 (1) is issued by Ships Classification Malaysia (SCM) to highlight on the updates made to existing rules; Volume 1 - Rules for Ships in Operation and Newbuilding, Part 1 - Classification and Construction of Steel Ships, Chapter 2 - Design and Construction of Hull Structures and Equipment.

2. This V1P1C2 Supplement 2015 (1) hereby will be used in conjunction with the latest edition of SCMClassrules which in use at time of its release.

3. The V1P1C2 Supplement 2015 (1) is included in this circular as **Annex 1**.

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ANNEX 1

VOLUME 1

SCM *CLASSRULES*

RULES FOR SHIPS IN OPERATION AND NEWBUILDING

Edition 2013

PART 1

CLASSIFICATION AND CONSTRUCTION OF STEEL SHIPS

CHAPTER 2

DESIGN & CONSTRUCTION OF HULL STRUCTURES AND EQUIPMENT

Supplement 2015 (1)

SHIPS CLASSIFICATION MALAYSIA

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SECTION 5 - UPDATES

LONGITUDINAL STRENGTH

	01.	The area of navigation notation in paragraph **3.2.1 ,** is updated, correspond to the latest SCM (area of navigation) notation .

3.2.1 The section modulus related to deck and bottom is not to be less than the following minimum value:

$$W_{min} = k \bullet c_0 \bullet L^2 \bullet B \bullet (C_B + 0.7) \bullet 10^{-6} \quad [m3]$$

c_0 according to **Section 4, 1.2.2** for unlimited service range (c_{Rw} =1.0)

For ships classed for a restricted range of service, the minimum section modulus may be reduced as follows:

~~P~~ **R200** (Restricted Ocean Service)	:	by 5%
~~L~~ **R50** (Coasting Service)	:	by 15%
~~T~~ **R20** (Shallow Water Service)	:	by 25%

End of V1P1C2 SECTION 5 - UPDATES

SECTION 6 - UPDATES

SHELL PLATING

	01.	In the paragraph **10.1 ,** in the equation box, value of L/100 is corrected and changed to L/1000 .

10 BULWARKS

10.1 The thickness of bulwark plating is not to be less than:

$$t = \left[0.75 - \frac{L}{1000}\right]\sqrt{L} \text{ [mm]} \quad \text{for } \mathbf{L} \leq 100 \text{ m}$$

$$= 0.65 \cdot \sqrt{\mathbf{L}} \text{ [mm]} \quad \text{for } \mathbf{L} > 100 \text{ m}$$

End of V1P1C2 SECTION 6 - UPDATES

SECTION 8 - UPDATES

BOTTOM STRUCTURES

	01.	In the paragraph **2.2.2.2 ,** in the second equation box, paragraph reference **7.5** is corrected and updated to **2.7.5**.

2.2.2.2 The thickness of the centre girder is not to be less than:

– within 0.7 **L** amidships:

$$t_m = \frac{h}{h_a}\left(\frac{h}{100}+1.0\right)\sqrt{k} \quad [mm]$$

for $h \leq 1200$ [mm]

$$t_m = \frac{h}{h_a}\left(\frac{h}{120}+3.0\right)\sqrt{k} \quad [mm]$$

for $h > 1200$ [mm]

– 0.15 **L** at the ends:

$$t_e = 0.9 \cdot t_m$$

h_a = depth of centre girder as built [mm]
h_a need not be taken less than h to calculate t_m

t_m = must not be less than t according to **2.7.5**

End of V1P1C2 SECTION 8 - UPDATES

SECTION 11 - UPDATES

WATERTIGHT BULKHEADS

	01.	In the paragraph **1.2.1.1 ,** the whole sentence is replaced, in accordance to Solas Ch.II-1, Reg 12.1 .

1.2 Arrangement of watertight bulkheads

1.2.1 Collision bulkhead

1.2.1.1 ~~Cargo ships with $L_c \leq 200$ m shall have the collision bulkhead situated not less than 0.05 L_c from the forward perpendicular. Cargo ships with $L_c > 200$ m shall have the collision bulkhead fitted at least 10 m from the forward perpendicular.~~

A collisions bulkhead shall be located at a distance from the forward perpendicular of not less than 0.05 L_c or 10 m, whichever is the less, and, except as may be permitted by the Administration, not more than 0.08 L_c or 0.05 L_c + 3 m, whichever is the greater.

