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EN

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II

(Non-legislative acts)

REGULATIONS

COMMISSION DELEGATED REGULATION (EU) 2018/295

of 15 December 2017

amending Delegated Regulation (EU) No 44/2014, as regards vehicle construction and general requirements, and Delegated Regulation (EU) No 134/2014, as regards environmental and propulsion unit performance requirements for the approval of two- or three-wheel vehicles and quadricycles

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) No 168/2013 of the European Parliament and of the Council of 15 January 2013 on the approval and market surveillance of two- or three-wheel vehicles and quadricycles ⁽¹⁾, and in particular Articles 18(3), 21(5) and 23(12) thereof,

Whereas:

- (1) On the basis of the Commission report to the European Parliament and the Council on the comprehensive effect study of the environmental step Euro 5 for L-category vehicles ⁽²⁾ in accordance with Article 23(4) of Regulation (EU) No 168/2013, and taking into account issues encountered by approval authorities and stakeholders in applying Regulation (EU) No 168/2013, Commission Delegated Regulation (EU) No 44/2014 ⁽³⁾ and Commission Delegated Regulation (EU) No 134/2014 ⁽⁴⁾, certain changes and clarifications should be made in the Delegated Regulations in order to ensure their smooth application.
- (2) In order to ensure effective functioning of the EU type-approval system for L-category vehicles, the technical requirements and test procedures set out in Delegated Regulations (EU) No 44/2014 and (EU) No 134/2014 should be continuously improved and adapted to technical progress.
- (3) Annex IV to Delegated Regulation (EU) No 44/2014 contains the equation to be used for checking compliance of produced vehicles, systems, components and separate technical units with the approved type. The equation should be amended to ensure clarity. Annex XII to Delegated Regulation (EU) No 44/2014 should be amended with respect to the engine operation window for misfire detection to ensure that the imposed requirements are technically feasible. Annex XII should also be amended to enable a technical upgrade to new standards developed for the interface between generic scan tools and the vehicle with respect to the on-board diagnostic (OBD) systems. Appendix 2 to Annex XII should be amended to provide clarification on several items that are monitored with respect to the OBD requirements set out therein. New appendices should be added to Annex XII to ensure the correct implementation of in-use performance ratios.

⁽¹⁾ OJ L 60, 2.3.2013, p. 52.

⁽²⁾ The report of the study: 'Effect study of the environmental step Euro 5 for L-category vehicles', EU-Books (ET-04-17-619-EN-N).

⁽³⁾ Commission Delegated Regulation (EU) No 44/2014 of 21 November 2013 supplementing Regulation (EU) No 168/2013 of the European Parliament and of the Council with regard to the vehicle construction and general requirements for the approval of two- or three-wheel vehicles and quadricycles (OJ L 25, 28.1.2014, p. 1).

⁽⁴⁾ Commission Delegated Regulation (EU) No 134/2014 of 16 December 2013 supplementing Regulation (EU) No 168/2013 of the European Parliament and of the Council with regard to environmental and propulsion unit performance requirements and amending Annex V thereof (OJ L 53, 21.2.2014, p. 1).

- (4) Certain equations should be adapted in Annexes II, III and IV to Delegated Regulation (EU) No 134/2014 to provide more clarity. Annex VI to that Delegated Regulation should be amended to ensure the correct application of test requirements regarding the durability of pollution control devices. The classification requirements of the Standard Road Cycle for L-Category Vehicles (SRC-LeCV) in Annex VI should be adapted to ensure the correct application of those requirements during testing. The use of the Approved Mileage Accumulation (AMA) cycle laid down in Annex VI for class III vehicles should be phased out in accordance with the conclusions of the comprehensive environmental effect study. Annex VI should also be amended to allow the use of bench ageing as an alternative to the actual physical durability testing with full or partial mileage accumulation.
- (5) One of the measures against excessive hydrocarbon emissions from L-category vehicles is to limit the evaporative emissions of those vehicles. For that purpose, Annex VI(C) to Regulation (EU) No 168/2013 lays down hydrocarbon mass limits for vehicle categories L3e, L4e, L5e-A, L6e-A and L7e-A. The evaporative emissions of those vehicles are measured at type-approval. One of the requirements of the type IV Sealed House evaporative Emission Determination (SHED) test is either to fit a rapidly aged carbon canister or to apply an additive deterioration factor when fitting a degreened carbon canister. The comprehensive environmental effect study investigated whether or not it was cost beneficial to apply SHED testing to vehicle categories L1e, L2e, L5e-B, L6e-B, L7e-B and L7e-C. As the result of the study demonstrated that that method was not cost beneficial, Annex V to Delegated Regulation (EU) No 134/2014 should be amended to allow the continuous use of the already established alternative and more cost beneficial method of permeation testing in the Euro 5 step for manufactures of category L1e, L2e, L5e-B, L6e-B, L7e-B and L7e-C vehicles.
- (6) On the basis of the comprehensive environmental effect study, the Commission concluded that the mathematical procedure for the verification of durability requirements set out in Article 23(3) of Regulation (EU) No 168/2013 should be phased out by 2025. The study pointed out that that theoretical procedure did not ensure that the durability requirements set out in Regulation (EU) No 168/2013 were met in reality. To mitigate the impact of phasing out that method, the study proposed to introduce bench ageing as an alternative procedure to the actual durability testing procedure with full mileage and partial mileage accumulation. Bench ageing is a well-established procedure often applied to vehicles falling within the scope Directive 2007/46/EC of the European Parliament and of the Council ⁽¹⁾. Annex VI to Delegated Regulation (EU) No 134/2014 should be amended to introduce the bench ageing procedure derived from the requirements set out in Commission Regulation (EC) No 692/2008 ⁽²⁾ and UNECE Regulation No 83 ⁽³⁾ and adapted to fit the requirements needed for L-category vehicles.
- (7) Delegated Regulation (EU) No 44/2014 and Delegated Regulation (EU) No 134/2014 should be amended at the same time to ensure that the Euro 5 step can be correctly implemented for all the L-category vehicles concerned as laid down in the table of Annex IV to Regulation (EU) No 168/2013.
- (8) Delegated Regulation (EU) No 44/2014 and Delegated Regulation (EU) No 134/2014 should therefore be amended accordingly,

HAS ADOPTED THIS REGULATION:

Article 1

Amendments to Delegated Regulation (EU) No 44/2014

Delegated Regulation (EU) No 44/2014 is amended as follows:

- (1) in Article 2, point 42 is replaced by the following:

‘(42) ‘driving cycle’ means a test cycle consisting of engine key-on, driving mode where a malfunction would be detected if present, and engine key-off;’;

⁽¹⁾ Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (OJ L 263, 9.10.2007, p. 1).

⁽²⁾ Commission Regulation (EC) No 692/2008 of 18 July 2008 implementing and amending Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information (OJ L 199, 28.7.2008, p. 1).

⁽³⁾ Regulation No 83 of the Economic Commission for Europe of the United Nations (UNECE) — Uniform provisions concerning the approval of vehicles with regard to the emission of pollutants according to engine fuel requirements [2015/1038] (OJ L 172, 3.7.2015, p. 1).

(2) Annexes IV and XII are amended in accordance with Annex I to this Regulation.

Article 2

Amendments to Delegated Regulation (EU) No 134/2014

Annexes II to VI, Annex VIII and Annex X to Delegated Regulation (EU) No 134/2014 are amended in accordance with Annex II to this Regulation.

Article 3

Entry into force

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 15 December 2017.

For the Commission
The President
Jean-Claude JUNCKER

ANNEX I

Amendments to Delegated Regulation (EU) No 44/2014

Annexes IV and XII to Delegated Regulation (EU) No 44/2014 are amended as follows:

1. In Annex IV, points 4.1.1.3.1.1.1.1., 4.1.1.3.1.1.1.2. and 4.1.1.3.1.1.1.3. are replaced by the following:

‘4.1.1.3.1.1.1.1. If the durability method set out in Article 23(3)(a) of Regulation (EU) No 168/2013 is applicable, the deterioration factors shall be calculated from the type I emission test results up to and including full distance referred to in Annex VII(A) to Regulation (EU) No 168/2013 and in accordance with the linear calculation method referred to in point 4.1.1.3.1.1.1.2. resulting in slope and offset values per emission constituent. The CoP pollutant emission results shall be calculated with the formula:

Equation 4-1:

$$Y_{full} = a (X_{full} - X_{CoP}) + Y_{CoP}$$

where:

a = slope value ((mg/km)/km) determined in accordance with test type V set out in Annex V(A) to Regulation (EU) No 168/2013;

X_{Full} = durability mileage (km) as set out in Annex VII to Regulation (EU) No 168/2013;

X_{CoP} = Mileage of the CoP vehicle at moment of Type I CoP test;

Y_{full} = CoP emission result per pollutant emission constituent in mg/km. The average CoP results shall be lower than the pollutant emission limits set out in Annex VI(A) to Regulation (EU) No 168/2013;

Y_{CoP} = pollutant emission (THC, CO, NO_x, NMHC and PM if applicable) test result (mg/km) per emission constituent of test type I with CoP vehicle.

4.1.1.3.1.1.1.2 If the durability method set out in Article 23(3)(b) of Regulation (EU) No 168/2013 is applicable, the deterioration trend shall consist of the slope value a , as is reflected in point 4.1.1.3.1.1.1.1, per emission constituent calculated to comply with test type V in accordance with Annex V(A) to Regulation (EU) No 168/2013. Equation 4-1 shall be used to calculate the CoP emission results per pollutant emission constituent (Y_{full}).

4.1.1.3.1.1.1.3. If the durability method set out in Article 23(3)(c) of Regulation (EU) No 168/2013 is applicable, the fixed deterioration factors set out in Annex VII(B) to Regulation (EU) No 168/2013 shall be multiplied by the type test I result of the CoP vehicle (Y_{cop}) to calculate the average CoP emission results per pollutant emission constituent (Y_{full}).’.

2. Annex XII is amended as follows:

(a) the following point 3.2.3. is inserted:

‘3.2.3. Identification of deterioration or malfunctions may also be done outside a driving cycle (e.g. after engine shutdown).’;

(b) point 3.3.2.2. is replaced by the following:

‘3.3.2.2. Engine misfire

The presence of engine misfire in the engine operating region bounded by the following lines:

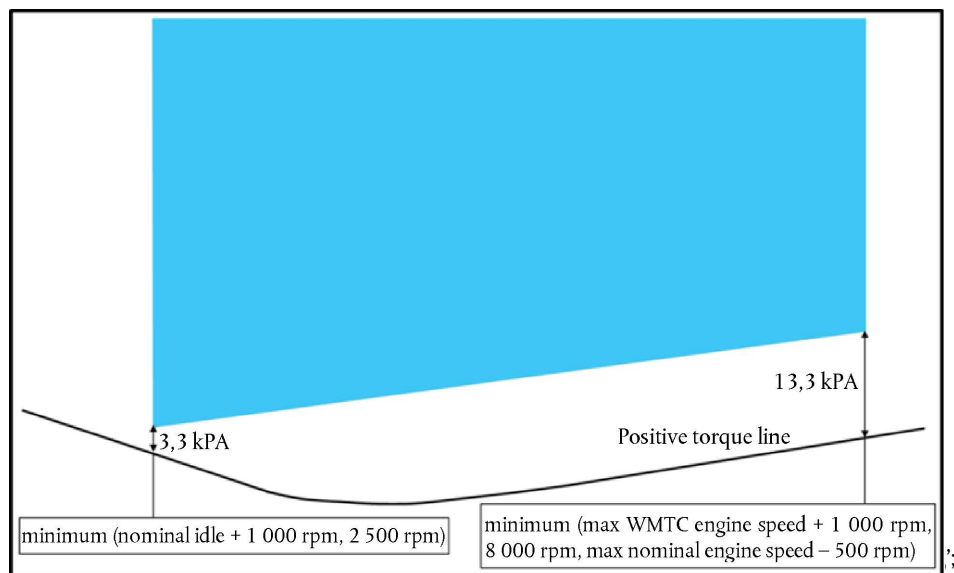
(a) low speed limit: A minimum speed of 2 500 min⁻¹ or normal idle speed + 1 000 min⁻¹, whichever is the lower

- (b) high speed limit: A maximum speed of $8\,000\text{ min}^{-1}$ or $1\,000\text{ min}^{-1}$ greater than the highest speed occurring during a type I test cycle or maximum design engine speed minus 500 min^{-1} , whichever is lower
- (c) a line joining the following engine operating points:
 - (i) a point on the low speed limit defined in (a) with the engine intake vacuum at 3,3 kPa lower than that at the positive torque line;
 - (ii) a point on the high speed limit defined in (b) with the engine intake vacuum at 13,3 kPa lower than that at the positive torque.

The engine operation region for misfire detection is reflected in Figure 10-1.

Figure 10-1

Operating region for misfire detection



- (c) the following point 3.10. is inserted:

‘3.10. Additional provisions for vehicles employing engine shut-off strategies.

3.10.1. Driving cycle

3.10.1.1. Autonomous engine restarts commanded by the engine control system following an engine stall may be considered a new driving cycle or a continuation of the existing driving cycle.’;

- (d) Appendix 1 is amended as follows:

- (1) point 3.2. is replaced by the following:

‘3.2. If available, the following signals in addition to the required freeze-frame information shall be made available on demand through the serial port on the standardised diagnostic connector, if the information is available to the on-board computer or can be determined using information available to the on-board computer: diagnostic trouble codes, engine coolant temperature, fuel control system status (closed-loop, open-loop, other), fuel trim, ignition timing advance, intake air temperature, manifold air pressure, air flow rate, engine speed, throttle position sensor output value, secondary air status (upstream, downstream or atmosphere), calculated load value, vehicle speed and fuel pressure.

The signals shall be provided in standard units based on the specifications in point 3.7. Actual signals shall be clearly identified separately from default value or limp-home signals.’;

(2) points 3.11., 3.12. and 3.13 are replaced by the following:

- ‘3.11. When a fault is registered, the manufacturer shall identify the fault using an appropriate fault code consistent with those in ISO 15031-6:2010 ‘Road vehicles — Communication between vehicle and external test equipment for emissions-related diagnostics — Part 6: Diagnostic trouble code definitions’ relating to ‘emission-related system diagnostic trouble codes’. If this is not possible, the manufacturer may use the diagnostic trouble codes of ISO DIS 15031-6:2010. Alternatively, fault codes may be compiled and reported in accordance with ISO14229:2006. The fault codes shall be fully accessible by standardised diagnostic equipment complying with point 3.9.

The vehicle manufacturer shall provide to a national standardisation body the details of any emission-related diagnostic data, e.g. PID's, OBD monitor Id's, Test Id's not specified in ISO 15031-5:2011 or ISO14229:2006, but relating to this Regulation.

