







MEDITERRANEAN ACTION PLAN (MAP) REGIONAL MARINE POLLUTION EMERGENCY RESPONSE CENTRE FOR THE MEDITERRANEAN SEA (REMPEC)

Regional Expert Meeting on the possible designation of the Mediterranean Sea, as a whole, as an Emission Control Area for Sulphur Oxides (Med SO_X ECA) pursuant to MARPOL Annex VI

REMPEC/WG.50/INF.5* Date: 23 April 2021

Online, 27-28 April 2021

Original: English only

Agenda Item 2

REPORT OF THE FURTHER WORK OF THE SO_X ECA(S) TECHNICAL COMMITTEE OF EXPERTS

Note by the Secretariat

SUMMARY

Executive Summary: This document provides information on the outcome of the further work of the

 SO_X ECA(s) Technical Committee of Experts, pursuant to the Road Map for a Proposal for the Possible Designation of the Mediterranean Sea, as a whole, as an Emission Control Area for Sulphur Oxides Pursuant to MARPOL Annex

VI, within the Framework of the Barcelona Convention.

Action to be taken: Paragraph 35

Related documents: MEPC 58/23/Add.1, MSC-MEPC.1/Circ.5/Rev.2, UNEP/MED IG.24/22,

REMPEC/WG.45/INF.9, REMPEC/WG.45/INF.10, REMPEC/WG.50/INF.3, REMPEC/WG.50/INF.6, REMPEC/WG.50/INF.7, REMPEC/WG.50/INF.8, REMPEC/WG.50/INF.9, REMPEC/WG.50/INF.10, REMPEC/WG.50/INF.11

Background

1 COP 19¹ adopted Decision IG.22/4 on the Regional Strategy for Prevention of and Response to Marine Pollution from Ships (2016-2021), hereinafter referred to as the "Regional Strategy (2016-2021)", which addresses, *inter alia*, the issue of the prevention of air pollution from ships.

In accordance with the Regional Strategy (2016-2021), the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) administered by the International Maritime Organization (IMO) in cooperation with the Mediterranean Action Plan of the United Nations Environment Programme (UNEP/MAP), established a technical committee of experts, which worked through correspondence, nominated by the Contracting Parties to the Barcelona Convention², to carry out a technical and feasibility study to examine if it is appropriate, at the current stage, to put in place a road map for preparation of a submission to the IMO to designate as a sulphur oxides (SO_x) Emission Control Area (ECA) in certain areas of the Mediterranean Sea requiring specific environmental protection, and to explore possible further steps.

¹ Nineteenth Ordinary Meeting of the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean ("the Barcelona Convention") and its Protocols (Athens, Greece, 9-12 February 2016).

^{*} Reissued for technical reasons.

² The twenty-two (22) Contracting Parties to the Barcelona Convention are: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, the Syrian Arab Republic, Tunisia, Turkey, and the European Union.

- 3 COP 20³ agreed to include in the UNEP/MAP Programme of Work and Budget 2018-2019 an activity aimed at examining the possibility of designating the Mediterranean Sea, or parts thereof, as SO_X ECA(s), under Annex VI to the International Convention for the Prevention of Pollution from Ships (MARPOL) and effectively implementing the existing energy efficiency measures.
- In this context, and on the basis of the outcome of the work of the SO_X ECA(s) Technical Committee of Experts, including the Technical and Feasibility Study⁴ and the initial draft submission to the IMO⁵ prepared by REMPEC, as set out in documents REMPEC/WG.45/INF.9 and REMPEC/WG.45/INF.10 respectively, COP 21⁶ adopted Decision IG.24/8 on the Road Map for a Proposal for the Possible Designation of the Mediterranean Sea, as a whole, as an Emission Control Area for Sulphur Oxides Pursuant to MARPOL Annex VI, within the Framework of the Barcelona Convention, hereinafter referred to as the road map, as set out in the Appendix to document REMPEC/WG.50/INF.3.
- 5 COP 21 agreed to extend the mandate of the SO_X ECA(s) Technical Committee of Experts, until 30 April 2021, to oversee the completion of the knowledge gathering and the preparations of further studies, notably socio-economic impacts on individual Contracting Parties to the Barcelona Convention *inter alia* as indicated in the road map, including the development of their respective terms of reference, through correspondence coordinated by REMPEC, when examining the possibility of designating the Mediterranean Sea, as a whole, as a SO_X ECA ("the Med SO_X ECA") pursuant to MARPOL Annex VI, within the framework of the Barcelona Convention.
- 6 COP 21 also requested the Secretariat to update the initial draft submission to the IMO for a proposal for the possible designation of the Med SO_X ECA, under the guidance of the SO_X ECA(s) Technical Committee of Experts in line with the agreed road map.