	02.	In the paragraph **1.2.1.2 ,** the whole sentence is replaced, in accordance to Solas Ch.II-1, Reg 12.2 .

1.2.1.2 ~~All cargo ships shall have the collision bulkhead located not more than 0.08 L_c from the forward perpendicular. Upon application greater distances may be approved in special cases.~~

Where any part of the ship below the waterline extends forward of the forward perpendicular, e.g., a bulbous bow, the distance ' **x** ' **,** shall be measured from a point either:

.1 at the mid-length of such extension, (i.e. $x = 0.5 \times a$)

.2 at a distance 0.015 L_c forward of the forward perpendicular, (i.e. $x = 0.015 \times L_c$), or

.3 at a distance 3 m forward of the forward perpendicular, (i.e. $x = 3.0$ m)

whichever gives the smallest measurement.

The length L_c and the distance '**a**' are to be specified in the approval documents. See also ***Figure 11.1***.

	03.	In paragraph **1.2.1.3 ,** the whole sentence is re-worded, following changes made at para 1.2.1.2.

1.2.1.3 ~~In the case of ships having any part of the underwater body extending forward of the forward perpendicular, e.g. a bulbous bow, the required distances specified in **1.2.1.1** and **1.2.1.2** are to be measured from a reference point located at a distance x forward of the forward perpendicular which shall be the lesser of:~~

~~$x = \frac{a}{2}$~~
~~$= 0.015\ L_c$~~
~~$= 3.0$ m.~~

~~The length L_c and the distance a are to be specified in the approval documents.~~

~~For passenger ships see **Section 29 I, 3.3** .~~

If **1.2.1.2** is applicable, the required distances specified in **1.2.1.1** are to be measured from a reference point located at a distance '**x**' forward of the **F.P.** .

	04.	The figure in paragraph 1.2.1.3 (***Fig 11.1***) is updated, following changes made at para 1.2.1.1 and 1.2.1.2.

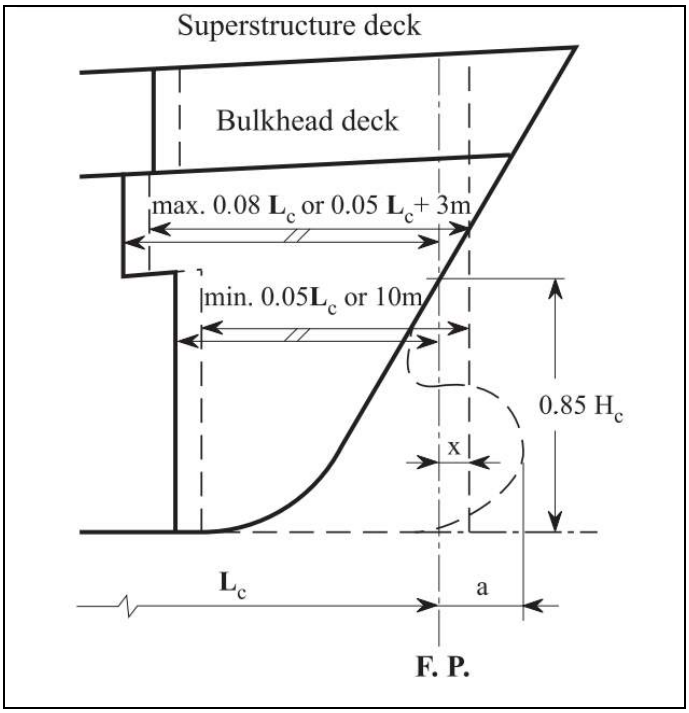

Fig. 11.1: Location of collision bulkhead

05.	The whole paragraph **1.2.1.4 ,** is re-worded, following changes made at para 1.2.1.1 and 1.2.1.2 , and in accordance to Solas Ch.II-1, Reg. 12.3.

1.2.1.4 The collision bulkhead shall extend watertight up to the freeboard deck. Steps or recesses may be permitted provided ~~**1.2.1.1** , **1.2.1.2** and **1.2.1.3** are observed~~ they are within the limits prescribed in **1.2.1.1** or **1.2.1.2**.

