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Turkish Straits and Safety of Navigation: the Case of the *Vitaspirit*

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Abstract

The Turkish Straits remain one of the most congested and perilous international waterways in the world. There have been a great number of incidents, resulting in physical damage, pollution and loss of life. A recent accident, where the bulk carrier 'Vitaspirit' suffered engine malfunction and crashed into the Bosporus coastline, has once again demonstrated the risks involved in passage through the Turkish Straits and led to a lively debate in Turkey regarding the possible solutions to improve navigational safety. This article reflects on and assesses the proposed solutions: it will be demonstrated that, whilst potentially helpful, some of the proposed measures have challenges, both legal and practical, and are unlikely to prove efficient in short term. There exist a few measures such as proliferation of stand-by tugs, which despite being relatively simple, carry a considerable potential of reducing the risk of accident. However, the costs involved in realizing such resolutions may act as an impediment to their eventual adoption. In light of these realities, the article also considers whether there are ways in which the financial burden of such measures could be alleviated under the existing legal framework governing the Turkish Straits.

Keywords: Maritime accidents, Safety of navigation, International straits, Turkish Straits, Montreux Convention on Turkish Straits

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1. Introduction

Consisting of the Istanbul Strait (Bosporus), the Sea of Marmara and the Canakkale Strait (Dardanelles), the Turkish Straits connect the Black Sea to the Mediterranean and they are amongst the most important international waterways, possessing both strategic and commercial significance.[1] Almost half a million vessels have navigated through the Turkish Straits in the last decade alone,

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1 Ferenc A Vali, *The Turkish Straits and Nato* (Hoover Institution Press 1972); Tulio Scovazzi, 'Management regimes and responsibility for international straits' (1995) 19 Marine Policy 137, 146-147.

making the Straits one of the busiest waterways in the world.[2] It is also one of the most perilous: whilst the Canakkale Strait, an approximately 38 nautical miles long waterway with a width varying between 0.75 and 4 nautical miles, is relatively easier to navigate through, the unique features of the Istanbul Strait, an S shaped channel with several sharp turns and a width of only 0.4 nautical miles at its narrowest points makes the passage a considerable challenge for the vessels traversing through its waters.[3] Also factoring in weather conditions, strong surface currents and a significant amount of local traffic, passage through the Istanbul Strait becomes very tricky.[4] The problem is further compounded by the fact that the Istanbul Strait is situated on the coast of one of the most populous cities in the world with a distinct cultural and economic importance. A recent incident has once again demonstrated the dangers posed to Istanbul by accidents taking place in the Bosporus and renewed interest in various proposals aiming to minimise the risks involved in Straits passage.

This article evaluates the proposals put forward following the incident to increase navigational safety in the Istanbul Strait, from both legal and practical perspectives: first, it provides a brief account of the *Vitaspirit* incident that occurred in April 2018. Then, following a concise analysis of the Montreux Convention and the domestic regulations applicable to transit under Turkish law, the article focuses on suggestions put forward by various stakeholders subsequent the incident that may reduce the risk of similar accidents in future and consider the efficacy of these proposals in the face of legal, practical and financial considerations. Finally, the article concludes with a view on additional measures to help circumvent perceived obstacles to their implementation.

2. *Vitaspirit* Incident

On 7 April 2018, the bulk carrier '*Vitaspirit*' allided with the shoreline and crashed into one of the oldest mansions in the Bosporus coast, almost destroying the property and causing widespread panic amongst the patrons in nearby restaurants but, luckily, no loss of life or pollution was incurred.[5] The investigation findings regarding the exact cause of accident have not been made public; however, it is reasonably clear, at this stage, that problems associated with the vessel's machinery played a sizeable

2 Directorate for Maritime Commerce, 'Vessel Transit Statistics for the Turkish Straits' <https://atlantis.udhb.gov.tr/istatistik/gemi_gecis.aspx> accessed 2 February 2019.

3 Scovazzi (n 1) 147; Necmettin Akten, 'Analysis of Shipping Casualties in the Bosphorus' (2004) 57 Journal of Navigation 345, 346-348.

4 Andrew Scharfenberg, 'Regulating Traffic Flow in the Turkish Straits: A Test for Modern International Law' (1996) 10 Emory International Law Review 333, 335-336; Kristina Martin, 'Conflicts in Marine Environmental Protection: The Turkish Straits as a Case Study' (1999) 9 Transnational Law & Contemporary Problems 681, 683-684; Elif Uzun, 'Tehlikeli Madde Taşıyan Ticaret Gemileri Hakkındaki Milletlerarası Standartlar ve Boğazlardan Geçiş' (*International Standards Regarding Merchant Vessels Carrying Dangerous Cargo*) (2003) 23 Milletlerarası Hukuk Bülteni (*Bulletin for International Law*) 851, 853.

5 This was not the first accident of this kind in the Straits: in 2010, a bulk carrier has also collided into the shoreline due to engine malfunction and damaged another historical mansion, see Hurriyet, 'Dev gemi Esma Sultan Yalısı'na çarpti' (*Gigantic Vessel crashes into Esma Sultan Mansion*) (Hurriyet, 19 June 2010) <www.hurriyet.com.tr/gundem/dev-gemi-esma-sultan-yalisi-na-carpti-15072699> accessed 4 February 2019.

part in the incident.[6] Indeed, the first reports and the intercom records between the voluntary pilot advising the vessel and the Directorate of Coastal Safety have indicated that the Maltese flagged vessel suffered both rudder and engine failure and could not stop despite attempting to do so. News reports detailing the accounts given by the ship's captain and officers during court proceedings contend that the ship had begun to lose power due to a leak in her main engine shortly before the accident and although the captain had attempted to run the ship aground in a shallow area nearby the crash site, he failed due to lack of power.[7] The ship's voyage data recorder transcriptions suggest that the power loss in the main engine was caused by heat due to loss of engine coolant which was, in turn, instigated by a crack present in one of the cylinders in the engine block.[8] Therefore, apart from inquiries regarding whether the master was negligent in navigation, engine problems would, naturally, raise questions regarding the vessel's seaworthiness.

Regardless, the accident highlights, once more, the hazards of a very busy waterway adjacent to a mega city populated by over 15 million people.[9] Official numbers demonstrate that each year around 45000 vessels transit the Turkish Straits, with roughly one fifth of those carrying hazardous or noxious cargo.[10] Accidents similar to the *Vitaspirit* incident, though on a smaller scale are not rare and according to the official figures there were around 120 accidents in the Marmara Sea in 2017.[11] Inhabitants of Istanbul have also suffered maritime accidents with catastrophic consequences: notably the *Independenta* disaster, which was caused by the collision between the tanker *Independenta* and the general cargo ship *Evrialy* resulting in forty three casualties, around 90000 tonnes of crude oil spill and a fire that went on for almost two months, is first to come to mind.[12] Unfortunately, the

6 See Yalçın Ünsan, 'Bir Kazanın Mühendislik Anatomisi' (*Anatomy of an Accident from an Engineer's Perspective*) (2018) 10 Yeni Deniz Mecmuası 47 (*New Sea Magazine*).

7 Anadolu Agency, 'Yalıya Çarpan Geminin Mürettebatı Kazayı Anlattı' (*Crew of the Vessel Crashing into the Mansion describes the accident*) (Anadolu Agency, 12 April 2018) <https://aa.com.tr/tr/turkiye/yaliya-carpan-geminin-murettebati-kazayi-anlatti/1116199> accessed 2 February 2019; Sozcu, 'Yalıya Carpan Geminin Murettabatı ve Kaptanı Ifade Verdi' (*Master and the Crew of the Vessel Crashing into the Mansion Gives Their Statement at Court*) (Sozcu, 12 April 2018) <www.sozcu.com.tr/2018/gundem/yaliya-carpan-geminin-murettebati-ve-kaptani-ifade-verdi-2346079/> accessed 2 February 2019.