Further work of the SO_X ECA(s) Technical Committee of Experts

- With a view to facilitating the implementation of the road map, the further work of the SO_x ECA(s) Technical Committee of Experts was structured in four (4) phases, as follows:
 - .1 **Phase 1**, **Phase 2**, and **Phase 3**, through correspondence coordinated by REMPEC; and
 - .2 **Phase 4**, through the holding of the present meeting.
 - Schedule and work plan
- 8 With a view to ensuring the timely and effective implementation of the road map, the timing of the further work of the SO_X ECA(s) Technical Committee of Experts was set as follows:

	From	То	
Phase 1	31 March 2020	17 April 2020	
Phase 2	29 September 2020	23 October 2020	
Phase 3	23 January 2021	19 February 2021	
Phase 4	27-28 April 2021		

9 A detailed revised work plan for the further work of the SO_X ECA(s) Technical Committee of Experts is set out in **Appendix I** to the present document.

³ Twentieth Ordinary Meeting of the Contracting Parties to the Barcelona Convention and its Protocols (Tirana, Albania, 17-20 December 2017).

⁴ entitled "Technical and feasibility study to examine the possibility of designating the Mediterranean Sea, or parts thereof, as SO_x ECA(s) under MARPOL Annex VI".

⁵ entitled "Initial draft submission to the International Maritime Organization entitled "Proposal to Designate the Mediterranean Sea area, [or parts thereof,] as an Emission Control Area for Sulphur Oxides [and Particulate Matter]".

⁶ Twenty-first Ordinary Meeting of the Contracting Parties to the Barcelona Convention and its Protocols (Naples, Italy, 2-5 December 2019).

· Working arrangements

- The working arrangements related to working, drafting, correspondence, intersessional working, and other groups, laid down in the Organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies, as set out in the annex to Circular MSC-MEPC.1/Circ.5/Rev.2, applied to the SO_X ECA(s) Technical Committee of Experts.
- The working language for **Phase 1**, **Phase 2**, and **Phase 3** was English. The working languages for **Phase 4** are English and French.
 - List of nominated experts on the SOX ECA(s) Technical Committee of Experts
- To date, REMPEC has received nominations from all Contracting Parties to the Barcelona Convention, hence securing the "universal" membership of the SO_X ECA(s) Technical Committee of Experts.
- The list of experts nominated by the Contracting Parties to the Barcelona Convention serving on the SO_X ECA(s) Technical Committee of Experts is set out in **Appendix II** to the present document.

Reference documents

- Appendix III to MARPOL Annex VI (MEPC 58/23/Add.1), Decision IG.24/8 (UNEP/MED IG.24/22) and Circular MSC-MEPC.1/Circ.5/Rev.2 were disseminated to the SO_x ECA(s) Technical Committee of Experts both in English and French for ease of reference, through WeTransfer links, at the beginning of **Phase 1**, **Phase 2**, and **Phase 3**.
- The Terms of Reference for the completion of the knowledge gathering and the preparations of further studies as well as the finalisation of the draft submission to the IMO pursuant to the road map, hereinafter referred to as the set of Terms of Reference, were disseminated to the SO_X ECA(s) Technical Committee of Experts in English for ease of reference, through WeTransfer links, at the beginning of **Phase 2** and **Phase 3**.
 - Phase 1 of the further work of the SO_X ECA(s) Technical Committee of Experts
- 16 **Phase 1** achieved convergence on the draft set of Terms of Reference.
- 17 In February 2020, following the necessary procurement procedures, REMPEC contracted Dr Edmund J Hughes, former Head, Air Pollution and Energy Efficiency at the IMO, as individual consultant, to provide the necessary support to the Secretariat⁷ during **Phase 1**.
- On 31 March 2020, the SO_X ECA(s) Technical Committee of Experts was requested to review the following draft set of Terms of Reference (5 in total) as well as to provide feedback and comments to the Secretariat by 10 April 2020:
 - .1 **Package 1**: Synopsis of the assessment and draft submission to the IMO;
 - .2 **Package 2**: Quantification of the impacts associated with deposition of PM_{2.5} and air toxics:
 - .3 **Package 3**: Land-based emissions controls of SO_X and PM in the Mediterranean coastal States;
 - .4 Package 4: Additional economic impact evaluation; and
 - .5 **Package 5**: Additional fuel supply and technology analyses.