06.	The whole paragraph **1.2.1.5 ,** is replaced, in accordance to Solas Ch.II-1, Reg. 12.4 .

1.2.1.5 ~~In ships having continuous or long superstructures, the collision bulkhead shall extend to the first deck above the freeboard deck. The extension need not be fitted directly in line with the bulkhead below, provided the requirements of **1.2.1.1** , **1.2.1.2** and **1.2.1.3** with the exception as per **1.2.1.6** are fulfilled and the scantlings of the part of the freeboard deck which forms the step or recess are not less than required for a collision bulkhead. Openings with weather tight closing appliances may be fitted above the freeboard deck in the collision bulkhead and in the aforementioned step and recess.~~

~~The number of openings shall be reduced to the minimum compatible with the design and proper working of the ship.~~
No doors, manholes, access openings, or ventilation ducts are permitted in the collision bulkhead below the bulkhead deck.

07.	The whole paragraph **1.2.1.6 ,** is replaced, in accordance to Solas Ch.II-1, Reg 12.5.1 .

1.2.1.6 ~~On ships fitted with bow doors and inclined bow ramps which are part of the collision bulkhead above the freeboard deck, that particular part of the ramp which is fitted more than 2.30 m above the freeboard deck may be located forward of the limits specified in **1.2.1.1** . Such ramps shall be weathertight throughout their height.~~
Except as provided in **1.2.1.7** the collision bulkhead may be pierced below the bulkhead deck by not more than one pipe for dealing with fluid in the forepeak tank, provided that the pipe is fitted with a screw-down valve capable of being operated from above the bulkhead deck, the valve chest being secured inside the forepeak to the collision bulkhead. The Administration may, however, authorize the fitting of this valve on the after side of the collision bulkhead provided that the valve is readily accessible under all service conditions and the space in which it is located is not a cargo space. All valves shall be of steel, bronze or other approved ductile material. Valves of ordinary cast iron or similar material are not acceptable.

08.	The whole paragraph **1.2.1.7 ,** is replaced, in accordance to Solas Ch.II-1, Reg 12.5.2 .

1.2.1.7 ~~No doors, manholes, access openings, or ventilation ducts are permitted in the collision bulkhead below the freeboard deck and above the double bottom.~~

~~Where on cargo ships pipes are piercing the collision bulkhead below the freeboard deck, screwdown valves are to be fitted directly at the collision bulkhead. Where such valves are fitted within the forepeak they are to be operable from above the freeboard deck.~~

~~Where a readily accessible space which is not a hold space is located directly adjacent to the forepeak (e.g. a bow thruster space), the screwdown valves may be fitted within this space directly at the collision bulkhead and need not be operable from a remote position.~~
~~For passenger ships **Section 29-I, 11** is to be observed.~~

If the forepeak is divided to hold two different kinds of liquids the Administration may allow the collision bulkhead to be pierced below the bulkhead deck by two pipes, each of which is fitted as required by **1.2.1.6** , provided the Administration is satisfied that there is no practical alternative to the fitting of such a second pipe and that, having regard to the additional subdivision provided in the forepeak, the safety of the ship is maintained.

09.	The paragraph **1.2.1.8 ,** is newly added, in accordance to Solas Ch.II-1, Reg 12.6 .

1.2.1.8 Where a long forward superstructure is fitted the collision bulkhead shall be extended weathertight to the deck next above the bulkhead deck. The extension need not be fitted directly above the bulkhead below provided it is located within the limits prescribed in **1.2.1.1** or **1.2.1.2** with the exception permitted by **1.2.1.9** and that the part of the deck which forms the step is made effectively weathertight. The extension shall be so arranged as to preclude the possibility of the bow door causing damage to it in the case of damage to, or detachment of, a bow door.

10.	The paragraph **1.2.1.9 ,** is newly added, in accordance to Solas Ch.II-1, Reg 12.7 .

1.2.1.9 Where bow doors are fitted and a sloping loading ramp forms part of the extension of the collision bulkhead above the bulkhead deck, the ramp shall be weathertight over its complete length. In cargo ships the part of the ramp which is more than 2.3 m above the bulkhead deck may extend forward of the limits specified in **1.2.1.1** or **1.2.1.2** . Ramps not meeting the above requirements shall be disregarded as an extension of the collision bulkhead.