8 Istanbul News Agency, 'Yalıya Çarpan Geminin Kara Kutusu Çözümlendi' (*Black-box of the Vessel Crashing into the Mansion has been Deciphered*) (Istanbul News Agency, 16 April 2018) <www.istanbulhaber.com.tr/yaliya-carpan-geminin-kara-kutusu-cozumlendi-haber-924064.htm> accessed 2 February 2019.

9 According to 2017 figures, see Turkish Statistical Institute, 'Population of provinces by years, 2000-2017' <www.turkstat.gov.tr/UstMenu.do?metod=temelist> accessed 2 February 2019.

10 Directorate for Maritime Commerce, Vessel Transit Statistics for the Turkish Straits (Directorate for Maritime Commerce 2018) <https://atlantis.udhb.gov.tr/istatistik/gemi_gecis.aspx> accessed 2 February 2019.

11 Directorate for Maritime Commerce, Statistics for Maritime Accidents, (Directorate for Maritime Commerce 2018) <https://atlantis.udhb.gov.tr/istatistik/diger_deniz_kazalari.aspx> accessed 2 February 2019; it must be noted that not all of these accidents involve vessels passing through the straits. Although details for 2017 statistics are not yet available, 2015 statistics demonstrate out of 40 incidents at least 10 took place in the Straits, see Chief Coordination Centre for Search and Rescue, Statistics for Incidents/Accidents, (Chief Coordination Centre for Search and Rescue 2018) <http://atlantis.udhb.gov.tr/denizkaza/yayin/aakb_bol.asp> accessed 26 January 2019.

12 For major accidents in the Straits, see Cahit Istikbal, 'Turkish Straits: Difficulties and the Importance of Pilotage' in Nilufer Oral and Bayram Öztürk (eds), *Turkish Straits: Maritime Safety and Environmental Aspects*, (Turkish Marine Research Foundation 2006) 74; Christopher C Joyner and Jeanene M Mitchell, 'Regulating Navigation through the Turkish Straits: A Challenge for Modern International Environmental Law' (2002) 17 The Internatıonal Journal of Marine and Coastal Law 521, 529-530.

Independenta was not the first incident of this magnitude: a collision between *World Harmony* and *Peter Zoranic* had resulted in some 18000 tonnes of oil spill and the ensuing fire claimed twenty lives in 1960.[13] Nor it was the last: in 1994, a collision between the tanker *Nassia* and the bulk carrier *Ship-broker* caused a 20000 tonnes oil spill and a fire that resulted in twenty nine casualties.[14] As this short history demonstrates, the risk of such disasters, unfortunately, cannot be considered as too remote and that this is so is confirmed by the *Vitaspirit* accident. Fortunately the *Vitaspirit* was not carrying any dangerous cargo and there was no oil spill from the bunkers of the vessel; however any accident taking place in a waterway as perilous and busy as Bosporus is highly dangerous: subsequent reports revealed that the *Vitaspirit* had been closely followed by the tanker *Sienna* carrying around 80000 tonnes of crude oil and owing to the swift response of the Directorate of Coastal Safety, the vessel was made to reduce speed and redirected to an anchor point with the tug assistance, averting the risk of a second accident.[15]

The accident and the ensuing public interest brought about a stimulating discussion regarding what can be done in order to minimize risks of such incidents in the Straits. The proposed solutions will be evaluated below in detail; however, it must be emphasized that the solutions for maritime safety in the Bosporus cannot be discussed without considering the legal regime applicable to the transit through the Straits first, as if a legal vacuum exists. Therefore, a brief overview of the Montreux Convention is due here.

3. The Montreux Convention Regarding the Regime of the Straits

Passage through the Dardanelles and Bosporus Straits is regulated under 'The Montreux Convention Regarding the Regime of the Straits' (the Convention).[16] The Convention provides a complex framework concerning transit through the Turkish Straits and addresses various issues regarding the manner of passage, services to be offered to the vessels in transit and applicable charges as well as setting out specific regulations on the passage of warships and their presence in the Black Sea.[17] The

13 K Cemal Güven, 'Oil Pollution in the Black Sea and Turkish Straits' in Oral and Öztürk (n 12) 135, 140; Joyner and Mitchell (n 12) 528.

14 Istikbal, 'Pilotage' (n 12) 75.

15 Hurriyet, 'Sienna Durdurulmasa Felaket Olurdu' (*It Would be Disastrous if the Sienna had not been Stopped*), (Hurriyet, 12 April 2018) <www.hurriyet.com.tr/gundem/sienna-durdurulmasa-felaket-olurdu-40802273> accessed 2 February 2019.

16 See in general: Eric Brüel, 'Turkish Straits' (1943) 14 Nordisk Tidsskrift International Ret 3, Parts I-III; CL Rozakis and PN Stagos, *Turkish Straits* (Nijhoff 1987); Nihan Ünlü, 'The Montreux Convention and the Development of the Legal Regime of the Turkish Straits', (DPhil thesis, University of Birmingham 2001) also see the publication by the same author *The legal regime of the Turkish Straits* (Nijhoff 2002); Yüksel Inan, 'The Turkish Straits and The Legal Regime of Passage' in David D Caron and Nilufer Oral (eds), *Navigating Straits: Challenges for International Law* (Brill 2014); RR Churchill and AV Lowe, *The Law of the Sea* (3rd ed, Manchester University Press 1999) 114-115; Ayşenur Tütüncü, 'Evaluation of the Montreux Convention in the Light of Recent Problems' in Selma Ünlü and others (eds), *Oil Spill along the Turkish Straits Sea Area; Accidents, Environmental Pollution, Socio-Economic Impacts and Protection* (Turkish Marine Research Foundation 2018) 44.

17 The Convention constitutes a special regime under the United Nations Convention on the Law of the Sea (UNCLOS) art 35 (c), therefore the applicability of the UNCLOS to Turkish Straits are limited to matters outside the ambit of the Montreux Convention, in the event that Turkey becomes a party to the UNCLOS in the future, Inan (n 16) 201; Churchill and Lowe (n 16) 115.

detailed nature of the legal framework contained in the Convention precludes an exhaustive treatment of the subject here; however, the salient points are as follows: first, the Convention specifically affirms 'the principle of freedom of transit[18] and navigation by sea in the Straits.'[19] Nevertheless, the exercise of this freedom is subject to certain limitations and rules differ, mainly depending on whether the vessel in question is a merchant vessel or a warship as well as whether such transit takes place in time of war or peace.[20]

In peacetime, merchant vessels[21] enjoy complete freedom of navigation in the Straits by day or night, regardless of their flag or cargo.[22] The right of passage will not be subject to any formalities except the sanitary controls to be exercised at a station near the entrance to the Straits as prescribed under Article 3 and no taxes or charges other than those already allowed under the Convention can be levied on those vessels that transit without calling at a port in the Straits.[23] The taxes and charges applicable to the vessels transiting the Straits in accordance with Article 2 are elaborated in the Annex I of the Convention[24] and the vessels passing through the Straits shall provide their name, nationality, tonnage, destination and last port of call to the officials at the abovementioned stations in order to facilitate collection of the charges or taxes due.[25] Pilotage and towage remain optional for merchant vessels transiting through the Straits in peacetime.[26] They may only be made compulsory in time of war, if Turkey considers herself under threat of imminent danger of war; however, no charge shall be levied in such case.[27]

Finally, Article 28 sets out that the Convention would remain in force for twenty years from the date of its entry into force and any party could denounce the Convention by giving notice two years prior

18 The term 'transit' is used, in the English translation of the Montreux Convention, in lieu of 'passage' in the original French text of the Convention. Despite the choice of words, it must be noted that the 'freedom of transit' under the Montreux Convention and the transit passage regime under the UNCLOS, or the 'right of transit' as it is sometimes called, are not the same, as the latter concept is largely the product of the UNCLOS and its usage was rare in the law of the sea, and as a legal notion it certainly lacked the connotations the transit passage regime entails today, at the time the Montreux Convention was concluded, see Sevin Toluner, 'The Regulation of Passage through the Turkish Straits and the Montreux Convention' (1981) 44 Annales de la Faculte de Droit D'Istanbul 79, 81-84; Gunduz Aybay and Nilufer Oral, 'Turkey's Authority to Regulate Passage of Vessels through the Turkish Straits' (1998) Journal of International Affairs Vol.III-2 230, text preceding fn. 17; Inan (n 16), 209. Indeed, it is recorded that many delegates of the third United Nations Conference on the Law of the Sea regarded the transit passage as a novel concept in international law, see Churchill and Lowe (n 16) 111.