⁷ REMPEC, in cooperation with the Mediterranean Pollution Assessment and Control Programme (MED POL) as well as the Plan Bleu Regional Activity Centre (PB/RAC) of UNEP/MAP.

- The deadline for comments was extended to 17 April 2020 with a view to ensuring as a broad participation as possible from the members of the SO_X ECA(s) Technical Committee of Experts during **Phase 1**.
- Sixteen (16) sets of feedback and comments were provided by the SO_X ECA(s) Technical Committee of Experts during **Phase 1**, representing fifteen (15) Contracting Parties to the Barcelona Convention⁸, which were taken into account when finalising the set of Terms of Reference.
- The set of Terms of Reference, as finalised by the Secretariat, are set out in Appendices I-V to document REMPEC/WG.50/INF.6, and covers the following LOTs:
 - .1 **LOT 1**: Draft submission to the IMO;
 - .2 **LOT 2**: Land-based emissions control measures of SO_X and PM in the Mediterranean coastal States;
 - .3 **LOT 3**: Additional analyses of fuel supply and alternative compliance methods;
 - .4 LOT 4 Regional: Additional economic impact evaluation; and
 - .5 **LOT 4 National**: Additional economic impact evaluation.
- A progress report for **Phase 1**, including the set of Terms of Reference, together with an addendum to the said report detailing the compilation of the feedback and comments received as part of **Phase 1** as well as the associated written response from the Consultant, were prepared by the Secretariat and disseminated to the SO_X ECA(s) Technical Committee of Experts on 4 June 2020.
 - Phase 2 of the further work of the SO_X ECA(s) Technical Committee of Experts
- Following the necessary procurement procedures, REMPEC and Plan Bleu contracted Dr Edward Carr, as individual consultants for LOT 1 and LOT 2, as well as Energy and Environmental Research Associates, LLC (EERA), as consultants for LOT 3 and LOT 4 Regional. Dr James Corbett, lead consultant on EERA's team, served as a primary author and project leader in all three IMO Greenhouse Gas (GHG) Studies as well as a steering committee member for the Assessment of fuel oil availability. He has been supported by Dr Edward Carr and Dr James Winebrake (all three were involved in the Technical and Feasibility Study that EERA carried out for REMPEC in 2018).
- 24 **Phase 2** gathered feedback and comments on the following documents, as prepared by the Consultants, in consultation with the Secretariat:
 - .1 the draft report of the knowledge gathering under LOT 1;
 - .2 the draft report of the knowledge gathering under LOT 2;
 - .3 the draft report of the further study under LOT 3; and
 - .4 the draft progress memorandum under LOT 4 Regional.
- On 29 September 2020, the SO_X ECA(s) Technical Committee of Experts was requested to review the documents referred to in paragraphs 24.1, 24.2, and 24.3.3 above, as well as to provide feedback and comments to the Secretariat by 23 October 2020. On 2 October 2020, the SO_X ECA(s) Technical Committee of Experts was also requested to review the document referred to in paragraph 24 as well as to provide feedback and comments to the Secretariat by the same deadline (23 October 2020).

⁸ namely, Algeria, Croatia, Cyprus, France, Greece, Italy, Lebanon, Malta, Monaco, Montenegro, Slovenia, Spain, Tunisia, Turkey, and the European Union.