11.	The paragraph **1.2.1.10 ,** is newly added, in accordance to Solas Ch.II-1, Reg 12.8 .

1.2.1.10 The number of openings in the extension of the collision bulkhead above the bulkhead deck shall be restricted to the minimum compatible with the design and normal operation of the ship. All such openings shall be capable of being closed weathertight.

12.	The line title at paragraph **1.2.2 ,** is re-worded to "**Stern tube and remaining watertight bulkheads**" . Its subsequent contents deleted and being replace with para **1.2.2.1** and **1.2.2.2** , respectively.

1.2.2 Stern tube and remaining watertight bulkheads

~~All ships are to have a stern tube bulkhead which is, in general, to be so arranged that the stern tube and the rudder trunk are enclosed in a watertight compartment. The stern tube bulkhead should extend to the freeboard deck or to a watertight platform situated above the load waterline.~~
~~For passenger ships see **Section 29-I, 3.6** .~~

13.	The paragraph **1.2.2.1 ,** is newly added, in accordance to Solas Ch.II-1, Reg 12.9 .

1.2.2.1 Bulkheads shall be fitted separating the machinery space from cargo and accommodation spaces forward and aft and made watertight up to the bulkhead deck. In passenger ships, an afterpeak bulkhead shall also be fitted and made watertight up to the bulkhead deck. The afterpeak bulkhead may, however, be stepped below the bulkhead deck, provided the degree of safety of the ship as regards subdivision is not thereby diminished.

14.	The paragraph **1.2.2.2 ,** is newly added, in accordance to Solas Ch.II-1, Reg. 12.10 .

1.2.2.2 In all cases stern tubes shall be enclosed in watertight spaces of moderate volume. In passenger ships, the stern gland shall be situated in a watertight shaft tunnel or other watertight space separate from the stern tube compartment and of such volume that, if flooded by leakage through the stern gland, the bulkhead deck will not be immersed. In cargo ships, other measures to minimize the danger of water penetrating into the ship in case of damage to stern tube arrangements may be taken at the discretion of the Administration.

15.	At the paragraph **1.3.1.2** , existing reference made to para **1.2.1.7** is corrected and re-mapped to para **1.2.1.10** , in accordance to the changes/update made with this Section 11 .

1.3 Openings in watertight bulkheads

1.3.1 General

1.3.1.1 Type and arrangement of doors are to be submitted for approval.

1.3.1.2 Regarding openings in the collision bulkhead see **1.2.1.5** and ~~**1.2.1.7**~~ **1.2.1.10** .

16.	At the paragraph **1.3.1.4** , existing reference made to **Reg. 25-9** of Solas Chapter II-1 is corrected and re-mapped to **Solas Chapter II-1 Reg. 13-1 (as amended by MSC.216(82))** .

1.3.1.4 Deviating from 1.3.1.3 on ships for which proof of floatability in damaged condition is to be provided, hinged doors are permitted above the most unfavourable damage waterline for the respective compartment only. Deviating and additional requirements hereto for cargo ships are given in **SOLAS**, **Chapter II-1 Reg.** ~~**25-9**~~ **13-1 (as amended by MSC.216(82))** .

17.	At the paragraph **1.3.1.7** , existing reference made to Section 29-I, 4 is corrected and re-mapped to **Section 29 (I), 3** .

1.3.1.7 For bulkhead doors in passenger ships, see **Section** ~~**29-I, 4**~~ **29 (I), 3** .

18.	At the paragraph **1.3.1.10** , additional reference is made following possible deviation and additional requirement related to Solas Chapter II-1 Reg. 16, as amended .

1.3.1.10 Before being fitted, the watertight bulkhead doors, together with their frames, are to be tested by a head of water corresponding to the bulkhead deck height. After having been fitted, the doors are to be hose- or soap-tested for tightness and to be subjected to an operational test. Deviating and additional requirements hereto are given in **Chapter II-1 Reg. 16 of SOLAS** as amended.