- 3.12. The connection interface between the vehicle and the diagnostic tester shall be standardised and meet all the requirements of ISO 19689:2016 ‘Motorcycles and mopeds — Communication between vehicle and external equipment for diagnostics — Diagnostic connector and related electrical circuits, specification and use’ or ISO 15031-3:2004 ‘Road vehicles — Communication between vehicle and external test equipment for emissions-related diagnostics — Part 3: Diagnostic connector and related electric circuits: specification and use’. The preferred installation position is under the seating position. Any other position of the diagnostic connector shall be subject to the approval authority's agreement and be readily accessible by service personnel but protected from tampering by non-qualified personnel. The position of the connection interface shall be clearly indicated in the user manual.
- 3.13. Until an OBD stage II system for L-category vehicle has been implemented on the vehicle, an alternative connection interface may be installed at the request of the vehicle manufacturer. Where such an alternative connection interface is installed, the vehicle manufacturer shall make available to test equipment manufacturers the details of the vehicle connector pin configuration free of charge. The vehicle manufacturer shall provide an adapter enabling connection to a generic scan tool. Such an adapter shall be of suitable quality for professional workshop use. It shall be provided upon request to all independent operators in a non-discriminating manner. Manufacturers may charge a reasonable and proportionate price for this adapter, taking into account the additional costs caused for the customer by this choice of the manufacturer. The connection interface and the adapter may not include any specific design elements which would require validation or certification before use, or which would restrict the exchange of vehicle data when using a generic scan tool.’;

(3) point 4.1.4. is replaced by the following:

- ‘4.1.4. From 1 January 2024, if, in accordance with the requirements of this Annex, the vehicle is equipped with a specific monitor M, IUPRM shall be greater than or equal to 0,1 for all monitors M.’;

(4) the following point 4.1.4.1. is inserted:

- ‘4.1.4.1. Until 31 December 2023, the manufacturer shall demonstrate to the approval authority the functionality of IUPR determination, for new types of vehicles as of 1 January 2020 and for existing types of vehicles as of 1 January 2021.’;

(5) point 4.5. and 4.5.1. is replaced by the following:

- ‘4.5. General Denominator

- 4.5.1. The general denominator is a counter measuring the number of times a vehicle has been operated. It shall be incremented within 10 seconds, if the following criteria are satisfied on a single driving cycle:

- (a) Cumulative time since engine start is greater than or equal to 600 seconds at an elevation of less than 2 440 m above sea level or an ambient pressure of more than 75,7 kPa and an ambient temperature of 266,2 K (– 7 °C) or more;

No	Device circuits		Circuit continuity			Circuit rationality			Basic monitoring requirement	Com-ment No
		Level, refer to 2.3	Circuit High	Circuit Low	Open Circuit	Out of Range	Performance / Plausibility	Signal stuck	Device not operational / Device not present	
1	Control module (ECU/PCU) internal error	3							I&II	(¹)
Sensor (input to control units)										
1	Accelerator (pedal/handle) position sensor	1	I&II	I&II	I&II	I&II	I&II	I&II		(²)

No	Device circuits		Circuit continuity			Circuit rationality			Basic monitoring requirement	Comment No
			Circuit High	Circuit Low	Open Circuit	Out of Range	Performance/ Plausibility	Signal stuck		
		Level, refer to 2.3							Device not operational / Device not present	
2	Barometric pressure sensor	1	I&II	I&II	I&II		II			
3	Camshaft position sensor	3							I&II	
4	Crankshaft position sensor	3							I&II	
5	Engine coolant temperature sensor	1	I&II	I&II	I&II	II	II	II		(4)
6	Exhaust control valve angle sensor	1	I&II	I&II	I&II	II	II	II		(4)
7	Exhaust gas recirculation sensor	1	II	II	II	II	II	II		(4)
8	Fuel rail pressure sensor	1	I&II	I&II	I&II	II	II	II		(4)
9	Fuel rail temperature sensor	1	I&II	I&II	I&II	II	II	II		(4)
10	Gear shift position sensor (potentiometer type)	1	I&II	I&II	I&II	II	II	II		(4) (5)
11	Gear shift position sensor (switch type)	3					II		I&II	(5)
12	Intake air temperature sensor	1	I&II	I&II	I&II	II	II	II		(4)
13	Knock sensor (Non-resonance type)	3							I&II	
14	Knock sensor (Resonance type)	3					I&II			
15	Manifold absolute pressure sensor	1	I&II	I&II	I&II	II	II	II		(4)
16	Mass air flow sensor	1	I&II	I&II	I&II	II	II	II		(4)
17	Engine oil temperature sensor	1	I&II	I&II	I&II	II	II	II		(4)
18	O ₂ sensor (binary/linear) signals	1	I&II	I&II	I&II	II	II	II		(4)
19	Fuel (high) pressure sensor	1	I&II	I&II	I&II	II	II	II		(4)

No	Device circuits		Circuit continuity			Circuit rationality			Basic monitoring requirement	Comment No
			Circuit High	Circuit Low	Open Circuit	Out of Range	Performance/ Plausibility	Signal stuck		
		Level, refer to 2.3							Device not operational / Device not present	
20	Fuel storage temperature sensor	1	I&II	I&II	I&II	II	II	II		(4)
21	Throttle position sensor	1	I&II	I&II	I&II	I&II	I&II	I&II		(2)
22	Vehicle speed sensor	3					II		I&II	(5)
23	Wheel speed sensor	3					II		I&II	(5)

Actuators (output control units)

1	Evaporative emission system purge control valve	2	II	I&II	II				I&II	(6)
2	Exhaust control valve actuator (motor driven)	3					II		I&II	
3	Exhaust gas recirculation control	3					II			
4	Fuel injector	2		I&II					I&II	(6)
5	Idle air control system	1	I&II	I&II	I&II		II		I&II	(6)
6	Ignition coil primary control circuits	2		I&II					I&II	(6)
7	O ₂ sensor heater	1	I&II	I&II	I&II		II		I&II	(6)
8	Secondary air injection system	2	II	I&II	II				I&II	(6)
9	Throttle by wire actuator	3		I&II					I&II	(6)

Comments:

(1) Only in case of an activated default mode leading to a significantly reduced propulsion torque or if a throttle by wire system is fitted.

(2) If redundant APS or redundant TPS are fitted, signal cross check(s) shall meet all circuit rationality requirements. If there is only one APS or TPS fitted, APS or TPS circuit rationality monitoring is not mandatory.

(3) Deleted.

(4) OBD stage II: two out of three of the circuit rationality malfunctions marked with 'II' shall be monitored in addition to circuit continuity monitoring.

(5) only if used as input to ECU/PCU with relevance to environmental or functional safety performance.

(6) Derogation allowed if manufacturer requests, level 3 instead, actuator signal present only without indication of symptom.;

(iii) point 2.4 is replaced by the following

‘2.4. Two out of three symptoms in circuit continuity as well as in circuit rationality monitoring diagnostic may be combined, e.g.

- circuit high or open and low circuit;
- high and low or open circuit;
- signal out of range or circuit performance and signal stuck;
- circuit high and out of range high or circuit low and out of range low.’;

(f) the following Appendices 3, 4 and 5 are added:

‘Appendix 3

In-use performance ratio

1. Introduction

1.1. This Appendix sets out the in-use performance ratio of a specific monitor M of the OBD systems (IUPR M) requirements for L3e, L5e-A, and L7e-A vehicles type approved in accordance with this Regulation.

2. Audit of IUPR M

2.1. At the request of the approval authority, the manufacturer shall report to the type-approval authority on warranty claims, warranty repair works and OBD faults recorded at servicing, according to a format agreed at type-approval. The information shall detail the frequency and substance of faults for emissions-related components and systems. The reports shall be filed at least once in the vehicle's production cycle, for each vehicle model for the duration of 5 years of age or the distance as laid down in Annex VII(A) to Regulation (EU) No 168/2013, whichever is sooner.

2.2. Parameters defining IUPR family

For defining the IUPR family the OBD family parameters listed in Appendix 5 shall be used.

2.3. Information requirements

An audit of IUPR M will be conducted by the approval authority on the basis of information supplied by the manufacturer. Such information shall include in particular, the following:

- 2.3.1. The name and address of the manufacturer;
- 2.3.2. The name, address, telephone and fax numbers and e-mail address of his authorised representative within the areas covered by the manufacturer's information;
- 2.3.3. The model name(s) of the vehicles included in the manufacturer's information;
- 2.3.4. Where appropriate, the list of vehicle types covered within the manufacturer's information, i.e. for OBD and IUPR M, the OBD family in accordance with Appendix 5;
- 2.3.5. The vehicle identification number (VIN) codes applicable to these vehicle types within the family (VIN prefix);
- 2.3.6. The numbers of the type-approvals applicable to these vehicle types within the IUPR family, including, where applicable, the numbers of all extensions and field fixes/recalls (re-works);
- 2.3.7. Details of extensions, field fixes/recalls to those type-approvals for the vehicles covered within the manufacturer's information (if requested by the approval authority);
- 2.3.8. The period of time over which the manufacturer's information was collected;
- 2.3.9. The vehicle build period covered within the manufacturer's information (e.g. vehicles manufactured during the 2017 calendar year);

- 2.3.10. The manufacturer's IUPR M checking procedure, including:
- (a) vehicle location method;
 - (b) vehicle selection and rejection criteria;
 - (c) test types and procedures used for the programme;
 - (d) the manufacturer's acceptance/rejection criteria for the family group;
 - (e) geographical area(s) within which the manufacturer has collected information;
 - (f) sample size and sampling plan used.
- 2.3.11. The results from the manufacturer's IUPR M procedure, including:
- (a) identification of the vehicles included in the programme (whether tested or not). The identification shall include the following:
 - model name;
 - vehicle identification number (VIN);
 - region of use (where known
 - date of manufacture.
 - (b) the reason(s) for rejecting a vehicle from the sample:
 - (c) test data, including the following:
 - date of test/download;
 - location of test/download;
 - all data, as required in accordance with point 4.1.6. of Appendix 1, downloaded from the vehicle;
 - for each monitor to be reported the in-use-performance ratio.
- 2.3.12. For IUPR M sampling, the following:
- (a) the average of in-use-performance ratios IUPR M of all selected vehicles for each monitor in accordance with point 4.1.4. of Appendix 1.
 - (b) The percentage of selected vehicles, which have an IUPR M greater or equal to the minimum value applicable to the monitor in accordance with point 4.1.4. of Appendix 1.
3. Selection of vehicles for IUPR M
- 3.1. The manufacturer's sampling shall be drawn from at least two Member States with substantially different vehicle operating conditions (unless only made available on the market in one Member State). Factors such as differences in fuels, ambient conditions, average road speeds, and urban/highway driving split shall be taken into consideration in the selection of the Member States.
- For IUPR M testing, only vehicles fulfilling the criteria of point 2.3 of Appendix 4 shall be included in the test sample.
- 3.2. In selecting the Member States for sampling vehicles, the manufacturer may select vehicles from a Member State that is considered to be particularly representative. In this case, the manufacturer shall demonstrate to the approval authority which granted the type approval that the selection is representative (e.g. by the market having the largest annual sales of a vehicle family within the Union). When a family requires more than one sample lot to be tested as defined in point 3.3, the vehicles in the second and third sample lots shall reflect different vehicle operating conditions from those selected for the first sample.

3.3. Sample size

- 3.3.1. The number of sample lots shall depend on the annual sales volume of an OBD family in the Union, as defined in the following table:

EU registrations — per calendar year (for tailpipe emissions tests) — of vehicles of an OBD family with IUPR in the sampling period	Number of sample lots
up to 100 000	1
100 001 to 200 000	2
above 200 000	3

- 3.3.2. For IUPR, the number of sample lots to be taken is described in the table in point 3.3.1. and is based on the number of vehicles of an IUPR family that are approved with IUPR

For the first sampling period of an IUPR family, all of the vehicle types in the family that are approved with IUPR shall be considered to be subject to sampling. For subsequent sampling periods, only vehicle types which have not been previously tested or are covered by emissions approvals that have been extended since the previous sampling period shall be considered to be subject to sampling.

For families consisting of fewer than 5 000 EU registrations that are subject to sampling within the sampling period the minimum number of vehicles in a sample lot is six. For all other families, the minimum number of vehicles in a sample lot to be sampled is fifteen.

Each sample lot shall adequately represent the sales pattern, i.e. at least high volume vehicle types ($\geq 20\%$ of the family total) shall be represented.

Vehicles of small series productions with less than 1 000 vehicles per OBD family are exempted from minimum IUPR requirements as well as the requirement to demonstrate these to the type approval authority.

4. On the basis of the audit referred to in Section 2 the approval authority shall adopt one of the following decisions and actions:

- (a) decide that the IUPR family is satisfactory and not take any further action;
- (b) decide that the data provided by the manufacturer is insufficient to reach a decision and request additional information or test data from the manufacturer;
- (c) decide that based on data from the approval authority or Member State surveillance testing programmes, that information provided by the manufacturer is insufficient to reach a decision and request additional information or test data from the manufacturer;
- (d) decide that the outcome of the audit for the IUPR family is unsatisfactory and proceed to have such vehicle type or IUPR family tested in accordance with Appendix 1.

If according to the IUPR M audit the test criteria of point 3.2. of Appendix 4 are met for the vehicles in a sample lot, the type-approval authority must take the further action described in point (d) of this point.

- 4.1. The approval authority, in cooperation with the manufacturer, shall select a sample of vehicles with sufficient mileage whose use under normal conditions can be reasonably assured. The manufacturer shall be consulted on the choice of the vehicles in the sample and allowed to attend the confirmatory checks of the vehicles.

*Appendix 4***Selecting criteria for vehicles with respect to in-use-performance ratios****1. Introduction**

- 1.1. This Appendix sets out the criteria referred to in Section 4 of Appendix 1 to this annex regarding the selection of vehicles for testing and the procedures for IUPR M.

2. Selection criteria

The criteria for acceptance of a selected vehicle are defined for IUPR M in Sections 2.1. to 2.5.

- 2.1. The vehicle shall belong to a vehicle type that is type-approved under this Regulation and covered by a certificate of conformity in accordance with Implementing Regulation (EU) No 901/2014⁽¹⁾. For checking of IUPR M, the vehicle shall be approved to the OBD standard stage II or later. It shall be registered and have been used in the Union.

- 2.2. The vehicle shall have been in service for at least 3 000 km or 6 months, whichever is the later, and for no more than the durability mileages given for the relevant vehicles category mentioned in Annex VII(A) to Regulation (EU) No 168/2013 or 5 years, whichever is the sooner.

- 2.3. For checking IUPR M, the test sample shall include only vehicles that:

- (a) have collected sufficient vehicle operation data for the monitor to be tested.

For monitors required to meet the in-use monitor performance ratio and to track and report ratio data pursuant to point 4.6.1. of Appendix 1, sufficient vehicle operation data shall mean the denominator meets the criteria set forth below. The denominator, as defined in points 4.3 and 4.5 of Appendix 1, for the monitor to be tested must have a value equal to or greater than one of the following values:

- (i) 15 for evaporative system monitors, secondary air system monitors, and monitors utilising a denominator incremented in accordance with point 4.3.2. of Appendix 1 (e.g. cold start monitors, air conditioning system monitors, etc.); or
- (ii) 5 for particulate filter monitors and oxidation catalyst monitors utilising a denominator incremented in accordance with point 4.3.2. of Appendix 1; or
- (iii) 30 for catalyst, oxygen sensor, EGR, VVT, and all other component monitors.

- (b) have not been tampered with or equipped with add-on or modified parts that would cause the OBD system not to comply with the requirements of Annex XII.

- 2.3. If any service has taken place, it shall be to the manufacturer's recommended service intervals.