- Seventeen (17) sets of feedback and comments were provided by the SO_X ECA(s) Technical Committee of Experts during **Phase 2**, representing seventeen (17) Contracting Parties to the Barcelona Convention⁹, which were taken into account when:
 - .1 finalising the draft report of the knowledge gathering under LOT 1;
 - .2 finalising the draft report of the knowledge gathering under LOT 2;
 - .3 revising the draft report of the further study under LOT 3;
 - .4 preparing the draft report of the knowledge gathering and of the further study under LOT 4 Regional;
 - .5 updating the draft submission to the IMO under LOT 1.
- 27 The Consultants also prepared, in consultation with the Secretariat, associated written responses to the feedback and comments received as part of **Phase 2**, which were disseminated to the SO_X ECA(s) Technical Committee of Experts during **Phase 3**.
 - Phase 3 of the further work of the SO_X ECA(s) Technical Committee of Experts
- 28 **Phase 3** gathered feedback and comments on the following documents, as prepared by the Consultants, in consultation with the Secretariat:
 - .1 the final draft report of the knowledge gathering under LOT 1;
 - .2 the final draft report of the knowledge gathering under LOT 2;
 - .3 the revised draft report of the further study under LOT 3;
 - .4 the draft report of the knowledge gathering and of the further study under LOT 4 Regional; and
 - .5 the updated draft submission to the IMO under LOT 1.
- On 23 January 2021, the SO_X ECA(s) Technical Committee of Experts was requested to review the documents referred to in paragraphs 2428.1, 28.2, 28.3, 28.4, and 28.5 above, as well as to provide feedback and comments to the Secretariat by 19 February 2021.
- 30 Fourteen (14) sets of feedback and comments were provided by the SO_X ECA(s) Technical Committee of Experts during **Phase 3**, from fourteen (14) Contracting Parties to the Barcelona Convention¹⁰, which were taken into account when:
 - .1 further finalising the draft report of the knowledge gathering under LOT 1;
 - .2 further finalising the draft report of the knowledge gathering under LOT 2;
 - .3 finalising the draft report of the further study under LOT 3;
 - .4 finalising the draft report of the knowledge gathering and of the further study under LOT 4 Regional; and
 - .5 finalising the draft submission to the IMO under LOT 1.
- The Consultants also prepared, in consultation with the Secretariat, associated written responses to the feedback and comments received as part of **Phase 3**, which were disseminated to the SO_x ECA(s) Technical Committee of Experts prior to **Phase 4**.

⁹ namely, Albania, Algeria, Bosnia and Herzegovina, Croatia, France, Greece, Israel, Italy, Lebanon, Malta, Monaco, Montenegro, Slovenia, Spain, Tunisia, Turkey, and the European Union.

¹⁰ namely, Bosnia and Herzegovina, Croatia, Egypt, France, Greece, Israel, Italy, Lebanon, Malta, Monaco, Montenegro, Spain, Turkey, and the European Union.

- Phase 4 of the further work of the SO_X ECA(s) Technical Committee of Experts
- 32 **Phase 4** seeks to review the outcome of the further work of the SO_X ECA(s) Technical Committee of Experts as well as technically¹¹ validate the updated draft IMO submission, based on the knowledge gathered and the further studies carried out, in accordance with the road map.
- To that end, REMPEC is organising the present meeting, the principal objectives of which are:
 - .1 to examine the implementation of the road map, notably:
 - .1 the completion of the necessary knowledge gathering;
 - .2 the carrying out of the further studies to more fully address the criteria and procedures for designation of emission control areas laid down in Appendix III to MARPOL Annex VI; and
 - .3 the updating of the initial draft submission to the IMO based on the completed knowledge gathering and the further studies carried out.
 - .2 to examine the draft joint and coordinated proposal on the designation of the Med SO_X ECA to the IMO, and to discuss about the next steps; and
 - .3 to discuss and approve the proposed conclusions and recommendations, prior to their submission to the Fourteenth Meeting of the Focal Points of REMPEC to be held remotely from 31 May to 2 June 2021.
- The following outcome of the further work of the SO_X ECA(s) Technical Committee of Experts is submitted to the present meeting:
 - .1 the set of Terms of Reference, as set out in Appendices I-V to document REMPEC/WG.50/INF.6;
 - .2 the final report of the knowledge gathering under LOT 1, as set out in the Appendix to document REMPEC/WG.50/INF.7;
 - .3 the final report of the knowledge gathering under LOT 2, as set out in the Appendix to document REMPEC/WG.50/INF.8;
 - .4 the final report of the further study under LOT 3, as set out in the Appendix to document REMPEC/WG.50/INF.9;
 - .5 the final report of the knowledge gathering and of the further study under LOT 4 Regional, as set out in the Appendix to document REMPEC/WG.50/INF.10; and
 - the finalised draft submission to the IMO under LOT 1, as set out in the Appendix to document REMPEC/WG.50/INF.11.