19.	At the paragraph **1.3.4** , existing reference made to para 1.2.1.7 is corrected and re-mapped to **1.2.1.6** , in accordance to the changes/update made with this Section 11 .

1.3.4 Penetrations through watertight bulkheads

Where bulkhead fittings are penetrating watertight bulkheads, care is to be taken to maintain watertightness. For penetrations through collision bulkheads, ~~**1.2.1.7**~~ **1.2.1.6** is to be observed.

End of V1P1C2 SECTION 11 - UPDATES

SECTION 15 - UPDATES

ADDITIONAL STRENGTH REQUIREMENT FOR ICE NAVIGATION

01.	The structure-wordings in paragraph **1.1.2 ,** is refined .

1.1.2 For ships ~~the~~ with ice-strengthening structures of which complies with the requirements of paragraph **2** of this Section, will have the notation **ES1**, **ES2**, **ES3** or **ES4** affixed to their Character of Classification.

02.	in paragraph **1.1.3, t**he missing SCM Class distinguish mark (☆) is rectified. '**RU**' is inserted replacing 'unrestricted range of service' , in accordance to SCM Classification Notation Systematics as stipulated in Rule Vol.1/Pt.1/Ch.1/Section 2. Also, minor update/refinement to the existing wordings.

1.1.3 The ice class notations **ES1** to **ES4** can only be assigned if the ships have the character of classification ~~I~~ ☆**CM 1A,RU** (~~unrestricted range of service~~). The requirements for the ice class notations **ES1** to **ES4** embody all conditions necessary to be complied with for assignment of the ice classes **IC** to **IA "Super"** according to the "**Finnish-Swedish Ice Class Rules 2010**". The ice class notations mentioned under **1.1.1** are equivalent to these ice classes in the following way:

- Ice class notation **ES1** corresponds to ice class **IC**
- Ice class notation **ES2** corresponds to ice class **IB**
- Ice class notation **ES3** corresponds to ice class **IA**
- Ice class notation **ES4** corresponds to ice class **IA "Super"**

End of V1P1C2 SECTION 15 - UPDATES

SECTION 18 - UPDATES

ANCHORING AND MOORING EQUIPMENT

01.	The whole paragraph **3.1** is being revised and refined .

3.1 The number of bower anchors is to be determined according to **column 3** of **Table 18.2** . Two of the rule bower anchors are to be connected to their chain cables and positioned on board ready for use.

It is to be ensured that each anchor can be stowed in the hawse and hawse pipe in such a way that it remains firmly secured in seagoing conditions. Details have to be coordinated with the owner.

Where in **column 3** of **Table 18.2** , two bow anchors are required, a stream anchor shall be on board as a third anchor. Its mass shall be according to **column 5** of the table. Length and breaking load of chain or stream wire respectively are to be as given in **columns 10** and **11.**

Where in **Table 18.2**, three bower anchors are required, the third anchor is intended as a spare bower anchor. Installation of the spare bower anchor on board is voluntary (not required as a condition of classification) and, with owner's consent, may be dispensed with.

Note:
National regulations concerning the provision of a spare anchor, stream anchor or a stern anchor may need to be observed.

A stern anchor in the sense of these Rules is named a stream anchor of small seagoing ships, i.e. up to and including the equipment numeral of $\mathbf{Z_1} = 205$.

02.	A new paragraph **5.6** is included for the case of existing vessel being converted to be Floating Vessel (Hotel/Restaurant/Museum etc) .

5.6 The requirement of **5.1** to **5.5** for existing vessel converted to a 'Floating Vessel' in accordance to Rule **Vol.1/Pt.1/Ch.1/Section 2**, maybe partially or wholly dispense with the approval of SCM head office.

End of V1P1C2 SECTION 18 - UPDATES

SECTION 29 - UPDATES

ADDITIONAL REQUIREMENT FOR PASSENGER SHIPS AND SPECIAL PURPOSE SHIPS (SPS)

01.	The **Section 29 (II)** paragraph **3** , the symbol '**a**' representing spacing of the watertight transverse bulkheads, is being highlighted .