- 2.4. The vehicle shall exhibit no indications of abuse (e.g. racing, overloading, mis-fuelling, or other misuse), or other factors (e. g. tampering) that could affect emission performance. The fault code and mileage information stored in the computer shall be taken into account. A vehicle shall not be selected for testing if the information stored in the computer shows that the vehicle has operated after a fault code was stored and a relatively prompt repair was not carried out.

- 2.5. There shall have been no unauthorised major repair to the engine or major repair of the vehicle.

3. Plan of remedial measures

- 3.1. The type approval authority shall request the manufacturer to submit a plan of remedial measures to remedy the non-compliance when:

⁽¹⁾ Commission Implementing Regulation (EU) No 901/2014 of 18 July 2014 implementing Regulation (EU) No 168/2013 of the European Parliament and of the Council with regard to the administrative requirements for the approval and market surveillance of two- or three-wheel vehicles and quadricycles (OJ L 249, 22.8.2014, p. 1).

- 3.2. For IUPRM of a particular monitor M the following statistical conditions are met in a test sample, the size of which is determined in accordance with point 3.3.1. of Appendix 3.

For vehicles certified to a ratio of 0,1 in accordance with point 4.1.4. of Appendix 1, the data collected from the vehicles indicate for at least one monitor M in the test sample either that the test sample average in-use-performance ratio is less than 0,1 or that 66 per cent or more of the vehicles in the test sample have an in-use monitor performance ratio of less than 0,1.

- 3.3. The plan of remedial measures shall be filed with the type approval authority not later than 60 working days from the date of the notification referred to in point 3.1. The type approval authority shall within 30 working days declare its approval or disapproval of the plan of remedial measures. However, where the manufacturer can demonstrate, to the satisfaction of the competent type approval authority, that further time is required to investigate the non-compliance in order to submit a plan of remedial measures, an extension is granted.
- 3.4. The remedial measures shall apply to all vehicles likely to be affected by the same defect. The need to amend the type approval documents shall be assessed.
- 3.5. The manufacturer shall provide a copy of all communications related to the plan of remedial measures, and shall also maintain a record of the recall campaign, and supply regular status reports to the type approval authority.
- 3.6. The plan of remedial measures shall include the requirements specified in points 3.6.1. to 3.6.11. The manufacturer shall assign a unique identifying name or number to the plan of remedial measures.
- 3.6.1. A description of each vehicle type included in the plan of remedial measures.
- 3.6.2. A description of the specific modifications, alterations, repairs, corrections, adjustments, or other changes to be made to bring the vehicles into conformity including a brief summary of the data and technical studies which support the manufacturer's decision as to the particular measures to be taken to correct the non-conformity.
- 3.6.3. A description of the method by which the manufacturer informs the vehicle owners.
- 3.6.4. A description of the proper maintenance or use, if any, which the manufacturer stipulates as a condition of eligibility for repair under the plan of remedial measures, and an explanation of the manufacturer's reasons for imposing any such condition. No maintenance or use conditions may be imposed unless it is demonstrably related to the non-conformity and the remedial measures.
- 3.6.5. A description of the procedure to be followed by vehicle owners to obtain correction of the non-conformity. This shall include a date after which the remedial measures may be taken, the estimated time for the workshop to perform the repairs and where they can be done. The repair shall be done expediently, within a reasonable time after delivery of the vehicle.
- 3.6.6. A copy of the information transmitted to the vehicle owner.
- 3.6.7. A brief description of the system which the manufacturer uses to assure an adequate supply of component or systems for fulfilling the remedial action. It shall be indicated when there will be an adequate supply of components or systems to initiate the campaign.
- 3.6.8. A copy of all instructions to be sent to those persons who are to perform the repair.
- 3.6.9. A description of the impact of the proposed remedial measures on the emissions, fuel consumption, driveability, and safety of each vehicle type, covered by the plan of remedial measures with data, technical studies, etc. which support these conclusions.
- 3.6.10. Any other information, reports or data the type approval authority may reasonably determine is necessary to evaluate the plan of remedial measures.

- 3.6.11. Where the plan of remedial measures includes a recall, a description of the method for recording the repair shall be submitted to the type approval authority. If a label is used, an example of it shall be submitted.
- 3.7. The manufacturer may be required to conduct reasonably designed and necessary tests on components and vehicles incorporating a proposed change, repair, or modification to demonstrate the effectiveness of the change, repair, or modification.
- 3.8. The manufacturer is responsible for keeping a record of every vehicle recalled and repaired and the workshop which performed the repair. The type approval authority shall have access to the record on request for a period of 5 years from the implementation of the plan of remedial measures.
- 3.9. The repair and/or modification or addition of new equipment shall be recorded in a certificate supplied by the manufacturer to the vehicle owner.
-

*Appendix 5***On-board diagnostics family****1. Introduction**

1.1. This Appendix sets out the criteria to define a OBD family as referred to in Appendices 3 and 4

2. Selection criteria

Vehicle types for which at least the parameters described below are identical are considered to belong to the same engine/emission control/OBD system combination.

2.2 Engine:

- combustion process (i.e. positive-ignition/compression-ignition, two stroke/four stroke/rotary),
- method of engine fuelling (i.e. single or multi-point fuel injection),
- fuel type (i.e. petrol, diesel, flex fuel petrol/ethanol, flex fuel diesel/biodiesel, NG/biomethane, LPG, bi fuel petrol/NG/biomethane, bi fuel petrol/LPG),

2.3 Emission control system:

- type of catalytic converter (i. e. oxidation, three-way, heated catalyst, SCR, other),
- type of particulate trap,
- secondary air injection (i.e. with or without),
- exhaust gas recirculation (i.e. with or without),

2.4 OBD parts and functioning:

- the methods of OBD functional monitoring, malfunction detection and malfunction indication to the vehicle driver.'
-

ANNEX II

Amendments to Delegated Regulation (EU) No 134/2014

Annexes II to VI, VIII and X to Delegated Regulation (EU) No 134/2014 are amended as follows:

1. Annex II is amended as follows:

(a) points 4.5.5.2.1.1. and 4.5.5.2.1.2. are replaced by the following:

‘4.5.5.2.1.1. Step 1 — Calculation of shift speeds

Upshift speeds ($v_{1 \rightarrow 2}$ and $v_{i \rightarrow i+1}$) in km/h during acceleration phases shall be calculated using the following formula:

Equation 2-3:

$$v_{i \rightarrow i+1} = \left[\left(0,5753 \times e^{\left(-1,9 \times \frac{P_n}{M_{ref}} \right)} \right) \times (s - n_{idle}) + n_{idle} \right] \times \frac{1}{ndv_i}, i = 2 \text{ to } ng - 1$$

Equation 2-4:

$$v_{1 \rightarrow 2} = \left[\left(0,5753 \times e^{\left(-1,9 \times \frac{P_n}{M_{ref}} \right)} - 0,1 \right) \times (s - n_{idle}) + n_{idle} \right] \times \frac{1}{ndv_1}$$

where:

‘i’ is the gear number (≥ 2)

‘ng’ is the total number of forward gears

‘ P_n ’ is the rated power in kW

‘ m_{ref} ’ is the reference mass in kg

‘ n_{idle} ’ is the idling speed in min^{-1}

‘s’ is the rated engine speed in min^{-1}

‘ ndv_i ’ is the ratio between engine speed in min^{-1} and vehicle speed in km/h in gear ‘i’.

4.5.5.2.1.2. Downshift speeds ($v_{i \rightarrow i-1}$) in km/h during cruise or deceleration phases in gears 4 (4th gear) to ng shall be calculated using the following formula:

Equation 2-5:

$$v_{i \rightarrow i-1} = \left[\left(0,5753 \times e^{\left(-1,9 \times \frac{P_n}{M_{ref}} \right)} \right) \times (s - n_{idle}) + n_{idle} \right] \times \frac{1}{ndv_{i-2}}, i = 4 \text{ to } ng$$

where:

i is the gear number (≥ 4)

ng is the total number of forward gears

P_n is the rated power in kW

M_{ref} is the reference mass in kg

n_{idle} is the idling speed in min^{-1}

s is the rated engine speed in min^{-1}

ndv_{i-2} is the ratio between engine speed in min^{-1} and vehicle speed in km/h in gear $i-2$

The downshift speed from gear 3 to gear 2 ($v_{3 \rightarrow 2}$) shall be calculated using the following equation:

Equation 2-6:

$$v_{2 \rightarrow 3} = \left[\left(0,5753 \times e^{\left(-1,9 \times \frac{P_n}{M_{ref}} \right)} - 0,1 \right) \times (s - n_{idle}) + n_{idle} \right] \times \frac{1}{ndv_1}$$

where:

P_n is the rated power in kW

M_{ref} is the reference mass in kg

n_{idle} is the idling speed in min^{-1}

s is the rated engine speed in min^{-1}

ndv_1 is the ratio between engine speed in min^{-1} and vehicle speed in km/h in gear 1

The downshift speed from gear 2 to gear 1 ($v_{2 \rightarrow 1}$) shall be calculated using the following equation:

Equation 2-7:

$$v_{2 \rightarrow 1} = [0,03 \times (s - n_{idle}) + n_{idle}] \times \frac{1}{ndv_2}$$

where:

ndv_2 is the ratio between engine speed in min^{-1} and vehicle speed in km/h in gear 2

Since the cruise phases are defined by the phase indicator, slight speed increases could occur and it may be appropriate to apply an upshift. The upshift speeds ($v_{1 \rightarrow 2}$, $v_{2 \rightarrow 3}$ and $v_{i \rightarrow i+1}$) in km/h during cruise phases shall be calculated using the following equations:

Equation 2-7a:

$$v_{1 \rightarrow 2} = [0,03 \times (s - n_{idle}) + n_{idle}] \times \frac{1}{ndv_2}$$

Equation 2-8:

$$v_{2 \rightarrow 3} = \left[\left(0,5753 \times e^{\left(-1,9 \times \frac{P_n}{M_{ref}} \right)} - 0,1 \right) \times (s - n_{idle}) + n_{idle} \right] \times \frac{1}{ndv_1}$$

Equation 2-9:

$$v_{i \rightarrow i+1} = \left[\left(0,5753 \times e^{\left(-1,9 \times \frac{P_n}{M_{ref}} \right)} \right) \times (s - n_{idle}) + n_{idle} \right] \times \frac{1}{ndv_{i-1}}, i = 3 \text{ to } ng;$$

- (b) in point 4.5.6.1.2.2., in the last paragraph, the words 'As an alternative, m_{r1} may be estimated as f percent of m.' are replaced by the words 'As an alternative, m_{r1} may be estimated as 4 percent of m.';
- (c) in point 6.1.1.6.2.2., in Table 1-10, in the rows corresponding to vehicle categories L3a, L4e, L5e-A and L7e-A with a maximum speed lower than 130 km/h, the text in the fifth column (weighing factors) is replaced by the following:
 $w_1 = 0,30$
 $w_2 = 0,70$;
- (d) in Appendix 6, in Section 3 ('World Harmonised Motorcycle Test Cycle (WMTC), stage 2'), in point 4.1.1, in Table Ap6-19, in the entry corresponding to 148 s, in the column for roller speed in km/h, the words '75,4' are replaced by the words '85,4'.

2. Annex III is amended as follows:

(a) point 4.2.2. is replaced by the following:

‘4.2.2. For each adjustment component with a continuous variation, a sufficient number of characteristic positions shall be determined. The test shall be carried out with the engine at ‘normal idling speed’ and at ‘high idle speed’. The definition of the possible position of the adjustment components to a just ‘Normal idling speed’ is defined under point 4.2.5. High idle engine speed is defined by the manufacturer but it must be higher than 2 000 min⁻¹. The high idle speed is reached and kept stable by manually operating the throttle pedal or throttle handle.’;

(b) point 4.2.5.1. is replaced by the following:

‘4.2.5.1. the larger of the following two values:

(a) the lowest idling speed which the engine can reach;

(b) the speed recommended by the manufacturer, minus 100 revolutions per minute.’;

3. Annex IV is amended as follows:

(a) point 2.2.1. is replaced by the following:

‘2.2.1. for new vehicle types and new engine types with regard to environmental performance equipped with a new design of the crankcase gas ventilation system, in which case a parent vehicle, with a crankcase gas ventilation concept representative of that approved, may be selected if the manufacturer so chooses to demonstrate to the satisfaction of the technical service and approval authority that the type III test has been passed.’;

(b) point 4.1. is replaced by the following:

‘4.1. Test method 1.

The type III test shall be conducted in accordance with the following test procedure.’;

(c) point 4.1.4.3. is replaced by the following:

‘4.1.4.3. The vehicle shall be deemed satisfactory if, in every condition of measurement defined in point 4.1.2., the average pressure measured in the crankcase does not exceed the average atmospheric pressure prevailing at the time of measurement.’;

(d) the following point 4.1.8. is inserted:

‘4.1.8. If, in one or more of the conditions of measurement in point 4.1.2., the average pressure value measured in the crankcase within the time period in point 4.1.7. exceeds the atmospheric pressure, the additional test as defined in point 4.2.3. shall be performed to the satisfaction of the approval authority.’;

(e) points 4.2. and 4.2.1. are replaced by the following:

‘4.2. Test method 2

4.2.1. The type III test shall be conducted in accordance with the following test procedure.’;

(f) point 4.2.1.2. is replaced by the following:

‘4.2.1.2. A flexible bag impervious to crankcase gases and having a capacity of approximately 3 times the engine swept volume shall be connected to the dipstick hole. The bag shall be empty before each measurement.’;

(g) point 4.2.1.4. is replaced by the following:

‘4.2.1.4. The vehicle shall be deemed satisfactory if, after every condition of measurement defined in points 4.1.2. and 4.2.1.3., no visible inflation of the bag occurs.’;

(h) the following point 4.2.2.4. is inserted:

‘4.2.2.4. If one or more of the conditions of the test defined in point 4.2.1.2. are not met, the additional test set out in point 4.2.3. shall be performed to the satisfaction of the approval authority.’;

(i) point 4.2.3. is replaced by the following:

‘4.2.3. Alternative additional type III test method (No 3)’.

4. Annex V is amended as follows:

(a) point 2.5. is replaced by the following:

‘2.5. L-vehicle (sub-)categories L1e, L2e, L5e-B, L6e-B, L7e-B and L7e-C - shall be tested either in accordance with the permeation test procedure set out in Appendix 2 or the SHED test procedure set out in Appendix 3, at the choice of the manufacturer.’;

(b) point 2.6. is deleted;

(c) in Appendix 2, point 1.1. is replaced by the following:

‘1.1. As of the date of first application laid down in Annex IV to Regulation (EU) No 168/2013, fuel system permeation shall be tested in accordance with the test procedure laid down in point 2. This base requirement shall apply to all L-category vehicles equipped with a fuel tank to store liquid, high volatile fuel, as applicable for a vehicle equipped with a positive ignition combustion engine, in accordance with Part B of Annex V to Regulation (EU) No 168/2013.

In order to satisfy the evaporative emission test requirements set out in Regulation (EU) No 168/2013, L-vehicle (sub-)categories L3e, L4e, L5e-A, L6e-A and L7e-A shall only be tested in accordance with the SHED test procedure laid down in Appendix 3 to this Annex.’.