Action requested by the Meeting

35 **The Meeting is invited to take note** of the information provided in the present document.

¹¹ The political validation or commitment towards the possible designation of the Med SO_X ECA does not fall within the mandate of the SO_X ECA(s) Technical Committee of Experts. Other meetings, as defined in the road map, starting with the Fourteenth Meeting of the Focal Points of REMPEC (online, 31 May-2 June 2021), will have the opportunity to discuss the matter further.

APPENDIX I

Detailed revised work plan for the further work of the SO_X ECA(s) Technical Committee of Experts

LOTs	Tasks	Secretariat ¹²	SO _x ECA(s) Technical Committee of Experts ¹³
	<u>Phase</u>	e <u>1</u>	
All LOTs	Draft Terms of Reference	31 March 2020	17 April 2020
All LOTs	Final Terms of Reference	4 June 2020	
All LOTs	Progress report of the SO _X ECA(s) Technical Committee of Experts	4 June 2020	
	Phase	e 2	
1 and 2		19 August 2020	
3	Kick-off Meetings	20 August 2020	
4 - Regional		16 September 2020	
1 and 2 3 4 – Regional	Draft kick-off Meeting reports	29 September 2020	
1 and 2	Draft reports of the knowledge gathering	29 September 2020	23 October 2020
	Draft report of the further study	2 October 2020	22 October 2020
4 - Regional	Draft progress memorandum	2 October 2020	23 October 2020
Phase 3			
1 and 2	Final draft reports of the		
3	knowledge gathering		
3	Revised draft report of the further study		
4 – Regional	Draft report of the knowledge		
4 – Negionai	gathering and of the further study	23 January 2021	19 February 2021
1 to 4 – Regional	Associated written responses		
1	Updated draft submission to the IMO		
	<u>Phase</u>	<u>e 4</u>	
1 and 2	Final reports of the knowledge gathering	23 April 2021	
3	Final report of the further study	23 April 2021	
4 – Regional	Final report of the knowledge gathering and the further study	23 April 2021	
1	Finalised draft submission to the IMO	23 April 2021	
1 to 4 – Regional	Associated written responses	23 April 2021	
	Regional Expert Meeting (virtual) on the Med SO _X ECA ¹⁴	27-28 April 2021	
Main UNEP/MAP meetings in the biennium 2020-2021			
	Fourteenth Meeting of the Focal Points of REMPEC	31 May	v-2 June 2021
	Meeting of the MAP Focal Points	14-17 September 2021	
	Twenty-second Ordinary Meeting of the Contracting Parties to the Barcelona Convention and its Protocols	j	

 $^{^{12}}$ This column reflects the dates when REMPEC will initiate consultations within the SO_X ECA(s) Technical Committee of Experts.

 $^{^{13}}$ This column reflects the deadlines by when input from the SO_X ECA(s) Technical Committee of Experts is required.

¹⁴ This meeting is a courtesy meeting organised by the Secretariat to allow presentation of the knowledge gathering and the further studies as well as the updating of the initial draft submission to the IMO, and to provide a forum for discussion prior to the Fourteenth Meeting of the Focal Points of REMPEC.