19 Art 1.

20 The discussion here is mainly reserved to the passage of merchant vessels in peace time. For limitations during time of war, see arts. 4-6; and for the highly complex passage regime for the warships, see Brüel (n 16) Part III, 178-187; Ünlü (n 16) Chapter 6.

21 The Montreux Convention, art 7 describes the 'merchant vessels', in an inclusive manner, as 'all vessels that are not covered' by the Section II which defines the military vessels in detail.

22 Art 2.

23 ibid.

24 See below, text following (n 82).

25 Art 2.

26 Arts 2 and 4.

27 Art 6; although the art. 5 is silent, arguably, the pilotage and towage may also be made obligatory when Turkey is belligerent, see Ünlü (n 16) 110, note 215; also see Brüel (n 16) Part III, 160.

to the expiry of the said period, otherwise the Convention would continue to remain in force until two years after such notice is given. This has so far never happened; and the Convention has been in force for the last eighty two years. Of course, the long tenure of the Montreux Convention has not been without challenges and some aspects of the Convention have endured a significant amount of pressure. Indeed, apart from some dissatisfaction concerning the technical classifications regarding the military vessels, now perceived as somewhat outdated,[28] the most significant shortcoming of the Convention is often considered to be the lack of provisions on environmental protection and prevention of pollution in the context of Turkish Straits passage.[29] This is not wholly surprising, as environmental issues were not as prominent at the time of drafting and the drafters could not, realistically, have been expected to anticipate either the drastic increase in the amount of vessels transiting through Turkish Straits or the catastrophic consequences that could potentially ensue from accidents involving vessels carrying hazardous cargo.[30] Obviously, the Convention also leaves margin for amendment and it would be possible to introduce certain regulations on maritime safety through the revision procedure in accordance with the elaborate scheme set out under Article 29 and alleviate the environmental concerns posed by the increasing traffic. However, previous attempts to revise certain aspects of the Convention demonstrate that amending the existing legal framework is not an easy task: the Convention touches many issues of political and strategic nature, therefore the balance struck therein has proven very difficult to disturb.[31] As a result, prospects of any revision for reasons of maritime safety remains unlikely in near future.[32]

4. Measures Taken to Improve the Maritime Safety in the Straits: Traffic Regulations Applicable to the Navigation Through the Straits under Turkish Law

Apart from ensuring the freedom of navigation and dealing with matters related to the general characteristics of the passage, the Montreux Convention does not include any specific provisions regarding the technical aspects of navigation such as the management of traffic flow through the Straits, navigational safety or accident prevention. Over the years, increasing traffic and resultant accidents have necessitated certain precautions to be taken in order to improve navigational safety

28 Scovazzi (n 1) 148; Churchill and Lowe (n 16) 115.

29 Scovazzi (n 1) 148; Joyner and Mitchell (n 12) 527.

30 See Joyner and Mitchell (n 12), 527, the annual traffic in the Straits amounted to approximately 4500 vessels in 1936. Over a period of 80 years, the figure has increased ten-folds, see above, (n 10).

31 Scovazzi (n 1) 148.

32 Or, any amendment in general, cf Ünlü (n 16) 271-272.

in the Turkish Straits. To this end, Turkey adopted a set of domestic regulations in 1994, establishing standards for traffic management, setting up a speed limit, instituting norms for vessel towing and tugs and bringing detailed reporting requirements as well as assigning a new traffic separation scheme in the Straits.[33]

Prior to the preparation of the 1994 regulations, the Turkish government had presented to the International Maritime Organization (IMO) a set of proposals for a traffic separation scheme (TSS) and draft rules for ships transiting the Straits in order to facilitate their review.[34] It is generally accepted that Turkey possesses the right to regulate matters related to the security or the administration in the Straits, without touching the essence of the right of passage under the Montreux Convention.[35] However, the draft rules and TSS as well as the subsequent 1994 regulations which were largely based on the former have met with considerable dissent from the international community, especially Black Sea littoral states, who perceived them as contradictory to the principle of freedom of passage under the Montreux Convention and a working group was created under the auspices of the Maritime Safety Committee (MSC) within the IMO to consider the technical aspects of the said proposals.[36] After finishing its review, the working group has produced a set of 'Rules and Recommendations on Navigating Through the Straits of Istanbul, the Strait of Canakkale and the Sea of Marmara' and these were adopted by the Committee in June 1994, along with the TSS formerly proposed by Turkey.[37] Subsequent to the IMO discussions, Turkey affected minor changes to the 1994 Regulations and the amended regulations entered into force on 1 July 1994. However, these amendments were deemed to be very limited by a number of states and Russia, arguing that the regulations contradicted the IMO recommendations, brought the issue to the IMO Legal Committee.[38] The Legal Committee has subsequently deferred the issue to the MSC, a decision which was also supported by the IMO Council, and so began a long, fruitless period of debate at the Committee regarding the TSS and the regulations applicable to the vessels navigating through the Straits.[39] The main issue concerned the apparent difference of opinion between Turkey and the Black Sea littoral and user states regarding the conformity of 1994 Regulations with the IMO recommendations and, on a broader level, the Montreux Convention. This continued for the majority of IMO discussions and it was so severe at times that it resulted in Turkey boycotting the meetings for an extended period of time.[40] It was not

33 Maritime Traffic Regulations for the Turkish Straits and the Marmara Region (1994 regulations), Republic of Turkey, Official Gazette, 11 Jan 1994, Vol. 21815, page 3, arts 7-8; for detail, see Ünlü (n 16), Chapter 5; Glen Plant, 'Navigation regime in the Turkish Straits for merchant ships in peacetime' (1996) 20 Marine Policy 15; Aybay and Oral (n 18); 'Milen Dyoulgerov, Navigating the Bosporus and the Dardanelles: A Test for the International Community' (1999) 14 The International Journal of Marine and Coastal Law 57.

34 Plant, 'Navigation' (n 33) 17-18.

35 Toluner (n 18), drawing support from the *travaux preparatoires* of the Convention where Turkey explicitly reserved its rights to exercise judicial and administrative control, see 81 and 83-84; Inan (n 16) 214; Joyner and Mitchell (n 12) 537-539 and 551; Scharfenberg (n 4) 381-387; but cf Glen Plant, 'The Turkish Straits and tanker traffic: an update' (2000) 24 Marine Policy 193, 196-200.

36 Plant, 'Navigation' (n 33) 17-18.

37 Plant, 'Navigation' (n 33) 19-20; Dyoulgerov (n 33) 80.

38 Plant, 'Navigation' (n 33) 22.

39 For a detailed account on the IMO debate, see Plant, 'Update' (n 35); Debora Schweikart, 'Dire Straits: The International Maritime Organization In The Bosporus And Dardanelles' (1996-1997) 5 Yearbook of International Law 29; Nilufer Oral, 'Turkish Straits and the IMO: A Brief History' in Oral and Öztürk (eds) (n 12), 22-28; Dyoulgerov (n 33) 79-83.