5. Annex VI is amended as follows:

(a) point 3.3.1 is replaced by the following

‘3.3.1. The emission results of the vehicle that has accumulated more than the distance prescribed in Article 23(3)(c) of Regulation (EU) No 168/2013 after it was first started at the end of the production line, the applied deterioration factors set out in Part B of Annex VII to Regulation (EU) No 168/2013, and the product of the multiplication of both and the emission limit set out in Annex VI to Regulation (EU) No 168/2013 shall be added to the test report.’;

(b) point 3.4.2 is replaced by the following:

‘3.4.2. The USA EPA Approved Mileage Accumulation cycle

At the choice of the manufacturer, the approved mileage accumulation (AMA) durability cycle may be conducted as alternative type V mileage accumulation cycle. The AMA durability cycle shall be conducted in accordance with the technical details laid down in Appendix 2.’;

(c) the following point 3.4.3. is inserted:

‘3.4.3. The AMA durability cycle is phased out for vehicles of class III referred to in Table AP2-1 in Appendix 2 but may be used in a transitional period up to 31 December 2024.’;

(d) the following points 3.6., 3.6.1., 3.6.2. and 3.7. are added:

‘3.6. Bench ageing durability test.

3.6.1. As an alternative to points 3.1. or 3.2., the manufacturer may request to use the bench ageing procedure laid down in Appendix 3. The bench ageing durability test, as laid down in Appendix 3, shall determine the emissions of an aged vehicle by means of ageing the vehicle catalyst with the standard bench cycle (SBC) to produce the same amount of deterioration experienced by the catalyst due to thermal deactivation over the assigned test distance test laid down in Part A of Annex VII to Regulation (EU) No 168/2013.

- 3.6.2. The emission results of the vehicle that has accumulated more than 100 km after it was first started at the end of the production line and the deterioration factors as determined using the procedure as set out in Appendix 3 shall not exceed the emission limits in the applicable type I emission laboratory test cycle, as set out in Part A of Annex VI to Regulation (EU) No 168/2013. The emission results of the vehicle that has accumulated more than 100 km after it was first started at the end of the production line, the deterioration factors as determined using the procedure as set out in Appendix 3 to this Annex, the total emissions (calculated with the multiplication or additive equations), and the emission limit set out in Annex VI to Regulation (EU) No 168/2013 shall be added to the test report.
- 3.7. At the request of the manufacturer, an additive exhaust emission deterioration factor (D.E.F.) may be calculated and used for the procedure set out in points 3.1. and 3.2. The deterioration factor shall be calculated for each pollutant as follows:

$$D. E. F. = Mi_2 - Mi_1$$

Where:

Mi_1 = mass emission of the pollutant i in g/km after the type 1 test of a vehicle in accordance with the procedure set out in points 3.1. and 3.2.

Mi_2 = mass emission of the pollutant i in g/km after the type test 1 of an aged vehicle in accordance with the procedure set out in points 3.1. and 3.2.;

(e) in Appendix 1, point 2.6.1. is replaced by the following:

‘2.6.1. For the purpose of accumulating distance in the SRC-LeCV, the L-vehicle categories shall be grouped in accordance with Table Ap1-1.

Table Ap1-1

L-vehicle category groups for SRC-LeCV

SRC Cycle classification	WTMC classification
1	Class 1
2	Class 2-1
2	Class 2-2
3	Class 3-1
4	Class 3-2’;

(f) Appendix 2 is amended as follows:

(i) point 1.1. is replaced by the following

‘1.1. The approved mileage accumulation (AMA) durability cycle by the Environmental Protection Agency (EPA) of the United States of America (USA) is a mileage accumulation cycle used to age test vehicles and their pollution-control devices in a way that is repeatable but significantly less representative for the EU fleet and traffic situation than the SRC-LeCV. The AMA durability cycle is phased out for vehicles of class III referred to in table Ap2-1 in this Appendix, however at the request of the manufacturer the cycles may be used in a transitional period up to 31 December 2024. The L-category test vehicles may run the test cycle on the road, on a test track or on a kilometre accumulation chassis dynamometer.’;

(ii) point 2.1. is replaced by the following:

‘2.1. For the purpose of accumulating mileage in the AMA durability cycle, the L-category vehicles shall be grouped as follows:

Table Ap2-1

Grouping of L-category vehicles for the purpose of the AMA durability test

L-category vehicle class	Engine capacity (cm ³)	Vmax (Km/h)
I	< 150	Not applicable
II	≥ 150	< 130
III	≥ 150	≥ 130’;

(g) the following Appendices 3 and 4 are added:

‘Appendix 3

Bench ageing durability test

1. Bench ageing durability test

- 1.1 The vehicle tested according the procedure laid down in this appendix has driven more than 100 accumulated kilometres after it was first started at the end of the production line.
- 1.2. The fuel used during the test shall be the one of the specified fuels in Appendix 2 of Annex II.

2. Procedure for Vehicles with Positive Ignition Engines

- 2.1. The following bench ageing procedure shall be applicable for positive-ignition vehicles including hybrid vehicles which use a catalyst as the principle after-treatment emission control device.

The bench ageing procedure requires the installation of the catalyst-plus-oxygen sensor system on a catalyst ageing bench.

Ageing on the bench shall be conducted by following the standard bench cycle (SBC) for the period of time calculated from the bench ageing time (BAT) equation. The BAT equation requires, as input, catalyst time-at-temperature data measured during the Standard Road Cycle (SRC-LeCV) described in Appendix 1. As an alternative, if applicable, the catalyst time-at-temperature data measured during the AMA durability cycle, as described in Appendix 2, may be used.

- 2.2. Standard bench cycle (SBC). Standard catalyst bench ageing shall be conducted following the SBC. The SBC shall be run for the period of time calculated from the BAT equation. The SBC is described in Appendix 4.
- 2.3. Catalyst time-at-temperature data. Catalyst temperature shall be measured during at least two full cycles of the SRC-LeCV cycle as described in Appendix 1, or if applicable at least two full cycles of AMA as described in Appendix 2.

Catalyst temperature shall be measured at the highest temperature location in the hottest catalyst on the test vehicle. Alternatively, the temperature may be measured at another location providing that it is adjusted to represent the temperature measured at the hottest location using good engineering judgement.

Catalyst temperature shall be measured at a minimum rate of one hertz (one measurement per second).

The measured catalyst temperature results shall be tabulated into a histogram with temperature groups of no larger than 25 °C.

- 2.4. Bench-ageing time. Bench ageing time shall be calculated using the bench ageing time (BAT) equation as follows:

$$te \text{ for a temperature bin} = \frac{(R/Tr) - (R/Tv)}{A}$$

$$\text{Total } te = \text{Sum of } te \text{ over all the temperature groups}$$

$$\text{bench ageing time} = A (\text{Total } te)$$

Where:

- A = 1,1 This value adjusts the catalyst ageing time to account for deterioration from sources other than thermal ageing of the catalyst.
- R = Catalyst thermal reactivity = 18 500
- th = The time (in hours) measured within the prescribed temperature bin of the vehicle's catalyst temperature histogram adjusted to a full useful life basis e.g., if the histogram represented 400 km, and useful life is, in accordance with Annex VII to Regulation (EU) No 168/2013, for example for Le3 20 000 km; all histogram time entries would be multiplied by 50 (20 000/400).
- Total te = The equivalent time (in hours) to age the catalyst at the temperature of Tr on the catalyst ageing bench using the catalyst ageing cycle to produce the same amount of deterioration experienced by the catalyst due to thermal deactivation over the use for live distance specific for the vehicle class in Annex VII to Regulation (EU) No 168/2013, for example for Le3 20 000 km
- te for a temperature bin = The equivalent time (in hours) to age the catalyst at the temperature of Tr on the catalyst ageing bench using the catalyst ageing cycle to produce the same amount of deterioration experienced by the catalyst due to thermal deactivation at the temperature bin of Tv over the use for live distance specific for the vehicle class in Annex VII to Regulation (EU) No 168/2013, for example for Le3 20 000 km
- Tr = The effective reference temperature (in °K) of the catalyst on the catalyst bench run on the bench ageing cycle. The effective temperature is the constant temperature that would result in the same amount of ageing as the various temperatures experienced during the bench ageing cycle.
- Tv = The mid-point temperature (in °K) of the temperature bin of the vehicle on-road catalyst temperature histogram.

- 2.5. Effective reference temperature on the standard bench cycle (SBC). The effective reference temperature of the SBC shall be determined for the actual catalyst system design and actual ageing bench which will be used using the following procedures:

- (a) Measure time-at-temperature data in the catalyst system on the catalyst ageing bench following the SBC. Catalyst temperature shall be measured at the highest temperature location of the hottest catalyst in the system. Alternatively, the temperature may be measured at another location providing that it is adjusted to represent the temperature measured at the hottest location.

Catalyst temperature shall be measured at a minimum rate of one hertz (one measurement per second) during at least 20 minutes of bench ageing. The measured catalyst temperature results shall be tabulated into a histogram with temperature groups of no larger than 10 °C.

- (b) The BAT equation shall be used to calculate the effective reference temperature by iterative changes to the reference temperature (Tr) until the calculated ageing time equals or exceeds the actual time represented in the catalyst temperature histogram. The resulting temperature is the effective reference temperature on the SBC for that catalyst system and ageing bench.

- 2.6. Catalyst ageing bench. The catalyst ageing bench shall follow the SBC and deliver the appropriate exhaust flow and emission level in line with the exhaust flow of engine for which the catalyst is designed, exhaust constituents, and exhaust temperature at the face of the catalyst.

All bench ageing equipment and procedures shall record appropriate information (such as measured A/F ratios and time-at-temperature in the catalyst) to assure that sufficient ageing has actually occurred.

- 2.7. Required testing. For calculating deterioration factors at least two Type 1 tests before bench ageing of the emission control hardware and at least two Type 1 tests after the bench-aged emission hardware is reinstalled have to be performed on the test vehicle.

Calculation of the deterioration factors has to be done in accordance with the calculation method as specified below.

A multiplicative exhaust emission deterioration factor shall be calculated for each pollutant as follows:

$$D. E. F. = \frac{Mi_2}{Mi_1}$$

Where:

Mi_1 = mass emission of the pollutant i in g/km after the type 1 test of a vehicle specified in point 1.1. of this Appendix.

Mi_2 = mass emission of the pollutant i in g/km after the type test 1 of an aged vehicle according the procedure described in this Annex.

These interpolated values shall be carried out to a minimum of four places to the right of the decimal point before dividing one by the other to determine the deterioration factor. The result shall be rounded to three places to the right of the decimal point.

If a deterioration factor is less than one, it is deemed to be equal to one.

At the request of a manufacturer, an additive exhaust emission deterioration can be used, the factor shall be calculated for each pollutant as follows:

$$D. E. F. = Mi_2 - Mi_1$$

Appendix 4

Standard bench cycle (SBC)

1. Introduction

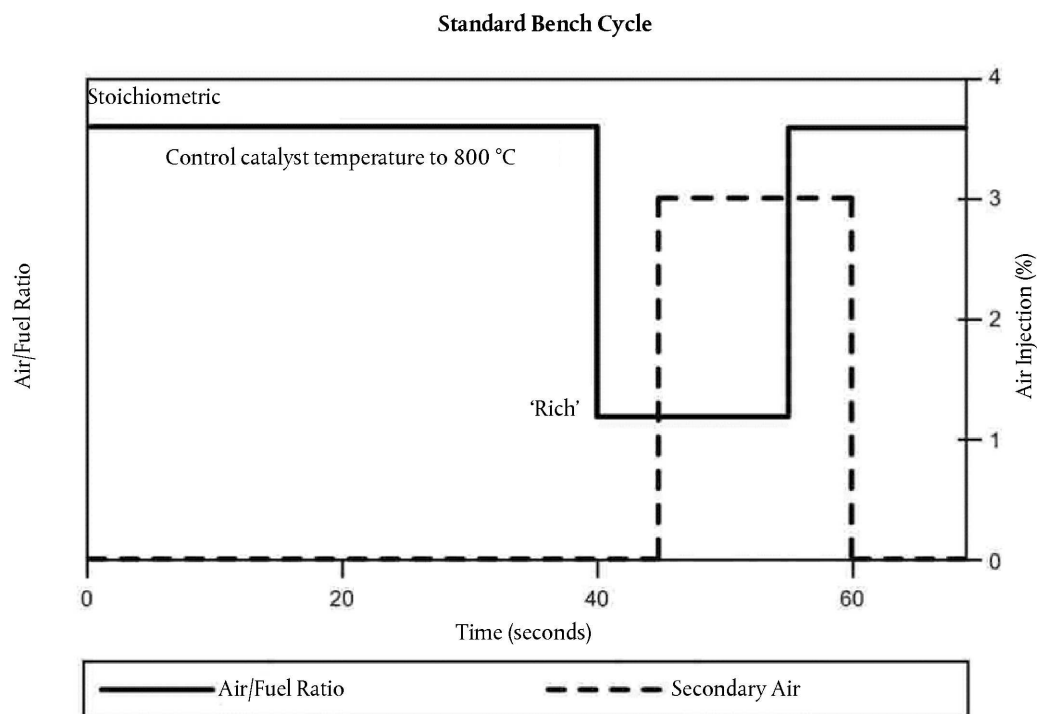
The standard ageing durability procedure consists of ageing a catalyst/oxygen sensor system on an ageing bench which follows the standard bench cycle (SBC) described in this Appendix. The SBC requires use of an ageing bench with an engine as the source of feed gas for the catalyst. The SBC is a 60-second cycle which is repeated as necessary on the ageing bench to conduct ageing for the required period of time. The SBC is defined based on the catalyst temperature, engine air/fuel (A/F) ratio, and the amount of secondary air injection which is added in front of the first catalyst.

2. Catalyst temperature control

- 2.1. Catalyst temperature shall be measured in the catalyst bed at the location where the highest temperature occurs in the hottest catalyst. Alternatively, the feed gas temperature may be measured and converted to catalyst bed temperature using a linear transform calculated from correlation data collected on the catalyst design and ageing bench to be used in the ageing process.
- 2.2. Control the catalyst temperature at stoichiometric operation (1 to 40 seconds on the cycle) to a minimum of 800 °C (± 10 °C) by selecting the appropriate engine speed, load, and spark timing for the engine. Control the maximum catalyst temperature that occurs during the cycle to 890 °C (± 10 °C) by selecting the appropriate A/F ratio of the engine during the 'rich' phase described in the table below.
- 2.3. If a low control temperature other than 800 °C is utilized, the high control temperature shall be 90 °C higher than the low control temperature.

Standard bench cycle (SBC)

Time (seconds)	Engine Air/Fuel Ratio	Secondary Air Injection
1-40	Stoichiometric with load, spark timing and engine speed controlled to achieve a minimum catalyst temperature of 800 °C	None
41-45	'Rich' (A/F ratio selected to achieve a maximum catalyst temperature over the entire cycle of 890 °C or 90 °C higher than lower control temperature)	None
46-55	'Rich' (A/F ratio selected to achieve a maximum catalyst temperature over the entire cycle of 890 °C or 90 °C higher than lower control temperature)	3 % ($\pm 0,1$ %)
56-60	Stoichiometric with same load, spark timing and engine speed as used in the 1-40 sec period of the cycle	3 % ($\pm 0,1$ %)



3. Ageing bench equipment and procedures

- 3.1. Ageing bench configuration. The ageing bench shall provide the appropriate exhaust flow rate, temperature, air-fuel ratio, exhaust constituents and secondary air injection at the inlet face of the catalyst.