APPENDIX II

List of experts nominated by the Contracting Parties to the Barcelona Convention serving on the SO_X ECA(s) Technical Committee of Experts

List of experts nominated by the Contracting Parties to the Barcelona Convention serving on the SOx ECA(s) Technical Committee of Experts

Contracting Party	Name	Organisation		
Albania	Mr Elson THANA	Ministry of Transport and Infrastructure		
Algeria	M. Mohamed Redouane CHAKOUR	Ministère des Travaux Publics et des Transports		
Bosnia & Herzegovina	Prof Tarik KUPUSOVIĆ	Hydro-Engineering Institute Sarajevo (HEIS)		
Onestin	Ms Ivana MAROVIĆ GUGIĆ	Ministry of the Sea, Transport and Infrastructure		
Croatia	Mr Gordan DOŠEN	Ministry of Economy and Sustainable Development		
Cyprus	Mr Valentinos MAVROUDIS	Shipping Deputy Ministry to the President		
Egypt	Chemist. Moustafa Mohamed MOURAD	Egyptian Environmental Affairs Agency (EEAA)		
	Ms Rosa ANTIDORMI	European Commission - Directorate-General for the Environment		
European Union	Mr Sergio ALDA	European Maritime Safety Agency		
	Ms Mercedes GARCIA-HORRILLO	European Maritime Safety Agency		
	Ms Océane RIGNAULT	Ministère de la Transition écologique et solidaire		
France	Ms Thamara VIEIRA DA ROCHA	Centre Interprofessionnel Technique d'Etudes de la Pollution Atmosphérique (CITEPA)		
France	Ms Laurence ROUIL	Institut national de l'environnement industriel et des risques (INERIS)		
	Mr Antoine LAFITTE	Plan Bleu		
Greece	Commander (ENG) H.C.G. Aikaterini STAMOU	Ministry of Maritime Affairs and Insular Policy		
Greece	Mr Konstantinos FRANTZIKINAKIS	wirnstry of Manuffle Affairs and Insular Policy		
Israel	Eng. Asher KADOSH	Ministry of Transport		
Italy	Dott. Roberto GIANGRECO	Ministero dell'Ambiente, della Protezione della Natura e del Mare		
Lebanon	Cap. Hassan CHAABAN	Ministry of Public Works and Transport		
Libya	Mr Fathi ALAMEER F.AWAZ	Ministry of Environment		
Malta	Mr Mevric ZAMMIT	Authority for Transport in Malta		
Monaco	Mr Pierre BOUCHET	Département de l'Equipement, de l'Environnement et de l'Urbanisme		
	Ms Olivera KUJUNDŽIĆ	Ministrator Contribute Development and Tamina		
Mantanana	Ms Ivana STOJANOVIĆ	Ministry for Sustainable Development and Tourism		
Montenegro	Ms Darinka JOKSIMOVIĆ	Administration for Maniferra Cofety and Donto Management		
	Mr Zarko LUKŠIĆ	Administration for Maritime Safety and Ports Management		
Morocco	M. Youssef HOUMAIDI	Ministère de l'Equipement, du Transport, de la Logistique et de l'Eau		
MOTOCCO	Mme Loubna SALHI	Ministère de l'Equipement, du Transport, de la Logistique et de l'Eau		
Slovenia	Mr Arturo STEFFE	Ministry of Infrastructure		
Onnin	Mr Pablo PEDROSA REY	Ministerio de Transportes, Movilidad y Agenda Urbana		
Spain	Ms Silvia MONGE VILLAVERDE	Ministerio para la Transición Ecológica y el Reto Demográfico		
Ourier Areh Deschlie	Chem. Fathia MOHAMMAD	Ministry of State for Environmental Affairs		
Syrian Arab Republic	Eng. Ali DAYOUB	Ministry of Transport		
Tunisia	Mr Alaya SAGAAMA	Agence Nationale de Protection de l'Environnement		
	Mr Gökhan DÖNMEZ	•		
	Mr Fatih ŞENOL	Ministry of Transport and Infrastructure		
Turkey	Mr Görkem YÜKSELEN			
	Ms Rabia ZAFER			
	Ms Bahar ÖZÖĞÜT	Ministry of Environment and Hybenization		
	Ms Canan Esin KOKSAL	Ministry of Environment and Urbanization		
	Mrs Sezin ÇALIK ÇEPE			

Secretariat	Name	Organisation
	Mr Gabino GONZALEZ	
REMPEC	Mr Franck LAUWERS*	Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC)
	Ms Agnieszka PAWINSKA	
MED POL	Mr Erol CAVUS	Mediterranean Pollution Assessment and Control Programme (MED POL)
PB/RAC	Ms Lina TODE	Plan Bleu Regional Activity Centre (PB/RAC)

^{*} Coordinator of the SOx ECA(s) Technical Committee of Experts