3 WATERTIGHT SUBDIVISION

The subdivision of the ship is governed by the requirements of the flooding calculation. The smallest spacing '**a**' of the watertight transverse bulkheads (damage length) is not to be less than **1/3 $L_c^{2/3}$** or 14.5m whichever is less, see **Figure 29.1** .

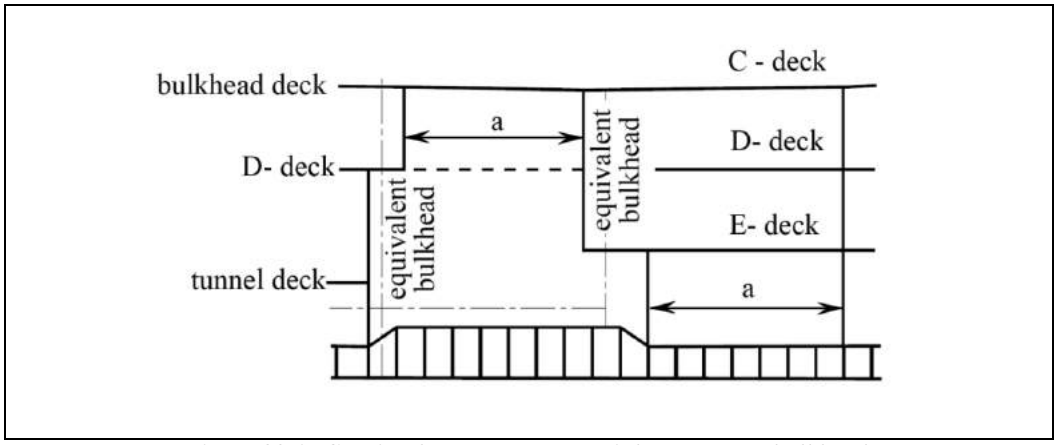

Figure 29.1 : Spacing between two watertight transverse bulkheads

End of V1P1C2 SECTION 29 - UPDATES

SECTION 31 - UPDATES

~~ADDITONAL~~ ADDITIONAL REQUIREMENT FOR BARGES AND PONTOONS

01.	The above misspelled word for the Section 31 title, in particular for the word 'ADDITIONAL' is rectified .

02.	The whole paragraph **1.1.2** is being revised and refined.

1.1.2 Pontoons as defined in this Section are unmanned or manned floating units with or without self-propulsion. The ratios of the main dimensions of pontoons deviate from those usual for seagoing ships. Pontoons are designed to usually carry deck load or working equipment (e.g. lifting equipment, rams etc.) and have no holds for the carriage of cargo, which may be class as a 'Deck Cargo Barge' instead as 'Pontoon' in accordance to Rule **Vol.1/Pt.1/Ch.1/Section 2** .

03.	The SCM class notation denotes plying areas is updated to the paragraph **4.4** and further refined.

4.4 ln pontoons/barges which are not assigned a notation for restricted service range (**RU**) or which are assigned the notation ~~**P**~~ **R200** (Restricted Ocean Service), the construction of the fore peak is to be reinforced against wash of the sea by additional longitudinal girders, stringers and web frames. In case of raked bottoms forward, the reinforcements are, if necessary, to be arranged beyond the collision bulkhead. If necessary, both ends are to be reinforced, see also **3.1** .

Note:
*Also for pontoons sailing only temporarily, for the purpose of conveyance to another port, within the region ~~P~~ **R200** (Restricted Ocean Service) or beyond that region, the reinforcements given in **4.4** are required.*

04.	The paragraph 7.5 is being revised and refined in conjunction with Rules Vol. 1/Pt. 1/Ch. 1/Section 2, 2.4) .

7.5 If necessary for a special purpose, upon Owner's request, for barges and pontoons mentioned under **7.4** , the anchor mass may be further reduced by up to 20%. In such cases the equipment notation in the Character of Classification (see Rules **Vol. 1/Pt. 1/Ch. 1/Section 2**, ~~**3.2**~~ **2.4**) is ~~to be….~~ reassigned as (**II**).

Upon Owner's request the anchoring equipment may be dispensed with. In such cases the anchoring equipment (-) will ~~not~~ be assigned in the character of Classification.

End of V1P1C2 SECTION 31 - UPDATES