The standard ageing bench consists of an engine, engine controller, and engine dynamometer. Other configurations may be acceptable (e.g. whole vehicle on a dynamometer, or a burner that provides the correct exhaust conditions), as long as the catalyst inlet conditions and control features specified in this Appendix are met.

A single ageing bench may have the exhaust flow split into several streams providing that each exhaust stream meets the requirements of this appendix. If the bench has more than one exhaust stream, multiple catalyst systems may be aged simultaneously.

- 3.2. Exhaust system installation. The entire catalyst(s)-plus-oxygen sensor(s) system, together with all exhaust piping which connects these components, will be installed on the bench. For engines with multiple exhaust streams, each bank of the exhaust system will be installed separately on the bench in parallel.

For exhaust systems that contain multiple in-line catalysts, the entire catalyst system including all catalysts, all oxygen sensors and the associated exhaust piping will be installed as a unit for ageing. Alternatively, each individual catalyst may be separately aged for the appropriate period of time.

- 3.3. Temperature measurement. Catalyst temperature shall be measured using a thermocouple placed in the catalyst bed at the location where the highest temperature occurs in the hottest catalyst. Alternatively, the feed gas temperature just before the catalyst inlet face may be measured and converted to catalyst bed temperature using a linear transform calculated from correlation data collected on the catalyst design and ageing bench to be used in the ageing process. The catalyst temperature shall be stored digitally at the speed of 1 hertz (one measurement per second).
- 3.4. Air/Fuel measurement. Provisions shall be made for the measurement of the air/fuel (A/F) ratio (such as a wide-range oxygen sensor) as close as possible to the catalyst inlet and outlet flanges. The information from these sensors shall be stored digitally at the speed of 1 hertz (one measurement per second).
- 3.5. Exhaust flow balance. Provisions shall be made to assure that the proper amount of exhaust (measured in grams/second at stoichiometry, with a tolerance of ± 5 grams/second) flows through each catalyst system that is being aged on the bench.

The proper flow rate is determined based upon the exhaust flow that would occur in the original vehicle's engine at the steady state engine speed and load selected for the bench ageing in point 3.6.

- 3.6. Setup. The engine speed, load, and spark timing are selected to achieve a catalyst bed temperature of 800 °C (± 10 °C) at steady-state stoichiometric operation.

The air injection system is set to provide the necessary air flow to produce 3,0 % oxygen ($\pm 0,1$ %) in the steady-state stoichiometric exhaust stream just in front of the first catalyst. A typical reading at the upstream A/F measurement point (required in point 5) is lambda 1,16 (which is approximately 3 % oxygen).

With the air injection on, set the 'Rich' A/F ratio to produce a catalyst bed temperature of 890 °C (± 10 °C). A typical A/F value for this step is lambda 0,94 (approximately 2 % CO).

- 3.7. Ageing cycle. The standard bench ageing procedures use the standard bench cycle (SBC). The SBC is repeated until the amount of ageing calculated from the bench ageing time (BAT) equation is achieved.
- 3.8. Quality assurance. The temperatures and A/F ratio in points 3.3. and 3.4. shall be reviewed periodically (at least every 50 hours) during ageing. Necessary adjustments shall be made to assure that the SBC is being appropriately followed throughout the ageing process.

After the ageing has been completed, the catalyst time-at-temperature collected during the ageing process shall be tabulated into a histogram with temperature groups of no larger than 10 °C. The BAT equation and the calculated effective reference temperature for the ageing cycle in accordance with point 2.4. of Appendix 3 to Annex VI will be used to determine if the appropriate amount of thermal ageing of the catalyst has in fact occurred. Bench ageing will be extended if the thermal effect of the calculated ageing time is not at least 95 % of the target thermal ageing.

- 3.9. Startup and shutdown. Care should be taken to assure that the maximum catalyst temperature for rapid deterioration (e.g., 1 050 °C) does not occur during startup or shutdown. Special low temperature startup and shutdown procedures may be used to alleviate this concern.

4. Experimentally determining the R-factor for bench ageing durability procedures

- 4.1. The R-factor is the catalyst thermal reactivity coefficient used in the bench ageing time (BAT) equation. Manufacturers may determine the value of R experimentally using the following procedures.

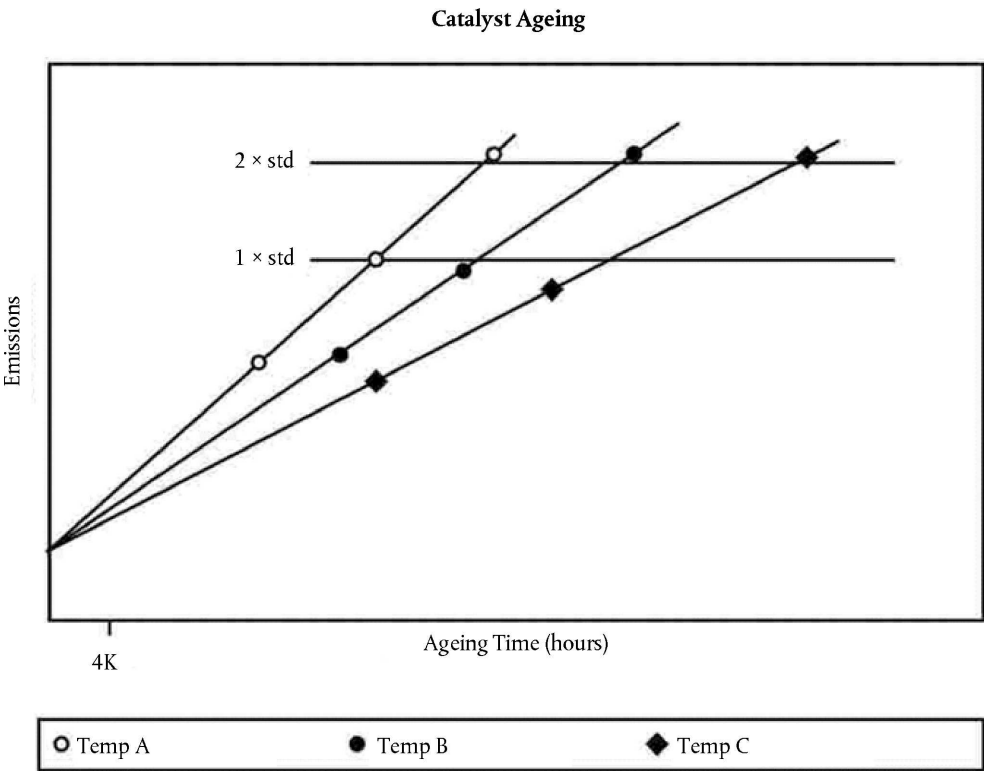
- 4.2. Using the applicable bench cycle and ageing bench hardware, age several catalysts (minimum of 3 of the same catalyst design) at different control temperatures between the normal operating temperature and the damage limit temperature. Measure emissions (or catalyst inefficiency (1-catalyst efficiency)) for each exhaust constituent. Assure that the final testing yields data between one- and two-times the emission standard.

- 4.3. Estimate the value of R and calculate the effective reference temperature (T_r) for the bench ageing cycle for each control temperature in accordance with point 2.4 of Appendix 3 to Annex VI.

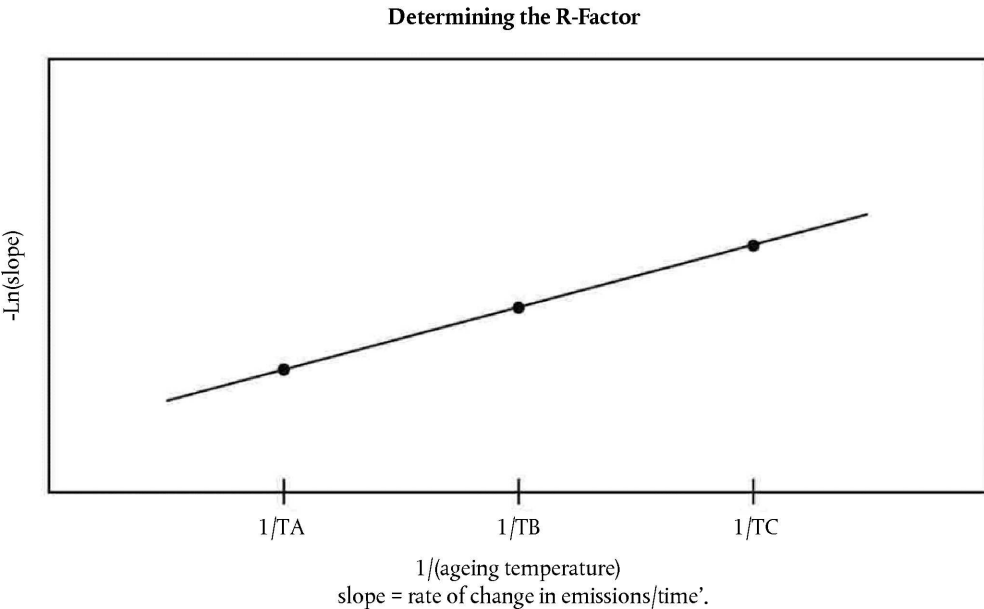
- 4.4. Plot emissions (or catalyst inefficiency) versus ageing time for each catalyst. Calculate the least-squared best-fit line through the data. For the data set to be useful for this purpose the data should have an approximately common intercept [between 0 and 6 400 km. See the following graph for an example.]

- 4.5. Calculate the slope of the best-fit line for each ageing temperature.

- 4.6. Plot the natural log (ln) of the slope of each best-fit line (determined in point 4.5) along the vertical axis, versus the inverse of ageing temperature ($1/(\text{ageing temperature, deg K})$) along the horizontal axis, Calculate the least squared best-fit lines through the data. The slope of the line is the R-factor. See the following graph for an example



- 4.7. Compare the R-factor to the initial value that was used in accordance with point 4.3. If the calculated R-factor differs from the initial value by more than 5 %, choose a new R-factor that is between the initial and calculated values, and then repeat steps of point 4., to derive a new R-factor. Repeat this process until the calculated R-factor is within 5 % of the initially assumed R-factor.
- 4.8. Compare the R-factor determined separately for each exhaust constituent. Use the lowest R-factor (worst case) for the BAT equation.



6. Annex VIII is amended as follows:
- (a) point 1.2. is replaced by the following:
- ‘1.2. The manufacturer shall make available the defective components or electrical devices to be used to simulate failures. When measured over the appropriate test type I cycle, such defective components or devices shall not cause the vehicle emissions to exceed by more than 20 percent the OBD thresholds set out in Annex VI(B) to Regulation (EU) No 168/2013. For electrical failures (short/open circuit), the emissions may exceed the limits of set out in Annex VI(B) to Regulation (EU) No 168/2013 by more than twenty per cent.

When the vehicle is tested with the defective component or device fitted, the OBD system shall be approved if the MI is activated. The OBD system shall also be approved if the MI is activated below the OBD threshold limits.’;

(b) point 3.1.2. is replaced by the following:

‘3.1.2. In case of applying the durability test procedure set out in Article 23(3)(a) or 23(3)(b) of Regulation (EU) No 168/2013, or set out in point 3.6. of Annex VI to this Regulation, the test vehicles shall be equipped with the aged emission components used for durability tests as well as for the purposes of this Annex and the OBD environmental tests shall be finally verified and reported at the conclusion of the Type V durability testing. At the request of the manufacturer, a suitable aged and representative vehicle may be used for these OBD demonstrations test’;

(c) the following point 8.1.1. is inserted:

‘8.1.1. The Type I test need not be performed for the demonstration of electrical failures (short/open circuit). The manufacturer may demonstrate these failure modes using driving conditions in which the component is used and the monitoring conditions are encountered. Those conditions shall be documented in the type approval documentation.’;

(d) the following point 8.2.3. is inserted:

‘8.2.3. The use of additional preconditioning cycles or alternative preconditioning methods shall be documented in the type approval documentation.’;

(e) point 8.4.1.1. is replaced by the following:

‘8.4.1.1. After vehicle preconditioning in accordance with point 8.2., the test vehicle is driven over the appropriate type I test.

The malfunction indicator shall activate before the end of this test under any of the conditions given in points 8.4.1.2. to 8.4.1.6. The MI may also be activated during preconditioning. The approval authority may substitute those conditions with others in accordance with point 8.4.1.6. However, the total number of failures simulated shall not exceed four for the purpose of type-approval.

For bi-fuelled gas vehicles, both fuel types shall be used within the maximum of four simulated failures at the discretion of the approval authority.’.

7. Annex X is amended as follows:

(a) in Appendix 1, point 8.1. is replaced by the following:

‘8.1. The maximum vehicle speed, as determined by the technical service to the satisfaction of the approval authority, may differ from the value in point 7 by $\pm 10\%$ for vehicles with a $V_{\max} \leq 30$ km/h, and by $\pm 5\%$ for vehicles with a $V_{\max} > 30$ km/h.’;

(b) Appendix 4 is amended as follows

(i) the title is replaced by the following

‘Requirements concerning the method for measuring the maximum continuous rated power, switch-off distance and maximum assistance factor of an L1e category vehicle designed to pedal referred to in Article 3(94)(b) and pedal cycles as referred to in Article 2(2)(h) of Regulation (EU) No 168/2013’;

(ii) the following point 1.3. is inserted

‘1.3. Pedal cycles with pedal assistance as referred to in Article 2(2)(h) of Regulation (EU) No 168/2013’;

(iii) point 3.2. is replaced by the following

‘3.2. Test procedure to measure the maximum continuous rated power

The maximum continuous rated power shall be measured in accordance with Appendix 3 or, alternatively, in accordance with the test procedure set out in Section 4.2.7 of EN 15194:2009.’.

COMMISSION IMPLEMENTING REGULATION (EU) 2018/296**of 27 February 2018****concerning the non-approval of the active substance *Reynoutria sachalinensis* extract, in accordance with Regulation (EC) No 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market****(Text with EEA relevance)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC ⁽¹⁾, and in particular Article 13(2) thereof,

Whereas:

- (1) In accordance with Article 7(1) of Regulation (EC) No 1107/2009, on 3 November 2011, the United Kingdom received an application from Marrone Bio innovations for the approval of the active substance *Reynoutria sachalinensis* extract.
- (2) In accordance with Article 9(3) of that Regulation, the rapporteur Member State notified the applicant and the other Member States of the admissibility of the application on 21 March 2012 and notified the Commission and the European Food Safety Authority ('the Authority') thereof on 11 May 2012.
- (3) For that active substance, the effects on human and animal health and the environment have been assessed, in accordance with Article 11(2) and (3) of that Regulation, for the use proposed by the applicant. The rapporteur Member State submitted a draft assessment report to the Commission and the Authority on 22 July 2014.
- (4) The Authority complied with Article 12(1) of Regulation (EC) No 1107/2009. In accordance with Article 12(3) of that Regulation, it requested that the applicant supplies additional information to the Member States, the Commission and the Authority. The assessment of the additional information by the rapporteur Member State was submitted to the Authority in the format of an updated draft assessment report.
- (5) The draft assessment report was reviewed by the Member States and the Authority. The Authority presented to the Commission its conclusion on the risk assessment of the active substance *Reynoutria sachalinensis* extract ⁽²⁾ on 31 August 2015.
- (6) By letter of 16 October 2017 Marrone Bio innovations withdrew its application for the approval of *Reynoutria sachalinensis* extract. Due to the withdrawal of the application, *Reynoutria sachalinensis* extract should not be approved pursuant to Article 13(2) of Regulation (EC) No 1107/2009.
- (7) This Regulation does not prejudice the submission of a further application for *Reynoutria sachalinensis* extract pursuant to Article 7 of Regulation (EC) No 1107/2009.
- (8) The measures provided for in this Regulation are in accordance with the opinion of the Standing Committee on Plants, Animals, Food and Feed,

HAS ADOPTED THIS REGULATION:

*Article 1***Non-approval of active substance**The active substance *Reynoutria sachalinensis* extract is not approved.⁽¹⁾ OJ L 309, 24.11.2009, p. 1.⁽²⁾ EFSA, 2015. Conclusion on the peer review of the pesticide risk assessment of the active substance *Reynoutria sachalinensis* extract. EFSA Journal 2015;13(9):4221, 73 pp. Available online: www.efsa.europa.eu/efsajournal

*Article 2***Entry into force**

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 27 February 2018.