40 Plant, 'Update' (n 35) 203; Dyoulgerov (n 33) 81.

until 1998 that Turkey's stance softened and the Turkish Government submitted to the IMO a set of amendments to the 1994 Regulations and Vessel Traffic Service plans to address some of the user states' concerns, as well as promising to cooperate in future IMO discussions on safety of navigation in the Straits.[41] Despite the agreement towards the preparation of a new report on maritime safety, very little progress was made in the following sessions and in May 1999 the MSC decided to cease discussions on the issue, which effectively concluded the IMO proceedings on the safety of navigation in the Straits.[42]

In the meantime Turkey, taking IMO recommendations into account, has affected several important changes to the 1994 Regulations, and the new version of the regulations entered into force on 6 November 1998.[43] Although the 1998 Regulations were largely based on the 1994 Regulations, most articles have been reworked and several have been amended in order to address the controversial issues.[44] A key change concerns the passage of large vessels and vessels carrying nuclear, hazardous or noxious cargo, as well as nuclear-powered ships which were previously, in effect, made subject to the permission of the coastal authority: article 25 and 26 of 1998 Regulations now make clear that these vessels may pass through the Straits, in cooperation with the authorities so that their passage may be planned beforehand and it is ensured that they pose no risk to the existing traffic or the environment. Similarly, the definition of 'large ship', which entailed said specific conditions, was reworked to refer to the vessels longer than 200 metres[45], so that fewer vessels are subject to these special transit measures. Secondly, article 20 of the 1998 regulations deals with the temporary suspension of traffic and is now limited mostly to force majeure, which is markedly less liberal than its counterpart under the 1994 regulations, language of which allowed the suspension of traffic in many cases, including boat races or scientific research. Finally, article 17 of the 1998 regulations relaxed the rigid conditions on towing prescribed by the 1994 version and allowed ships to be towed by any vessel suitable for towing in accordance with the IMO standards. The 1998 Regulations also streamlined the specific provisions, separately, applicable to Istanbul and Canakkale Straits and tempered the precautions to be taken regarding the vessel traffic.[46] Aforementioned changes have dealt with some of the most controversial aspects of the 1994 Regulations[47] and, were mostly, regarded positively.[48] Additionally, in 2003, Turkey introduced a Vessel Traffic Services (VTS) system, comprised of sophisticated monitoring and communication systems, in order to improve traffic handling capabilities in the Straits. In addition to supervising the traffic flow, VTS provides information and navigational assistance to

41 Plant, 'Update' (n 35) 205-206.

42 ibid; Oral (n 39) 27-28.

43 Maritime Traffic Regulations for the Turkish Straits (1998 regulations), Official Gazette, 6 Nov 1998, Vol. 23515 (Duplicate), 2.

44 Ünlü (n 16) 155; except the reporting requirements which remained, largely, the same despite proving highly controversial at the time, ibid 183.

45 See also art 2 (j) for updated definition of the 'deep draught vessels'.

46 cf arts 36-56 under 1994 regulations and 32-48 under 1998 regulations.

47 Plant, 'Navigation' (n 33) 22; Ünlü (n 16) 194.

48 Inan (n 16) 213-215; Plant, 'Update' (n 35) 211-212.

vessels transiting through the Straits and although participation in the system is not mandatory, due to the obvious benefits, most vessels opt to use the VTS.[49]

Overall, these measures appear to have been successful in enhancing maritime safety in Turkish Straits as the number of accidents were found to have significantly declined over the years, especially since the implementation of the VTS.[50] There is no available study on the accidents occurring in the last decade such that the impact of the regulatory safeguards on the frequency of the accidents can be accurately pinpointed; however, it could be observed that there has been no major accident or severe oil spill[51] since the TSS and the 1998 regulations had entered into force.[52] Therefore, it could be suggested that the measures taken by Turkey can be regarded as beneficial for transit safety on the whole. Moreover, it appears that this view is also shared by the user states to some degree too, as, despite the initial controversy, most vessels navigating through the Straits have been adhering to the regulations without any major protest for quite some time.[53]

5. An Overview of Further Solutions Recently Proposed to Increase the Maritime Safety in the Straits

Despite the positive effects of aforementioned measures, the risk of accident in the Straits cannot be wholly negated as a significant proportion of accident risk arises in connection with the prevalence of unseaworthy vessels with defective equipment or vessels employing incompetent or inefficient crew sailing, often, under flags of convenience.[54] In such cases, a TSS or guidelines for safer navigation may be insufficient to prevent incidents. The case of the *Vitaspirit* demonstrates that there are further steps that may be taken in the Straits.

Following the incident, several proposals aiming to reduce the risk of similar accidents have been put forward by the various stakeholders. First of these proposed solutions is the so-called Istanbulmax project, details of which have recently made public via interviews given by some of the academ-

49 Salih Orakci, 'General Directorate of Coastal Safety and Salvage Administration' in Oral and Öztürk (eds) (n 12) 62; Oral (n 39) 28.

50 Inan (n 16) 214; see analysis in Nur Jale Ece, 'İstanbul Boğazı'nda Meydana Gelen Deniz Kazalarının İncelenmesi ve Analizi' (*Evaluation and Analysis of Maritime Accidents in Istanbul Strait*) (2011) 3 Dokuz Eylül Üniversitesi Denizcilik Fakültesi Dergisi (*Dokuz Eylul University Faculty of Maritime Studies Journal*) 37, 53-55.

51 Except the *Volgoneft-248* incident, in which the oil tanker was broken in two due to unseaworthiness and resulted in some 1200 tonnes of oil spill, see Oya Özcayir, 'Role of Port State Control and the Straits' in Oral and Öztürk (eds) (n 12) 30 and 48.

52 Istikbal, 'Pilotage' (n 12) 75.

53 Indeed, according to the official statistics, vessels that do not adhere to the reporting requirements, one of the most controversial aspects of the Regulations, are less than 1% of total vessels navigating through the Straits in 2017, see 'Vessel Transit Statistics for the Turkish Straits' (n 2).

54 Orakci (n 49) 64-65; Ece, 'Istanbul Strait' (n 50) 47 and 54-55 citing crew incompetence and malfunction among the primary cause of accidents.

ics involved in the program.[55] The project aims to set certain standards for the vessels to pass through the Turkish Straits that would be determined in accordance with the unique features of the Straits and help increase navigational safety. Exact details concerning the designs that the working group is currently considering are not yet clear; however, one initial plan advocates that the maximum length for the Istanbulmax vessels should be under 200 metres and the vessels must be equipped with dual engines as well as a twin-rudder.[56]

Another noteworthy proposal was put forward by the DEDER (*Deniz Emniyet Dernegi - Association for the Safety at Sea*). It concerns the utilising of a number of tugs and tows as a swift response unit. Pointing out that the 60 metres average water depth of the Bosporus makes anchoring futile in most cases, the Association suggests strategically positioning a number of tugs and tows in designated areas such as coves of Büyükdere, Beykoz, İstinye, Küçüksu and Bebek and organising them to patrol their district, ready to offer assistance to the vessels experiencing navigational or mechanical difficulties.[57]

The third is the 'Kanal Istanbul' (Istanbul Canal) scheme. The ambitious project aims to construct an approximately 45 km waterway in the west of Istanbul, connecting the Sea of Marmara with the Black Sea and help minimise the risks posed to the densely populated coastline by providing a safer sea passage in addition to the Bosporus Strait. The preliminary works for the project commenced in 2018 and construction is projected to begin this year, pending the environmental impact report that is currently under consideration.[58] Once completed, the Istanbul Canal is expected to handle a significant proportion of the maritime traffic currently passing through the Bosporus Strait, especially those vessels carrying hazardous or noxious substances.[59]

Nevertheless, the eventual success of these proposals is not free from dispute. Indeed, there exists some concern with regard to the effectiveness of these proposals on various grounds, especially when one considers the implications of the legal regime already applicable to the Turkish Straits. During the period that the Montreux Convention has been in force, Turkey has carefully overseen the right

55 However, apparently, the idea of a ship design based on capacity specifications of the Istanbul Straits is not unfamiliar to marine engineers as one article refers to term 'Istanbulmax' as early as 2007, see Nur Jale Ece and others, 'The Strait of Istanbul: Tricky Conduit for Navigation' (2007) 5 European Journal of Navigation 17, 24.

56 Hurriyet, 'Boğazlara Istanbulmax' (*Istanbulmax for the Straits*) (Hurriyet, 11 April 2018), <www.hurriyet.com.tr/gundem/bogazlara-istanbulmax-40801143> accessed 2 February 2019.

57 DEDER, 'Boğaz'a Çözüm Önerimiz Yüzer-Gezer Romörkorler' (*Our Proposal for a Solution in the Straits is Patrolling Tugs*) <www.deder.org/haber-dernegimizin-bogazlar-Icin-Onerisi-quotyuzer-gezer-romorkorlerquot-54.html> accessed 5 May 2018; also see Cahit Istikbal, 'Bogaz'da kaza ve Montrö'yü savunmak' (*Accident in the Bosporus and Defending the Montreux*) (2018) 48 #Tarih Magazine 18, 22.

58 Hurriyet, 'Kanal Istanbul'da Zemin Etüdü Tamam' (*Ground Study is Completed in Istanbul Canal*) (Hurriyet, 06.10.2018) <www.hurriyet.com.tr/ekonomi/kanal-istanbulda-zemin-etudu-tamam-40978274> accessed 2 February 2019; also see Istanbul Association of Architects in Private Practice (*ISMD*), 'Mega Istanbul' (ISMD, 2018) <https://en.megaprojeleristanbul.com/#canal-istanbul> accessed 2 February 2019.

59 For a recent and comprehensive legal analysis, see Hatice Kubra Ecemis Yilmaz, *The Legal Status of the Canal Istanbul in International Law* (Wildy, Simmonds and Hill Publishing 2018); also see Ayşenur Tütüncü, 'Montreux Convention and Canal Istanbul' (2017) 37 Public and Private International Law Bulletin 113; Selman Öğüt, 'The Assessment of Kanal Istanbul Project in terms of International Law' (2014) 10 Review of International Law & Politics 119.

of passage for the merchant vessels in a fair and efficient manner and, certainly, there does not seem to be any change to that intention. However, to be completely effective, one of the abovementioned solutions would have to restrict the right of navigation through the Bosporus Strait. Indeed, it may be somewhat early to speculate but critics already point out that it appears difficult to champion that allowing right of passage only to those vessels which conform to the Istanbulmax standards would be compatible with Turkey's obligations under international law.[60] Perhaps it might be possible to argue that giving priority to Istanbulmax vessels in transit based on their capability of safer navigation could be justified as part of steps taken to control and ensure the efficient traffic flow and improve navigational safety without preventing the right of passage itself, which is ultimately for the benefit of all vessels passing through the Straits.[61] Nonetheless, it must not be forgotten that comparable regulations introduced in 1994 met with considerable dissent from Black Sea littoral states and proved highly problematic.[62]

Similarly, when the Istanbul Canal is completed, it would provide a second waterway alternative to Bosporus Strait; however, merchant vessels would still be free to navigate through the latter under the Montreux Convention.[63] Of course, due to its manmade qualities, it is likely that the Istanbul Canal would offer a considerably less dangerous and a potentially speedier passage in comparison to heavily congested Bosporus Strait with its numerous sharp bends and turns, which mean that the most vessels may opt to pass through the former. However, the costs involved in construction of a project as ambitious as the Istanbul Canal would ensure that passage through the channel is unlikely to be without considerable charges. Granted, passage through the Straits is not free of charge either, as Turkey is entitled to levy charges for sanitary controls, navigational aids and life-saving services under Annex I of the Montreux Convention; however, Turkey is currently charging these fees at a heavily discounted rate[64] and transit costs for the Turkish straits are often regarded as very modest in comparison to similar tolls on artificial waterways such as Suez or Panama Canals.[65] As a result, it could be thought that a significant number of the vessels are going to opt for the cheaper alternative,

60 See M Deniz Vank, 'Istanbulmax Projesi Seyir Güvenliğine Yönelik Yeni Gemi Inşa Dizayni Projesidir' (*Istanbulmax is a New Ship Design Project in The Context Of Navigational Safety*) (Virahaber, 17 April 2018) < www.virahaber.com/istanbul-maks-projesi-seyir-guvenligine-yonelik-yeni-gemi-insa-dizayni-projesidir-8985yy.htm> accessed 2 February 2019.

61 Yücel Güçlü, 'Regulation of the Passage through the Turkish Straits' (2001) 6 Journal of International Affairs 128, text to fn. 25 therein; Matteo Fornari, 'Conflicting Interests in the Turkish Straits: Is the Free Passage of Merchant Vessels Still Applicable' (2005) 20 The Internatıonal Journal of Marine and Coastal Law 225, 239.

62 See above text to (n 34).

63 cf Ecemiş-Yılmaz (n 59) 253.

64 See below text to (n 98).

65 Scharfenberg (n 4) 387; in 1994, transit costs for a laden Panamax-size ship (of approximately 65,000 deadweight tons) was said to be about $9,000 for Turkish straits, whereas the figures were $150,000 and 80,000 for Suez Canal and the Panama Canal, respectively, see Janet Porter, 'Turkish Shipowners Say They'd Pay $250 Million To Better Bosporus Safety' (JOC.com, 7 June 1994), <www.joc.com/maritime-news/turkish-shipowners-say-theyd-pay-250-million-better-bosporus-safety_19940607.html> accessed 2 February19. In the last 25 years, tariffs for the Turkish straits remain the same whereas the quotes recently taken online for a comparable vessel from one shipping agency indicates that the estimated costs for transiting the Suez and Panama Canals have increased and current rates are at, approximately, $160.000 and $120.000, respectively, see <www.wilhelmsen.com> accessed 2 February 19.

as the costs involved in transit are likely to be an important consideration for shipowner interests using the Straits.[66]

In any case, the difficulties with the Montreux Convention regime set aside, two proposals under discussion require considerable time before they can be implemented: construction of a channel requires substantial funds and time; standards for vessel designs need to be accepted by the shipping industry before they can be effective and, even then, building ships that conform to the Istanbulmax standards requires further time. Consequently, though they have the potential to be beneficial, it appears that neither of these proposals could become effective in decreasing the risk of maritime accidents in near future.

At this juncture, DEDER's proposal is, perhaps, worth reconsideration. The proliferation of stand-by tugs are more advantageous than other proposals in two respects: first, they provide a practical solution to the risk of accident posed by the vessels experiencing mechanical difficulties or malfunctions, which cannot always be neutralized by passive measures such as traffic schemes or a regulatory framework. Stand-by tugs are regarded as an important accident prevention measure, capable of averting oil spills or further pollution damage by keeping disabled vessels drifting or running aground.[67] They had previously been deployed in different regions including Neah Bay, Washington[68] and the northern coast of Scotland[69] and there have been calls for the adoption of similar initiatives in the Bering[70] and Malacca Straits.[71] Similarly, formation of a swift response unit patrolling the Straits would increase the operational capabilities of already available fleet of tugs and rescue vessels by decreasing the response time in contingencies and complement the existing measures by providing an additional safeguard.[72]

The second advantage of a swift response unit consisting of tugboats patrolling the Straits, in the context of present discussion, is that they hardly pose any risk of upsetting the legal regime set out by the Montreux Convention. Indeed, the proposal merely seeks to improve the number and operational capability of tugs and tows available to provide assistance to the transiting vessels, in the event

66 Indeed, that the safety does not always outweigh the costs can be demonstrated by the fact that half the ships passing through the Bosporus choose not to pay for voluntary pilotage services despite the risks involved, see statistics for the ships passing through the Turkish Straits at, <https://atlantis.udhb.gov.tr/istatistik/files/DIGER_ISTATISTIKLER/TURK_BOGAZLARI_GEMI_GECIS_ISTATISTIKLERI/Yillara_Gore_Karsilastirma_Tablosu.xlsx> accessed 2 February 2019.