For the Commission

The President

Jean-Claude JUNKER

DECISIONS

COUNCIL DECISION (CFSP) 2018/297

of 20 February 2018

appointing the Chairman of the Military Committee of the European Union

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 240 thereof,

Having regard to Council Decision 2001/79/CFSP of 22 January 2001 setting up the Military Committee of the European Union ⁽¹⁾,

Whereas:

- (1) Pursuant to Article 3(1) of Decision 2001/79/CFSP, the Chairman of the Military Committee of the European Union ('the Military Committee') is to be appointed by the Council on the recommendation of the Military Committee meeting at the level of the Chiefs of Defence. According to Article 3(2) of that Decision, the term of office of the Chairman of the Military Committee is three years, unless the Council decides otherwise.
- (2) On 15 December 2014, the Council appointed General Mikhail KOSTARAKOS as Chairman of the Military Committee ('CEUMC') for a period of three years from 6 November 2015 ⁽²⁾.
- (3) At its meeting on 6-7 November 2017, the Military Committee meeting at the level of the Chiefs of Defence recommended that General Claudio GRAZIANO be appointed Chairman of the Military Committee, exceptionally, for a period of three and a half years.
- (4) The Military Committee recommended that the mandate of General Claudio GRAZIANO be exceptionally extended beyond three years in order to move the replacement of the CEUMC permanently to a more suitable period of the year,

HAS ADOPTED THIS DECISION:

Article 1

General Claudio GRAZIANO is hereby appointed Chairman of the Military Committee of the European Union for a period of three and a half years from 6 November 2018.

Article 2

This Decision shall enter into force on the date of its adoption.

Done at Brussels, 20 February 2018.

For the Council
The President
V. GORANOV

⁽¹⁾ OJ L 27, 30.1.2001, p. 4.

⁽²⁾ Council Decision 2014/920/CFSP of 15 December 2014 appointing the Chairman of the Military Committee of the European Union (OJ L 363, 18.12.2014, p. 149).

COUNCIL DECISION (CFSP) 2018/298**of 26 February 2018**

on Union support for the activities of the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) in order to strengthen its monitoring and verification capabilities and in the framework of the implementation of the EU Strategy against Proliferation of Weapons of Mass Destruction

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on European Union, and in particular Articles 28(1) and Article 31(1) thereof,

Having regard to the proposal from the High Representative of the Union for Foreign Affairs and Security Policy,

Whereas:

- (1) On 12 December 2003, the European Council adopted the EU Strategy against Proliferation of Weapons of Mass Destruction (the Strategy), Chapter III of which contains a list of measures that need to be taken both within the Union and in third countries to combat such proliferation.
- (2) The Union is actively implementing the Strategy and is giving effect to the measures listed in Chapter III thereof, in particular through releasing financial resources to support specific projects conducted by multilateral institutions, such as the Provisional Technical Secretariat (PTS) of the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO).
- (3) On 17 November 2003, the Council adopted Common Position 2003/805/CFSP ⁽¹⁾. That Common Position calls, inter alia, for the promotion of the signing and ratification of the Comprehensive Nuclear-Test-Ban Treaty (CTBT).
- (4) The States Signatories of the CTBT have decided to establish a Preparatory Commission ('the Preparatory Commission for the CTBTO'), endowed with legal capacity, and which has standing as an international organisation, for the purpose of carrying out the effective implementation of the CTBT, pending the establishment of the CTBTO.
- (5) The early entry into force and universalisation of the CTBT and the strengthening of the monitoring and verification system of the Preparatory Commission for the CTBTO are important objectives of the Strategy. In this context, the nuclear tests carried out by the Democratic People's Republic of Korea has further underlined the importance of the early entry into force of the CTBT and the need for an accelerated building-up and strengthening of the CTBT monitoring and verification system.
- (6) The Preparatory Commission for the CTBTO is engaged in identifying how its verification system could best be strengthened, including through the development of noble gas monitoring capabilities and efforts aimed at fully involving States Signatories of the CTBT in the implementation of the verification regime.
- (7) In the framework of the implementation of the Strategy, the Council adopted three Joint Actions and three Decisions on support for activities of the Preparatory Commission for the CTBTO, namely Joint Action 2006/243/CFSP ⁽²⁾, and Joint Actions 2007/468/CFSP ⁽³⁾ and 2008/588/CFSP ⁽⁴⁾, Council Decisions 2010/461/CFSP ⁽⁵⁾, 2012/699/CFSP ⁽⁶⁾ and (CFSP) 2015/1837 ⁽⁷⁾.
- (8) That Union support should be continued.
- (9) The technical implementation of this Decision should be entrusted to the Preparatory Commission for the CTBTO which, on the basis of its unique expertise and capabilities through the network of the International Monitoring System (IMS), comprising over 337 facilities around the globe, and the International Data Centre, is the sole international organisation having the ability and legitimacy to implement this Decision. The projects as supported by the Union can only be financed through an extra-budgetary contribution to the Preparatory Commission for the CTBTO,

HAS ADOPTED THIS DECISION:

Article 1

1. For the purpose of ensuring the continuous and practical implementation of certain elements of the Strategy, the Union shall support the activities of the Preparatory Commission for the CTBTO in order to further the following objectives:

- (a) strengthen the capabilities of the CTBT monitoring and verification system, including in the field of radionuclide detection;
- (b) strengthen the capabilities of the States Signatories of the CTBT to fulfil their verification responsibilities under the CTBT and to enable them to benefit fully from participation in the CTBT regime.

2. The projects to be financed by the Union shall support:

- (a) certified auxiliary seismic (AS) stations that are part of the CTBTO International Monitoring System (IMS);
- (b) the development of noble gas sampling systems through study of materials for improved adsorption of xenon;
- (c) continuing the radio-xenon background measurement campaigns in different regions of the world;
- (d) the Ensemble Prediction System to quantify uncertainties and confidence level in Atmospheric Transport Modelling (ATM) simulations;
- (e) the scientific evaluation of the increase in resolution for ATM tools;
- (f) the development of new software;
- (g) enhancing the on-site inspection noble gas processing and detection;
- (h) enhancing the automatic processing and integration capabilities in seismic, hydro-acoustic and infrasound National Data Centre-in-a-Box;
- (i) integrated outreach and capacity-building targeting State Signatories and Non-Signatories.

In the implementation of the projects, providing support to the activities referred to in this paragraph, Union visibility will be ensured as well as the proper programme management in the execution of this Decision.

These projects shall be carried out for the benefit of all States Signatories of the CTBT.

All project components shall be flanked by proactive and innovative public outreach activities, and resources be allocated accordingly.

A detailed description of the projects is set out in the Annex.

Article 2

1. The High Representative of the Union for Foreign Affairs and Security Policy (the High Representative) shall be responsible for the implementation of this Decision.

2. The technical implementation of the projects referred to in Article 1(2) shall be carried out by the Preparatory Commission for the CTBTO. It shall perform this task under the control of the High Representative. For this purpose, the High Representative shall enter into the necessary arrangements with the Preparatory Commission for the CTBTO.

Article 3

1. The financial reference amount for the implementation of the projects referred to in Article 1(2) shall be EUR 4 594 752.

2. The expenditure financed by the amount stipulated in paragraph 1 shall be managed in accordance with the procedures and rules applicable to the Union budget.

3. The European Commission shall supervise the proper management of the financial reference amount referred to in paragraph 1. For that purpose, it shall conclude a financing agreement with the Preparatory Commission for the CTBTO. The financing agreement shall stipulate that the Preparatory Commission for the CTBTO is to ensure visibility of the Union contribution, commensurate with its size.

4. The European Commission shall endeavour to conclude the financing agreement referred to in paragraph 3 as soon as possible after 26 February 2018. It shall inform the Council of any difficulties in that process and of the date of conclusion of the financing agreement.

Article 4

1. The High Representative shall report to the Council on the implementation of this Decision on the basis of regular reports prepared by the Preparatory Commission for the CTBTO. Those reports shall form the basis for the evaluation carried out by the Council.

2. The European Commission shall provide information on the financial aspects of the implementation of the projects referred to in Article 1(2).

Article 5

This Decision shall enter into force on the day of its adoption.

This Decision shall expire 24 months after the date of the conclusion of the financing agreement referred to in Article 3(3). However, it shall expire 6 months after its entry into force if no financing agreement has been concluded by that time.

Done at Brussels, 26 February 2018.

For the Council

The President

F. MOGHERINI

⁽¹⁾ Council Common Position 2003/805/CFSP of 17 November 2003 on the universalisation and reinforcement of multilateral agreements in the field of non-proliferation of weapons of mass destruction and means of delivery (OJ L 302, 20.11.2003, p. 34).

⁽²⁾ Council Joint Action 2006/243/CFSP of 20 March 2006 on support for activities of the Preparatory Commission of the Comprehensive Nuclear-Test-Ban Treaty Organisation (CTBTO) in the area of training and capacity building for verification and in the framework of the implementation of the EU Strategy against Proliferation of Weapons of Mass Destruction (OJ L 88, 25.3.2006, p. 68).

⁽³⁾ Council Joint Action 2007/468/CFSP of 28 June 2007 on support for activities of the Preparatory Commission of the Comprehensive Nuclear-Test-Ban Treaty Organisation (CTBTO) in order to strengthen its monitoring and verification capabilities and in the framework of the implementation of the EU Strategy against the Proliferation of Weapons of Mass Destruction (OJ L 176, 6.7.2007, p. 31).

⁽⁴⁾ Council Joint Action 2008/588/CFSP of 15 July 2008 on support for activities of the Preparatory Commission of the Comprehensive Nuclear-Test-Ban Treaty Organisation (CTBTO) in order to strengthen its monitoring and verification capabilities and in the framework of the implementation of the EU Strategy against Proliferation of Weapons of Mass Destruction (OJ L 189, 17.7.2008, p. 28).

⁽⁵⁾ Council Decision 2010/461/CFSP of 26 July 2010 on support for activities of the Preparatory Commission of the Comprehensive Nuclear-Test-Ban Treaty Organisation (CTBTO) in order to strengthen its monitoring and verification capabilities and in the framework of the implementation of the EU Strategy against Proliferation of Weapons of Mass Destruction (OJ L 219, 20.8.2010, p. 7).

⁽⁶⁾ Council Decision 2012/699/CFSP of 13 November 2012 on the Union support for the activities of the Preparatory Commission of the Comprehensive Nuclear-Test-Ban Treaty Organisation in order to strengthen its monitoring and verification capabilities and in the framework of the implementation of the EU Strategy against Proliferation of Weapons of Mass Destruction (OJ L 314, 14.11.2012, p. 27).

⁽⁷⁾ Council Decision (CFSP) 2015/1837 of 12 October 2015 on Union support for the activities of the Preparatory Commission of the Comprehensive Nuclear-Test-Ban Treaty Organisation (CTBTO) in order to strengthen its monitoring and verification capabilities and in the framework of the implementation of the EU Strategy against Proliferation of Weapons of Mass Destruction (OJ L 266, 13.10.2015, p. 83).

ANNEX

Union support for the activities of the Preparatory Commission for the CTBTO in order to strengthen its monitoring and verification capabilities, enhance the prospects for early entry into force and support the universalisation of the CTBT and in the framework of the implementation of the EU Strategy against Proliferation of Weapons of Mass Destruction

1. Support to the verification technologies and monitoring system**Project 1: Improving sustainment of targeted certified IMS Auxiliary Seismic (AS) stations****Background**

The main focus will be to continue addressing AS stations which need urgent maintenance action specifically those located in countries facing financial hardship including when geographical density of AS stations in operations is poor in regions of interest, while proceeding with preventive maintenance. This is done by addressing equipment obsolescence, and upgrades as well as improvement of equipment sparing.

As in previous programs, there is a need for a full-time dedicated staff to plan and execute work projects at the relevant AS stations as well as funds for spare parts and travel.

Objectives

The principal objective is to bring target AS stations to a technical level compatible with the IMS requirements in a sustainable manner. AS stations are the backbone of the IMS seismic infrastructure and need continuing maintenance. Adequate preventive maintenance and associated equipment sparing can help achieve this objective. This is achieved in conjunction with other tasks such as AS station operator training. Priority will be given to AS stations where there is a strong need for technical and financial support, such as those in Africa, developing Asian and central Asian countries.

Outcomes

Increased data availability and data quality of the AS network: the AS network helps to improve the location accuracy targeted AS stations, including in regions of seismic events detected by the primary network leading to an enhanced seismic coverage of nuclear explosions. A strengthened sustainment structure for AS stations leads to increased visibility for the Union.

Project 2: Contribution to the development of noble gas sampling systems through a study of materials for improved adsorption of xenon**Background**

The efficient concentration of radioactive xenon isotopes (^{133}Xe , ^{135}Xe , ^{133}mXe and ^{131}mXe) in small volumes under different physical conditions and the efficient and complete release of these xenon isotopes out of adsorption materials are of utmost importance in improving nuclear explosion monitoring and verifying the worldwide compliance with the Comprehensive Nuclear-Test-Ban Treaty (CTBT). The above mentioned xenon isotopes are key fission radionuclides monitored by the noble gas component of the radionuclide network of the IMS and any improvements that can be introduced into future systems will be invaluable.

Objectives

The objective of this proposal is to gain a better understanding of the adsorption mechanisms, desorption conditions and properties of relevant materials over a range of conditions important for highly effective xenon concentration in the CTBT verification framework. A laboratory study will be undertaken to investigate which parameters are important and to determine fundamental information on how materials can be modified to optimise their characteristics, including, inter alia, adsorption and desorption capacity, density and durability.

Outcome

A laboratory report detailing these results and recommendations for implementation across IMS facilities will be produced, which improves the understanding of how current adsorption materials can be optimised and newer materials identified for improved radio-xenon detection capabilities in IMS facilities.

Project 3: Continuing the radio-xenon background measurement campaigns in different regions of the world

Background

The Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) is carrying out radio-xenon measurements with very sensitive systems. With the contribution received from the Union within the framework of Joint Action 2008/588/CFSP, the Preparatory Commission for the CTBTO developed and purchased two transportable systems for measuring ^{133}Xe , ^{135}Xe , ^{133}mXe and ^{131}mXe . Within the framework of Decision 2012/699/CFSP, the two measurement systems operated in Kuwait City, Jakarta, Mutsu and Manado. They provided considerable amount of information regarding the radio-xenon background.