67 Henry P Huntington and others, 'Vessels, risks, and rules: Planning for safe shipping in Bering Strait' (2015) 51 Marine Policy 119, 123.

68 Washington Department of Ecology, 'Emergency response towing vessel (ERTV)' 2014 <https://ecology.wa.gov/Regulations-Permits/Reporting-requirements/Emergency-response-towing-vessel> accessed 2 February 2019.

69 UK Department of Transport, 'New emergency towing vessel for Scotland' 2016 <https://www.gov.uk/government/news/new-emergency-towing-vessel-for-scotland> accessed 2 February 2019.

70 Huntington and others (n 67) 123.

71 Trygve A Meyer, 'Tanker Design Features and the Safety of Navigation' (1998) 2 Singapore Journal of International & Comparative Law 517.

72 At the moment, there are more than twenty tugs and emergency response vessels belonging to the Directorate for Coastal Safety, located in eight different stations in the Istanbul and Canakkale Straits, see Directorate of Coastal Safety, 'Annual Report for 2017' 18-19 <http://kiyiemniyeti.gov.tr/Data/1/Files/Document/Documents/Ji/D4/hz/WM/FAAL%C4%B0YET%20RAPORU%202017.pdf> accessed 1 February 2019.

that they require aid. Therefore, it is preferable to the other proposals such as Istanbulmax, which potentially run the risk of contradicting the principle of freedom of passage under the Montreux Convention. Moreover, establishing a fleet of tugs patrolling the Straits can also be accomplished in the relatively near future, thus making it more advantageous to the other proposals.

Overall, DEDER's proposal is more favourable than the other two proposals for both practical and legal reasons. Granted, both Istanbulmax and Istanbul Canal have respectively the potential to provide a conclusive solution by aiming to encourage passage of vessels that are more suitable to the geographical features of the Straits and providing an alternative waterway more apt to accommodate a higher volume of traffic. However, the significant time and money necessary to realize these two proposals, as well as the complications with respect to the Montreux Convention mean that their effectiveness is bound to be limited, especially in the immediate future. It is also true that DEDER's proposal cannot be the ultimate solution. The eventual success of the stand-by tugs would depend on a degree of cooperation[73] with the vessel in distress and even then they do not wholly negate the risk of accident. Nevertheless, a swift response unit consisting of tugs and tows could be realized in relatively shorter time, it is compatible with the Montreux Convention and it maintains a considerable potential to improve the maritime safety in the Straits by providing a swift and effective safeguard against the risk of accidents, especially those produced by sub-standard vessels transiting the Straits.[74]

6. Financing the Measures to be Adopted for Safer Navigation

It has been argued that of the three solutions proposed so far, only DEDER's proposal, the stand-by tugs and tows, shows immediate prospect of success in terms of providing a swift and effective measure for increasing the transit safety in Turkish Straits. Then the only outstanding issue with this proposal would seem to concern the costs in providing these services. The Directorate of Coastal Safety possesses a sizeable fleet of tugs and tows, stationed in eight different anchor points in Istanbul and Canakkale Straits;[75] however, considering the substantial amount of traffic, the number of tugs and tows available should ideally be increased in order to minimise the risk of accidents involving vessels navigating the Turkish Straits. Moreover, in addition to increasing the number of available tugs, the vessels must also be appropriately equipped, properly manned and continuously kept patrolling their district, ready to intervene in potential emergencies. As a result, costs of maintaining a swift response unit consisting of tows and tugs would likely require a considerable amount of funding.[76]

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73 The Association suggests that the vessels navigating the Straits should consider taking a pilot on board and upon entering the Straits a number of crew members should be on stand-by at the mooring stations in the front and rear of the vessel, ready to help with connecting up, see (n 57).

74 See above text to (n 54).

75 See above (n 72).

76 Although there is no study detailing the exact amount of funds necessary for realizing the project, purchasing costs alone could, conservatively, be estimated to amount more than 50 Million euros, as the allocated budget for the purchase of two new small sized tugs was set at around 9 Million euros in 2015 by the Directorate, see the 'Annual Report for 2017' (n 72) 36.

DEDER proposes that the expenses accrued in the operation of stand-by tugs and tows should, ideally, be jointly funded by contributions from vessels transiting the Bosporus Strait. Similar schemes under which the coastal states sought to channel certain expenses for the benefit of general interest to the user states in part are not novel.[77] Indeed, there exists the Cooperative Mechanism for Straits of Malacca, under which states using the straits of Malacca pledged their support to the states bordering the straits with a view to improving the navigational safety and protection of the environment regarding the passage and have been providing assistance to the littoral states in various ways such as contributing to a fund created for financing the establishment and maintenance of the navigational aids necessary for ships navigating the straits.[78] In principle, a similar cooperation mechanism could also be conceived for the Turkish Straits: apart from resulting in loss of life and damage, maritime accidents in the Straits also threaten the environment due to a large number of vessels carrying hazardous and noxious cargo. Effects of pollution caused by maritime accidents in Turkish Straits are going to be felt, primarily, in Turkish waters. However, due to the high annual flow rates from Black Sea into the Mediterranean Sea, it is likely that the pollution damage caused by a major maritime accidents would not be limited to Turkish waters but could also affect the Mediterranean through the Aegean Sea.[79] Moreover, even if the environmental considerations set aside and the issue is viewed from a solely practical standpoint, user states would still have much to benefit from measures increasing transit safety because major maritime accidents may result in disruption of traffic and, at times, closure of the Straits.[80] Therefore, a similar initiative makes good sense in case of Turkish Straits as well since minimising the risk of accidents in the Straits is ultimately for the benefit of not just Turkey but also the user states, especially Black Sea littoral states and neighbouring countries such as Greece.[81]

However, whether such initiatives are really necessary for the Turkish straits is somewhat open to question, because, as mentioned above,[82] Turkey is already entitled under international law to charge the vessels transiting the Straits for certain services. Indeed, a unique feature of the Montreux Convention is that Annex I allows Turkey to levy charges or taxes for sanitary controls, lighthouses or lifesaving services. Therefore, *prima facie*, the charges and taxes already applicable under the Montreux Convention could well be considered as a second venue for financing the operational costs of

77 cf Plant, 'Update' (n 35) 212; Ecemiş-Yılmaz (n 59) 218-220.

78 See Joshua H Ho, 'Enhancing Safety, Security, and Environmental Protection of the Straits of Malacca and Singapore: The Cooperative Mechanism' (2009) 40 Ocean Development & International Law 233; David H. Anderson, 'Funding and Managing International Partnerships for the Malacca and Singapore Straits, Consonant with art 43 of the UN Convention on the Law of the Sea' (1999) 3 Singapore Journal of International & Comparative Law 444; Kiyoshi Saishoji, 'Japan's Contribution to Safe Navigation in the Straits of Malacca and Singapore' (1998) 2 Singapore Journal of International & Comparative Law 511.

79 Ünlü (n 16) 143.

80 As was the case following *the Nassia* accident in 1994, see Joyner and Mitchell (n 12) 537-538.

81 cf Plant, 'Update' (n 35) 213.

82 Above, text to (n 65).

stand-by tugs, as well as certain other measures to improve the navigational safety.[83] Nevertheless, due to the reasons that will be discussed below, it appears unlikely that this pool may create sufficient revenue for financing additional measures at the moment. Then, the more pertinent question is whether Turkey is entitled to increase the amount of applicable charges. The amount of charges or taxes permitted is also regulated by the Montreux Convention, which sets out the maximum figures that could be levied on ships transiting through the Straits based on a set number of gold francs[84] per ton of their net register tonnage and at different rates depending on the type of service. As the amount of relevant charges or taxes cannot exceed these figures, the first question is whether the amounts currently charged from the vessels navigating the Straits are below the threshold established by the Montreux Convention.

According to the Convention, the applicable charges can be paid in gold francs or in Turkish liras, at the rate of exchange valid on the time of payment. So, with the Convention's entry into force, the Turkish authorities had begun to charge the vessels in Turkish liras, based on the current rate of exchange applicable to golden franc. This practice seemed to have worked without any difficulties for a long time because the value of gold was officially fixed by member states and kept stable as it had been backed by the dollar convertibility of gold in accordance with the Bretton Woods agreement.[85] However, following the collapse of the Bretton Woods system, the official dollar price for gold ceased to correspond with the value of gold in private markets as the market price for gold has gradually surpassed the official rates of exchange.[86] Indeed, in 1974, a year after the last official price for the gold had been, following a series of devaluations, set by the US at $42.22 per ounce of gold, price of gold was quoted around US$160 in private markets[87] and it has climbed up to the amounts of US$850 by the end of January 1980.[88] Eventually, it became clear that without the dollar convertibility of gold, the par value system cannot be preserved and the international monetary system was in need

83 Indeed, there are opinions supporting this view, cf Sezer Ilgın, '82. Yılında Montrö Sözleşmesine ve Gemilerin Türk Boğazlarindan Geçiş Rejimine Ilişkin Değerlendirme' (*Reviewing the Montreux Convention and Legal Framework for Vessels Transiting Turkish Straits in its 82th Anniversary*) (University of Piri Reis, 20 July 2018) <www.pirireis.edu.tr/montro-bogazlar82-yil> accessed 2 February 2019.

84 The gold franc referred here is 'franc germinal', rather than the 'Poincare franc' as can be discerned by the approximate rate of exchange figures between Turkish lira and the gold franc given under footnote 1 in the Annex I; see Tahir Çağa, 'Gemilerden Altin Frank Esasi Üzerinden Alinan Resimlere Dair' (*Regarding the dues levied on vessels in accordance with the Gold Franc values*) (1982) 3 İdare Hukuku ve İlimleri Dergisi (*Journal of Administrative Sciences and Law*) 35, 36-37.

85 See for detail, Joseph Gold, 'Public International Law in the International Monetary System' (1984) 38 Southwestern Law Journal 799; Paul P Heller, 'The Value of the Gold Franc – A Different Point of View' (1974) 6 Journal of Maritime Law and Commerce 73.

86 Gold (n 85) 816-817.

87 Heller (n 85) 91.

88 The rates were recorded at two important court decisions concerning the value of gold frank in relation to the application of the Convention for the Unification of Certain Rules Relating to International Carriage by Air (Warsaw Convention), see: *Trans World Airlines, Inc. v. Franklin Mint Corp*., 466 US 243, 258; *SS Pharmaceutical Co. Ltd. v Qantas Airways Ltd*. [1989] Lloyd's Rep 1 319, 324., see TMC Asser, 'Golden Limitations of Liability in International Transport Conventions and the Currency Crisis'(1974) 5 Journal of Maritime Law and Commerce 645; L Bristow, 'Gold franc—Replacement of Unit of Account' [1978] 1 Lloyd's Maritime and Commercial Quarterly 31.

of a substantive reform.[89] The reform came in the shape of amendments effected to the Articles of Agreement of the International Money Fund, which have abolished the existing par value system and allowed the members to adopt any exchange arrangement as they see fit as long as they do not maintain the external value of its currency in terms of gold.[90] Therefore, by doing away with the existing par value system, the amendments abolished both the official price of gold and the member state obligations to maintain the value of their currency in accordance with it.[91]

The amendments became effective on 1st of April 1978 and Turkey adopted the amendments on 21st of April 1978 with the Act No. 2146.[92] Therefore, from this date on, there exists no official rate of exchange for the gold under Turkish law. Regardless, Turkey continued to calculate the applicable charges based on the last official, but now fictitious, price of gold until the early 80's. It was not until 1982 that the Turkish Government readjusted the method of calculation that was in use for converting the gold francs into Turkish lira, adopting a formula based on the market price of gold, instead of its last official price.[93] However, an almost ten-fold increase in charges applicable to transit were, unsurprisingly, not received well in shipping circles and amid protests from both domestic and foreign shipping lines, the Government decided to reconsider the charges. Following an interim period, the authorities, despite retaining the new method of calculation, appeared to have taken a step back and chosen to apply the charges at a heavily discounted rate.[94] Whilst the details concerning the rate of discount are not precisely clear, one commentator intimates that the market price of gold was cut down around 80% at that time and the value of 1 gold franc was fixed at approximately US$ 0,8, for purposes of stability.[95] An online quote taken from the website of the Directorate of Coastal Safety demonstrates that the aforementioned rates still remain the same; however, due to the increase in price of gold since 1980s, the rate of discount is, in fact, significantly higher now at more than 90%.[96]

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89 Joseph Gold, 'Gold in International Monetary Law Change, Uncertainty, and Ambiguity' (1981) 15 Journal of International Law & Economics 323, 348-349.

90 ibid 353.

91 Gold (n 89) 354; Çağa, 'Gold Franc' (n 84) 41.

92 Çağa, 'Gold Franc' (n 84) 41; see Republic of Turkey, Official Gazette, 22.04.1978, Vol. 16267.

93 See for detail Tahir Çağa, 'Çanakkale ve Istanbul Boğazlarindan Transit Geçen Ticaret Gemilerinden Alinacak Resimlere Dair' (*Regarding the dues to be levied on Merchant vessels transiting through the Canakkale and Istanbul Strait*) (1994) 54 İstanbul Üniversitesi Hukuk Fakültesi Mecmuası (*Istanbul University Faculty of Law Journal*) 221, whose meticulous work on this subject has, indubitably, been instrumental in the government's eventual decision to revise the method of calculation; also see Ismail Demir, 'Montrö Sözleşmesi'ne Göre Alınan Geçiş Ücretleri (Resim ve Harçlar)' (*Transit tolls levied in accordance with the Montreux Convention (Charges and Dues)*), in Rahmi Deniz Özbay and Cihan Yapıştıran (eds) *VIII. Türk Deniz Ticareti Tarihi Sempozyumu Bildiriler Kitabı* (*Collected Papers for the VIIIth Symposium on History of Turkish Shipping Law*) (Istanbul Yayınları 2016) 61, <http://tdtts.deu.edu.tr/wp-content/uploads/2017/07/TDTTS-8.4.pdf> accessed 2 February 2019; and Cihat Yaycı, 'An Assessment on the Implementation of Gold Franc in the Framework of Montreux Convention' (2013) 5 Bilge Strateji (*Bilge Strategy*) 149.

94 Çağa, 'Merchant vessels' (n 93) 230-235.

95 Çağa, 'Merchant vessels' (n 93) 235.

96 The quotes indicate that a merchant vessel of 25.000 net register tonnage incurs an amount of approximately US$ 2.015 for the lifesaving services. Considering that the aforementioned services are to be charged at 0.10 gold francs, the value of gold franc still appears to be set at US$ 0.8, see Directorate of Coastal Safety, Fee calculator <www.kiyiemniyeti.gov.tr/lighthouse_and_salvage_fee_calculator?> accessed 2 February 2019.

Considering that the gold franc is worth about US$ 12 according to current exchange rates,[97] Turkey is charging only a fraction of the amounts that are permitted under the Montreux Convention at the moment.[98] Although it appears that a price raise had been considered from time to time in past,[99] to date this has not happened, despite the fact that Turkey has introduced numerous additional services after the Montreux Convention's entry into force to improve transit safety.[100] As a result, the charges applicable to the vessels transiting the Turkish Straits remain the same since 1982.