In the framework of Decision (CFSP) 2015/1837, both measurement campaigns in Kuwait and Indonesia were extended. Contacts were initiated with possible next host countries and cooperation agreements are currently under discussion.

Objectives

The CTBTO is planning to relocate the two mobile systems purchased under Joint Action 2008/588/CFSP and currently operating in Kuwait and Indonesia. Cooperation agreements with future host countries are under discussion.

From a network coverage point of view, the Southeast Asian region is of great importance for the CTBTO as no IMS noble gas system is currently operating there. In addition to a significant reinforcement of the coverage in that region of the world, operating a mobile system for a background campaign will allow to:

- improve our understanding in the regional radio-xenon background of equatorial regions, where the dispersion of noble gases is made very complex by many intense phenomena,
- further refine atmospheric and dispersion models to better represent air masses movements in that region of the globe.

The CTBTO is planning to run a measurement campaign in the Southeast Asian region for at least 12 months to cover the whole seasonal variation.

The CTBTO aims at operating another mobile system in the East Asian region. Considerable insights on the characterisation of the radio-xenon background were previously provided by a short Union-funded measurement campaign. A longer measurement campaign is crucial to complement and refine our knowledge of the regional radio-xenon background. The main objective of this complementary campaign is to allow the characterisation of the East Asian region throughout an entire 12-month cycle covering all seasonal conditions. The location will be selected with the goal of running an intensified regional network of sensors (i.e. with higher density as compared to the current IMS noble gas network). This will be the first occurrence of having at least two systems very close to each other, allowing more scientific studies on cross-validation of the systems, cross-correlation of the detections, small scale Atmospheric Transport Modelling (ATM) developments, etc. This study could benefit of a partnership with States in the region that also plan for voluntary contributions on this subject.

After the end of these campaigns, the CTBTO is planning to perform additional measurements in areas where the global radio-xenon background is not sufficiently known and understood. Preferred locations are equatorial sites in Latin America, Asia and Africa.

To continue the measurement campaigns, funds are required for the shipment to new locations, operation and maintenance of the two mobile noble gas systems for 2 years.

Outcome

The benefits are a better understanding of the global noble gas background variation and better coverage of the noble gas monitoring network. Following these measurement campaigns, the systems will be available for use by the CTBTO for follow-up studies of the noble gas background on different geographical scales and as backup and/or training systems.

Project 4: Ensemble Prediction System (EPS) to quantify uncertainties and confidence level in ATM simulations

Background

Referring to the Part I, paragraph 18(a), of the Protocol to the CTBT, the International Data Centre (IDC) should provide values and associated uncertainties calculated for each event located by the IDC. Since ATM contributes to the location of events, associated uncertainties should be provided.

It is recognised that uncertainties can be estimated using a set of equivalent simulations, an ensemble, rather than a single simulation. This project will use meteorological EPS data (European Centre for Medium-Range Weather Forecasts, National Centres for Environmental Predictions or others) to generate a dataset containing multiple simulations for the same cases. This dataset will then be used to develop tools to estimate uncertainties and confidence levels in ATM simulations. An independent dataset will serve to validate and demonstrate the new tools.

Objectives:

- develop a validated prototype to estimate uncertainties and confidence level in ATM simulations,
- define the needs in collaboration with users,
- identify meteorological EPS data to use,
- build a dataset of ATM simulations,
- develop tools to estimate uncertainties and confidence levels,
- validate tools,
- adapt the new launching interface to produce uncertainties and confidence level,
- make the validated prototype available for testing on real cases.

Outcome

EPS-based products will help in taking important decisions by providing objective information to quantify uncertainties and confidence level in ATM simulations for any particular case. It will also provide a scientific basis to demonstrate how to extract valuable information from ATM guidance in spite of the inherent uncertainties associated with atmospheric simulations.

Project 5: Scientific evaluation of the benefits of increase in resolution for IDC's ATM tools

Background

Guidance resulting from ATMs usually benefits from an increase in resolution of the driving meteorological fields and of the ATM itself, especially for shorter time range. Two projects in that direction are nearing completion at IDC; operationally producing Source Receptor Sensitivity (SRS) fields at higher resolution (1 hour, 0,5 o) and generating high resolution (HR) meteorological fields on an on-demand basis for specific events (on-site inspections (OSI), nuclear tests, nuclear incidents, etc.) anywhere on the globe. These HR meteorological fields will be ingested by Flexpart a software tool using a Lagrangian transport and dispersion model to produce ATM products of a very high resolution (~ 0,05 o) as required. A scientific validation will be performed to demonstrate and quantify the benefits from these two projects on ATM products.

Objectives:

- demonstrate the added-value of the increase resolution using observations and model comparisons,
- develop a launching interface to quickly produce forward and backward ATM simulations, HR meteorological fields, and ATM guidance based on HR meteorological fields at any location.

Outcome

The scientific demonstration of the benefits of increasing the resolution on the ATM guidance will help confirming the utility of the new capacities (operational SRS at higher resolution, HR meteorological fields) in the operational system.

The launching interface will make possible the production of detailed guidance during OSIs or during other exceptional events (nuclear tests, nuclear incidents, etc.).

Project 6: Activities in Preparation for Phase 3 of IDC Reengineering

Background

From January 2014 to April 2017, the CTBTO has undertaken the IDC Reengineering Phase 2 (RP2) project, aiming to develop comprehensive software architecture to guide new software development and updates to existing systems over the next decade.

The resulting architecture brings notable improvements over the existing one, among others:

- enhanced user interface flexibility for analyst tools, enhanced analyst review workflow, event management, event cross-correlation and comparison, map tool and map integration, visualisation and editing of waveform quality control masks, frequency-wavenumber (FK) display, support for analyst training,
- comprehensive capturing of data provenance in order to understand how processing results were arrived at and investigate the evolution of a result as the available information changes,
- extensibility as a major feature built in all components,
- flexible seismic, hydro-acoustic and infrasound (SHI) pipeline configuration supported by graphical tools,
- facilitates a new model for collaborative software development following best practices in open source software development,
- enhanced monitoring and testing capabilities — Test Data Set Replay.

RP2 was carried out with support through a contribution-in-kind from the USA and funds under Decision (CFSP) 2015/1837. Those funds were used in particular to sustain technical meetings with experts from Member States in order to ensure a wide participation in RP2. These funds also supported prototyping activities, to show how software contributed by National Data Centres (NDCs) can be integrated into the reengineered architecture.

In preparation for a third phase of IDC reengineering that will implement codes based on the RP2 architecture, the IDC is seeking to raise the technology readiness level for several algorithms that could be considered for inclusion into the reengineered software. This proposal specifically addresses algorithms that provide better ways to process seismic aftershocks sequences in automatic or semi-automatic mode.

Objectives

The objective of this project is to prototype and compare the performance of up to three approaches at improving the processing of aftershock sequences.

The algorithms under consideration are:

- two cross-correlation based approaches,
- an approach based on auto-regressive AIC methods.

Deliverables

- For each of the three approaches above, experimental automatic processing pipelines will be setup, integrating the three algorithms under consideration (each in a separate pipeline). This implies automation of some manual steps in these methods.
- Each pipeline will run on the same set of representative events that cause aftershocks.
- A set of automatic tests will be designed and implemented allowing collecting statistical information on the three algorithms when run on a representative set of events, for performance comparison purposes.
- Statistical data collected as a result of automatic tests will be used to compare the performance of the algorithms on representative data sets.
- SHI MDA analysts will also assess the results produced by the three algorithms from the point of view of their quality as a starting point for analyst review.
- The final deliverables should be a report and recommendation summarising the findings above establishing which of the three approaches (if any) should be pursued for further development and implementation in an operational system. This should include estimates for the remaining effort needed to complete development.

The project will be executed over a duration of 1,5 years, starting in the second quarter of 2018. It is estimated that about 60 % of the total effort, mainly in the first year of the project, will be spent on setting up the experimental pipelines. The remainder of the total effort will be dedicated to designing automatic tests, collecting their results and analysing results.

Outcome

The main benefit of the project is to raise the technical readiness level of an algorithm that has great potential in reducing analyst workload. Software with sufficiently high technology readiness can be implemented in a reengineered system with less risk. On the basis of this work, a more robust effort estimate for the work remaining to be done to implement the selected algorithm in operations can be done.

Some of the prototype code developed in the course of this project may be integrated in the final operational software.

2. Strengthening OSI capabilities

Project: OSI noble gas processing and detection enhancement

Background

The Provisional Technical Secretariat (PTS)-owned OSI noble gas (NG) system for processing and detection of radio-xenon (OSI NG system) has been developed with funding from the European Union (Decision 2010/461/CFSP). The system was delivered early in 2014 and successfully used later that year during IFE14, an Integrated Field Exercise organised in 2014 by the Preparatory Commission for the CTBTO to simulate an almost entire OSI in Jordan. During this exercise, the OSI NG system reliably and accurately determined the ratio of ^{131}mXe to ^{133}Xe . Furthermore, the system met the technical requirements on the minimum detectable activity for these isotopes.

While the exercise has shown that the OSI NG system meets the key performance parameters of radio-xenon detection, the Technical Report of the IFE14 External Evaluation Team also identified a number of operational parameters which need to be addressed in the further development of capabilities for noble gas processing and detection. Likewise, in 2016, OSI-Workshop 23 on Further Development of the OSI Equipment List concluded that the capabilities for radio-xenon purification and measurement need improving in terms of robustness, simplicity and engineering as a matter of priority in order to enhance their operational performance. The enhanced OSI NG system is required to finalise the design and operationalisation of the OSI field laboratory which has direct implications on the required rapid deployment and in-field support capabilities.

Objectives

In accordance with recommendations from the review and follow-up process of IFE14, the objective of this proposal is to enhance the existing OSI NG system. The project aims to tailor the system for air transport and easy movement to, from and within the Base of Operations as well as for reliable and simple operation in a field laboratory environment. In support of OSI Action Plan project 3.11 Noble Gas Laboratory, which aims, inter alia, at increased user friendliness, modularity and system reliability, the following system components need to be redesigned and/or developed:

- detector stand and lead shield, in order to facilitate installation and adjust the centre of gravity,
- gas separation, in order to reduce power consumption and switch the carrier gas from helium to more readily available materials in remote locations,
- software, in order to simplify processes suitable for an inspector-operated system,
- overall engineering design, in order to maximise integration in line with the OSI rapid deployment concept.

Outcome

An improved and more efficient and effective PTS-owned OSI noble gas laboratory with simplified user interaction and improved reliability and robustness will enhance the work of inspectors during an OSI; consequently, this supports Union policy and determination for the CTBT to enter into force.

3. Integrated capacity building and outreach activities

A. Further development in the roll-out of the NDC-in-a-Box

Project 1: Enhancing automatic processing and integration capabilities in SHI NDC-in-a-Box

Background

In July 2016, the Preparatory Commission for the CTBTO released version 4.0 of NDC-in-a-Box which includes new modules developed during the 'Extended NDC-in-a-Box' project. The release significantly improved NDC processing capabilities, with tools for automatic and interactive analysis for infrasound data and through integration with the SeisComp3 software suite for automatic processing of seismo-acoustic data. The IDC STA/LTA detector and the DTK-PMCC detector were integrated with the SeisComp automatic processing pipeline. Following this release, the IDC locator can be called from the SeisComp interactive review tool *scolv*. Several conversion modules support integration of IDC data and products into a SeisComp-based processing pipeline and facilitate synchronisation of station configuration information between NDCs and the IDC, through data retrieval and import modules or through database replication.

While the new modules allow NDCs to reproduce results of the IDC detectors for seismic and infrasound data, processing of hydro-acoustic data has not been considered yet. In addition, the events produced by the SeisComp-based automatic processing pipeline differ significantly from those generated at the IDC. This is due to differences between the software used to build events in the IDC and SeisComp pipelines.

Objectives

The objective of this project is to expand the capabilities of the SeisComp and the SeisComp modules being made available in NDC-in-a-Box to:

- Integrate the IDC signal detector for hydro-acoustic data in NDC-in-a-Box, including determination of features specific to hydro-acoustic detections. This would allow NDCs to detect arrivals from IMS hydro-acoustic stations using the same software that is used in IDC processing.
- Integrate the NET-VISA detector used at the IDC into the SeisComp processing pipeline, and offer the end-user an interface to configure NET-VISA as the default associator to be used in SeisComp. This would help NDCs that process IMS data using the SeisComp automatic pipeline to create an event set that is closer to the one built at the IDC.
- Enhance capabilities of integrating IMS data into other open source seismic analysis software such as SEISAN.

Deliverables:

All deliverables for this project consist in enhancements to the software modules that are part of NDC-in-a-Box as well as new software modules to be made available in future versions of NDC-in-a-Box. These new and enhanced software modules are as follows:

- existing NDC-in-a-Box scdfx module integrated into SeisComP enhanced to allow it to process hydro-acoustic data and to store all features that hydro-acoustic detections at the IDC possess,
- IDC HASE module for azimuth and slowness determination of hydro-acoustic arrivals integrated into a SeisComP module,
- NET-VISA associator integrated into SeisComP, as an optional associator that can be configured to be used in lieu of the SeisComP default associator,
- SeisComP enhanced to enable it to store additional features for hydro-acoustic detections, as well as pixels and pixel families for infrasound detections,
- SeisComP export modules enhanced, such that detections and their features for hydro-acoustic and infrasound software can be exported to the Open Source Database,
- current software enhanced to allow complete IMS seismic station configuration and IMS data to be imported into SAEISAN for processing in combination with non-IMS data of interest to NDCs.

The project will be executed over the course of 12 months, using agile software development methodologies such as Scrum or Kanban, with releasable software increments and with increased functionality produced every 4 weeks.

It is planned to hold two workshops with NDC representatives with the following objectives

- The first workshop will introduce the project and will provide NDC representatives the opportunity to present use cases relevant to their own NDC that may benefit from running an automatic associator (NET-VISA) as part of SeisComP, to form SHI events. NDCs are also expected to provide test data from networks of interest to them to the IDC, for testing purposes.
- The second workshop should serve as the start of a testing period for the software completed during the project. This software will likely include the NET-VISA associator integrated in SeisComP and AS station processing tools for hydro processing integrated into SeisComP.

Outcome

The final deliverable will be an enhanced automatic processing pipeline based on SeisComP to be distributed to NDCs.

The main result is to provide NDCs with additional capabilities to automatically process IDC data, to mix data from IMS and non-IMS stations in NDC-in-a-Box and to reproduce IDC results in NDC-in-a-Box automatic processing.

Project 2: Evolution of the infrasound processing and interactive system

Background

Since 2013, the IDC has been working on both the redesign of the infrasound automatic system and on the Extended-NDC-in-a-box projects with release of the software in 2016. The infrasound processing system efforts consisted on the development of an automatic processing array station system and the interactive review software. Those tools have then been integrated in NDC-in-a-box and in the IDC environment.

The initial feedback from NDCs is positive, as NDCs have gained capabilities for infrasound technology. The IDC is currently receiving requests for dedicated infrasound technology training as well as suggestions for enhancements and evolution of the tools, which goes beyond the planned maintenance activities.

The IDC would like to continue efforts to complete the infrasound processing system to support IDC and IMS needs and to support and address NDC request for software.