Reducing the applicable charges is well within the rights of Turkey, as the Montreux Convention Annex I sets out the maximum figures that could be levied on the vessels transiting the Straits but also allows the Turkish Government to reduce them as long as the reductions are applied to all vessels equally regardless of their flag.[101] Just as well, under Annex I, increasing the charges applicable to transit are also within Turkey's discretion up to the figures delineated in the Convention, provided they are necessary to cover the costs of services mentioned therein.[102] Since it has been demonstrated above that the charges applicable to the vessels transiting through the Straits are well under the threshold established under the Montreux Convention, raising the current fees appears permissible. Then the second question is whether stand-by tugs can be considered as a type of service which is subject to taxes or charges under the Convention. Out of the three principal categories under the paragraph I of Annex I only the last one, namely the section (c), could be considered as broad enough to entertain whether emergency tugs would fall under the services envisaged therein. Indeed, section (c) of the first paragraph reads as 'life-saving services' and then goes on to provide examples of services in such nature. The term 'life-saving services' appears sufficiently broad to cover the operation of a swift response unit consisting of tugs and tows to intervene in emergencies. Moreover, although the reference to life may suggest that the emphasis here is on services aiming the preservation of human life at sea, the term used in original, French, text of the convention is sauvatege,[103] which could be argued to convey a much broader meaning. Stand-by tugs are, obviously, not one of the services explicitly mentioned in the article; however, it is noteworthy that the examples given there do not appear to be listed in a restrictive manner but merely elaborate some of the services to be included in the category prescribed under Annex I, para 1(c). Therefore, the language of the article appears to have left some margin for a wider interpretation. In this context, a good argument had been made

97 One gold franc consists of 0,290323 gr pure gold and according to the current exchange rate (XAU/USD: 1311) 1 gr of gold is approximately worth US$ 42,16, at the time of writing, see XE Corporation <www.xe.com/currencycharts/?from=XAU&to=USD&view=1D> accessed 4 February 2019.

98 Çağa, 'Merchant vessels' (n 93) 229; A Nüriddin Gürpınar, 'Türk Boğazlarından Geçiş Ücreti: Altın Frank 'Franc Germinal'' (*Charges applicable for transiting through the Turkish Straits: Gold Franc 'Franc Germinal'*) (2011) 16 Anadolu Nümizmatik Bülteni (*Anatolian Numismatic Bulletin*) 3, 15.

99 See, Infotrac Newsstand '(Gen) Energy Minister Says Turkey Might Consider Increasing Fees to Cut Oil Tanker Traffic through Straits' (Infotrac Newsstand, 7 Jan 2011) <http://link.galegroup.com/apps/doc/A245980301/STND?u=sdu&sid=STND&xid=d64cd994> accessed 2 February 2019.

100 See below, text to (n 104).

101 Annex I, para 1.

102 Annex I, para 4.

103 Meaning rescue or salvage, see Cambridge Dictionary Online Edition <https://dictionary.cambridge.org/dictionary/french-english/sauvetage> accessed 2 February 2019.

that Turkey's right to levy charges for 'life-saving services' might be read as to include costs of providing services such as navigational warning services or voluntary VTS systems now, in accordance with the technological developments in relation to shipping safety and marine environmental protection as well as the progress made in regulation of these areas since the Montreux Convention has entered into force.[104] Arguably, the same point could be maintained regarding the stand-by tugs considering their potential to prevent marine accidents and 'life-saving services' may well be construed as encompassing the operation of tugs and tows stationed in specific areas in the Straits, ready to provide assistance to vessels in distress.

To summarise, there is an argument for a proportional increase in charges applicable to vessels navigating through the Turkish Straits in order to cover the costs of stand-by tugs, through a liberal interpretation of the Annex I, para 1(c), under the Montreux Convention. Such a move could go a long way to alleviate financial difficulties involved in the realization of DEDER's proposal and help decrease the risk of accidents in the Straits. However, if the Turkish Government chooses not to increase the current charges, perhaps for political reasons, then the only remaining way of realizing the proliferation of stand-by tugs in near future appears to be Turkey bearing the costs through her own financial means. This would not be a first, as Turkey already covers the costs of a number of initiatives adopted to decrease the risk of accident in the Straits since the Montreux Convention entered into force. A good example is the state-funded modern VTS system, which commenced operation in December 2003 and has considerably improved navigational safety[105] in Bosporus Strait.[106] Similarly, there are calls for providing free towage and pilotage services to the vessels transit of which are deemed as dangerous, costs of which are to be subsidized by the government.[107] These proposals make good sense, especially considering that vessels navigating without a pilot are regarded to be one of the factors that cause or contribute to accidents in the Turkish Straits.[108] Further, whilst it cannot be denied that state funded stand-by tugs would be expensive, there may be some merit in providing funding considering their potential in decreasing the risk of accident in Turkish Straits. Moreover, once realized, financing the operational costs of stand-by tugs may prove to be relatively easier than comparable schemes as tugs and tows might, arguably, claim remuneration for their services from the vessels they have aided, subject to 'no cure, no pay' principle.[109] Therefore, if state funding is the only reliable way of increasing the number of available tugs and realizing an effective swift response unit of stand-by tugs, bearing the costs through Turkey's own financial means might also be worth considering.

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104 Plant, 'Update' (n 35) 200.

105 See analysis in Ece, 'Istanbul Strait' (n 50) 53-55.

106 Turkish Ministry of Foreign Affairs, 'Note on Turkish Straits' <www.mfa.gov.tr/the-turkish-straits.en.mfa> accessed 2 February 2019; solely the installation costs of the VTS was said to be around 40 Million USD at 1999, see Necmettin Akten, 'The Strait of Istanbul (Bosphorus): The seaway separating the continents with its dense shipping traffic' (2003) 9-3 Turkish Journal of Marine Sciences 241, 249.

107 Vank (n 60).

108 Scharfenberg (n 4) 337; Akten, 'Analysis of Shipping Casualties in the Bosphorus' (n 3) 356; for a statistical analysis see Nur Jale Ece, 'Kılavuzluk Hizmetlerinin Deniz Emniyetine Katkısı: İstanbul Boğazı'nda Kazaya Karışan Gemiler İle Kılavuz Kaptan Almaları Arasındaki İlişkinin Analizi' (*Contribution of Pilotage services to Maritime Safety: Analysis regarding vessels involving an accident in Istanbul Strait and pilotage services*) (2016) 4 Journal of ETA Maritime Science 3.

109 See *Turkish Code of Commerce*, arts 1299 and 1304.

7. Conclusion

Whilst the alternative routes becoming available due to global warming such as North Sea passage through Arctic Ocean or major infrastructural projects such as 'One Belt, One Road' initiative may, in future, alleviate some of the pressure on Turkish Straits,[110] for the time being, the Straits remain one of the most congested and hazardous international waterways of the world. Measures taken in the last decades have considerably contributed to the safety of navigation. Nevertheless, whilst it is impossible to rule out the risk of maritime accidents altogether, discussion following the *Vitaspirit* incident demonstrates that certain steps could be taken to increase navigational safety and reduce the likelihood of such accidents taking place in the Straits. Of such measures, some require a sizeable investment in time or money, and others both. Similarly, viability of some of these measures remain uncertain, especially when the constraints of the legal framework currently applicable to the Turkish Straits is taken into account. Therefore, measures that do not require considerable time and money or that could be realized without risking violating the Montreux regime, immediately become more preferable.

This article has argued that of the proposals currently under consideration, development of a swift response unit consisting of tugs and tows appears to have the greatest potential of increasing navigational safety in the Bosporus in the near future and alleviating the risk of major accidents taking place in the Straits. It is true that such an initiative would also require funding and the financial burden of supporting such measures could act as an impediment to their eventual adoption; however there exist steps that could be taken to help secure necessary funds. Regardless, expenditure involved in redressing the pollution damage in the aftermath of a maritime accident would far outweigh the costs to be accrued by subsidising modest, yet efficient, initiatives such as stand-by tugs. Although, the destruction of a monumental mansion possessing immense historic and cultural value cannot be disregarded, the *Vitaspirit* incident was a near miss in many ways. Steps to ensure that the risk of such accidents are minimised must be taken soon, or the next time might be too late.

110 See Alan Bjerga and others, 'Choking On Our Harvest: Threats Loom Over Global Food Trade' (Bloomberg, 18 May 2018) <www.bloomberg.com/graphics/2018-food-trade-chokepoints/> accessed 2 February 2019.