Objectives:

- support the evolution of the station processing system to continuously meet IMS and IDC operations sustainment needs,
- support the NDC requests for software, software update and functionalities for performing NDC activities,
- continue the implementation of state-of-the-art functionalities to better analyse infrasound signals in order to maintain the scientific credibility of the infrasound technology at the CTBTO,
- working on the inclusion of infrasound wave propagation models with uncertainty quantification, combined with high-resolution atmospheric specifications during infrasound phase association, event formation and in-depth event analysis to meet mid-term strategy objectives.

Outcome

- to continue building the technical and scientific credibility of the IDC infrasound system and to ensure the sustainment of IDC and IMS operations;
- to continue building on the efforts for NDC-in-a-Box software started under Decision 2012/699/CFSP and continued under Decision (CFSP) 2015/1837 in allowing NDCs to process the data available from the IMS for both CTBT monitoring purposes and for national purposes. These efforts have created a strong NDC user base and the proposed project results will help gaining NDC trust in the credibility of the verification system;
- to collaborate with NDCs to build a state-of-the-art infrasound system as part of IDC re-engineering efforts.

B. Integrated outreach and capacity building through technical assistance, education and training

Project: Engagement with State Signatories as well as Non-Signatories in Support of the CTBT and its verification regime through integrated outreach and capacity building

Background

Capacity building has proven to be fundamental for strengthening the CTBT's verification regime. Many stations of the CTBT's IMS are, or will be, located on the territory of developing countries and are managed by developing country institutions. Moreover, many developing countries are in the process of establishing and improving their NDCs to enable them to take full advantage of the data and products generated by the verification system. In this regard, capacity building systems (CBS) have been delivered to over 40 NDCs through Union funding, which need regular maintenance and occasional replacement.

Integrated outreach and capacity building activities provide experts from developing countries with needed background and training to facilitate their participation in the decision-making and policy development processes of the Preparatory Commission for the CTBTO. Such participation is essential in affirming the democratic and participatory nature of the CTBT, which in turn serves as a confidence building measure to obtain support from Non-Signatory States.

As a key element of the integrated outreach and capacity building, the Secretariat pursues training and education activities aimed at building up and maintaining the necessary capacity in the technical, scientific, legal and policy aspects of the CTBT and its verification regime focusing on States that have not signed or ratified the CTBT. These training and education activities involve cross-divisional efforts and resources and also benefit from the participation of members of the Group of Eminent Persons and support from CTBTO Youth Group members.

Objectives

The objectives of the integrated outreach and capacity building activities of the Preparatory Commission for the CTBTO are to:

- (a) contribute to the universalisation of the CTBT;
- (b) advance prospects for the CTBT's entry into force; and
- (c) strengthen and maintain support for the CTBT's verification regime.

Activities for Universalisation and Entry into Force:

- development of online educational materials and tools,
- training, scientific and diplomatic workshops and conferences,
- participation in major events on non-proliferation and disarmament issues.

Activities for strengthening and maintaining support for the CTBT's verification regime:

- software and infrastructure development,
- technical workshops,
- systematic training for Extended NDC-in-a-box (eNIAB) software,
- support for integrating the processing of IMS data with national and regional seismic networks,
- provision of remedial technical assistance in the form of CBS equipment and its maintenance or replacement.

Outcome

Enhanced abilities and awareness of the CTBT and its verification system and strengthened operational capabilities of the verification regime. States that need to sign and/or ratify the CTBT, including those listed in Annex 2 to the CTBT, will become familiar with the benefits of the CTBT and the verification regime.

COUNCIL DECISION (CFSP) 2018/299**of 26 February 2018****promoting the European network of independent non-proliferation and disarmament think tanks in support of the implementation of the EU Strategy against proliferation of weapons of mass destruction**

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on European Union, and in particular Articles 28(1) and 31(1) thereof,

Whereas:

- (1) On 12 December 2003 the European Council adopted the EU Strategy against proliferation of weapons of mass destruction (the 'EU WMD Non-proliferation Strategy'), Chapter III of which contains a list of measures that need to be taken both within the Union and in third countries to combat such proliferation.
- (2) The Union is actively implementing the EU WMD Non-proliferation Strategy and giving effect to the measures listed in Chapter III thereof, such as developing the necessary structures within the Union.
- (3) On 8 December 2008 the Council adopted its conclusions and a document entitled 'New lines for action by the European Union in combating the proliferation of weapons of mass destruction and their delivery systems' (the 'New Lines for Action'), which states that the proliferation of weapons of mass destruction ('WMD') continues to constitute one of the greatest security challenges and that non-proliferation policy constitutes an essential part of the common foreign and security policy (CFSP).
- (4) In the New Lines for Action, the Council calls on competent Council formations and bodies, the Commission, other institutions and Member States to give a concrete follow-up to that document.
- (5) In the New Lines for Action, the Council underlines that action by the Union to prevent proliferation could benefit from the support provided by a non-governmental non-proliferation network, bringing together foreign-policy institutions and research centres specialising in the Union's strategic areas while building on useful networks which already exist. Such a network could be extended to institutions in third countries with which the Union is conducting specific dialogues in connection with non-proliferation.
- (6) On 15 and 16 December 2005 the European Council adopted the EU Strategy to combat the illicit accumulation and trafficking of SALW and their ammunition (the 'EU SALW Strategy'), which sets the guidelines for action by the Union in the field of small arms and light weapons ('SALW'). The EU SALW Strategy states that the illicit accumulation and trafficking of SALW and their ammunition pose a serious threat to international peace and security.
- (7) The EU SALW Strategy identifies among its objectives the need to foster effective multilateralism so as to forge mechanisms, whether international, regional or within the Union and its Member States, for countering the supply and destabilising spread of SALW and their ammunition.
- (8) On 26 July 2010 the Council adopted Decision 2010/430/CFSP⁽¹⁾, which established the European network of independent non-proliferation think tanks and provided that the technical implementation of that Decision is to be carried out by the EU Non-Proliferation Consortium (the 'Consortium').
- (9) The choice of the Consortium as sole beneficiary of a grant in this case is justified because of the will of the Union, as supported by the Member States, to continue its fruitful cooperation with the European network of independent non-proliferation think tanks, which is contributing to the creation of a common European culture with regard to non-proliferation and disarmament, as well as helping the Union to develop and shape its policies in those areas and increase Union visibility. The very nature of the Consortium, which owes its existence to the Union and depends entirely on Union support, makes 100 % financing necessary in this case. The Consortium has no independent financial resources or legal authority to raise other funds. Moreover, the Consortium has established, beyond the four managing think tanks, a network bringing together more than 70 think tanks and research centres combining almost the entire non-governmental expertise on non-proliferation and disarmament in the Union.

⁽¹⁾ Council Decision 2010/430/CFSP of 26 July 2010 establishing a European network of independent non-proliferation think tanks in support of the implementation of the EU Strategy against Proliferation of Weapons of Mass Destruction (OJ L 202, 4.8.2010, p. 5).

- (10) On 10 March 2014 the Council adopted Decision 2014/129/CFSP ⁽¹⁾, which extended for 3 years the Union's continued promotion and financial support of the activities of the European network of independent non-proliferation think tanks and entrusted the Consortium with the technical implementation of that Decision.
- (11) On 3 April 2017 the Council adopted Decision (CFSP) 2017/632 ⁽²⁾, which provides for the extension of the duration of Decision 2014/129/CFSP in order to allow for the continued implementation of the activities until 2 July 2017.
- (12) On 4 July 2017 the Council adopted Decision (CFSP) 2017/1195 ⁽³⁾, extending the implementation period of Decision 2014/129/CFSP from 3 July until 31 December 2017 to allow for the organisation of one major annual conference on non-proliferation and disarmament in 2017 as well as for the continued maintenance and updating of the internet platform of the Consortium.
- (13) The names of the European network of independent non-proliferation think tanks and the Consortium will be adjusted to include 'disarmament' in line with the recommendations laid down in the European Parliament resolution of 27 October 2016 on nuclear security and non-proliferation,

HAS ADOPTED THIS DECISION:

Article 1

1. For the purposes of contributing to the enhanced implementation of the EU WMD Non-proliferation Strategy, which is based on the principles of effective multilateralism, prevention and cooperation with third countries, the continued promotion and support of the activities of the European network of independent non-proliferation and disarmament think tanks is hereby extended for 42 months in order to further the following objectives:

- (a) to encourage political and security-related dialogue and long-term discussion of measures to combat the proliferation of WMD and their delivery systems within civil societies and, in particular, among experts, researchers and academics;
- (b) to provide those participating in the relevant preparatory bodies of the Council with the opportunity to consult the network on issues related to non-proliferation and disarmament and to enable the representatives of Member States to participate in the network's meetings;
- (c) to constitute a useful stepping stone for non-proliferation and disarmament action by the Union and the international community, in particular by providing reports and/or recommendations to the representatives of the High Representative of the Union for Foreign Affairs and Security Policy (the 'HR');
- (d) to contribute to enhancing third countries' awareness of proliferation and disarmament challenges and of the need to work in cooperation with the Union and in the context of multilateral fora, in particular the United Nations, to prevent, deter, halt and, where possible, eliminate proliferation programmes of worldwide concern;
- (e) to contribute to the development of expertise and institutional capacity in non-proliferation and disarmament matters in think tanks and governments in the Union and third countries.

2. In the light of the EU SALW Strategy, the scope of activities of the European network of independent non-proliferation and disarmament think tanks shall not be limited to addressing questions related to the threats posed by the proliferation of WMD and their delivery systems, but shall also cover issues related to conventional weapons, including SALW. The inclusion of conventional weapons issues in the field of activity of the network will offer an outstanding tool for dialogue and recommendation on action of the Union in this area within the framework of the implementation of the EU SALW Strategy and the Union's policy on conventional weapons.

⁽¹⁾ Council Decision 2014/129/CFSP of 10 March 2014 promoting the European network of independent non-proliferation think tanks in support of the implementation of the EU Strategy against Proliferation of Weapons of Mass Destruction (OJ L 71, 12.3.2014, p. 3).

⁽²⁾ Council Decision (CFSP) 2017/632 of 3 April 2017 amending Decision 2014/129/CFSP promoting the European network of independent non-proliferation think tanks in support of the implementation of the EU Strategy against Proliferation of Weapons of Mass Destruction (OJ L 90, 4.4.2017, p. 10).

⁽³⁾ Council Decision (CFSP) 2017/1195 of 4 July 2017 amending Decision 2014/129/CFSP promoting the European network of independent non-proliferation think tanks in support of the implementation of the EU Strategy against Proliferation of Weapons of Mass Destruction (OJ L 172, 5.7.2017, p. 14).

3. The projects to be supported by the Union shall cover the following specific activities:
- (a) providing means for the holding of major annual conferences with third countries and civil society on non-proliferation and disarmament to discuss and identify further measures to combat the proliferation of WMD and their delivery systems and interrelated disarmament objectives, as well as to address challenges related to conventional weapons, including countering the illicit trade and excessive accumulation of SALW and their ammunition. The conferences will also promote internationally the EU WMD Non-proliferation Strategy and the EU SALW Strategy, and the role, in this field, of Union institutions and think tanks in the Union, with a view to raising the visibility of Union policies in this area and submitting reports and/or recommendations to the representatives of the HR;
 - (b) providing means for the organisation of annual consultative meetings between representatives of Union institutions, representatives of Member States and academic experts to exchange views on major issues and critical developments in the fields of disarmament, non-proliferation and arms export control with a view to submitting reports and/or recommendations to the representatives of the HR;
 - (c) providing means for the organisation of up to nine ad-hoc seminars for experts and practitioners on the full range of non-proliferation and disarmament issues, covering both unconventional and conventional arms, with a view to submitting reports and/or recommendations to the representatives of the HR;
 - (d) providing means for the preparation and publication of up to 20 policy papers covering topics under the mandate of the Consortium and putting forward political and/or operational policy options;
 - (e) providing means for the continued management and further development of a help-desk facility within the Consortium to provide ad-hoc expertise on questions related to the full range of non-proliferation and disarmament issues, covering both unconventional and conventional arms, for responses within a 2- to 3-week timeframe, including the preparation of up to 18 expert papers;
 - (f) providing means for continued awareness-raising, education and development of expertise and institutional capacity in the area of non-proliferation and disarmament in think tanks and governments in the Union and third countries through:
 - the maintenance and further development of an e-learning course covering all relevant aspects of non-proliferation and disarmament,
 - the setting-up of up to 36 non-proliferation and disarmament internships for graduate students or young diplomats from the Union and third countries,
 - the organisation of annual Brussels study visits for the participants in the UN Programme of Fellowships on Disarmament in order to promote and raise the visibility of Union policies in the fields of non-proliferation, disarmament and arms export control,
 - the development of a pilot training course to raise awareness of proliferation risks, including those stemming from science and technology developments, among graduate and post-graduate students of the natural sciences;
 - (g) providing means for further maintaining, managing and developing an internet platform and related social networks to facilitate contacts, provide a unique forum for European disarmament and non-proliferation research, promote the European network of independent non-proliferation and disarmament think tanks, reach out to the global non-proliferation and disarmament community and promote the educational offers of the Consortium both with respect to on-site training courses and e-learning.

A detailed description of the projects is set out in the Annex.

Article 2

1. The HR shall be responsible for the implementation of this Decision.
2. Technical implementation of the projects covering the activities referred to in Article 1(3) shall be carried out by the Consortium, based on the Fondation pour la recherche stratégique (FRS), the Peace Research Institute Frankfurt (HSFK/PRIF), the International Institute for Strategic Studies (IISS), the Stockholm International Peace Research Institute (SIPRI), the International Affairs Institute (IAI) in Rome and the Vienna Center for Disarmament and Non-Proliferation (VCDNP). The Consortium shall perform this task under the responsibility of the HR. For this purpose, the HR shall enter into the necessary arrangements with the Consortium.

3. Member States and the European External Action Service (EEAS) shall propose priorities and topics of specific interest for assessment in the Consortium's research programmes, to be addressed in working documents and seminars, in accordance with the policies of the Union.

Article 3

1. The financial reference amount for the implementation of the projects covering the activities referred to in Article 1(3) shall be EUR 4 507 004,70.

2. The expenditure financed by the amount set out in paragraph 1 shall be managed in accordance with the procedures and rules applicable to the general budget of the Union.

3. The Commission shall supervise the proper management of the expenditure referred to in paragraph 1. For this purpose, it shall conclude a financing agreement with the Consortium. The agreement shall stipulate that the Consortium is to ensure visibility of the Union's contribution, appropriate to its size.

4. The Commission shall endeavour to conclude the financing agreement referred to in paragraph 3 as soon as possible after the entry into force of this Decision. It shall inform the Council of any difficulties in that process and of the date of conclusion of the agreement.

Article 4

1. The HR shall report to the Council on the implementation of this Decision on the basis of regular reports prepared by the Consortium. Those reports shall form the basis for the evaluation carried out by the Council.

2. The Commission shall report on the financial aspects of the projects referred to in Article 1(3).

Article 5

1. This Decision shall enter into force on the date of its adoption.

2. This Decision shall expire 42 months after the date of conclusion of the financing agreement referred to in Article 3(3).

However, it shall expire 6 months after its entry into force if that financing agreement has not been concluded by that time.

Done at Brussels, 26 February 2018.

For the Council

The President

F. MOGHERINI

ANNEX

THE EUROPEAN NETWORK OF INDEPENDENT NON-PROLIFERATION AND DISARMAMENT THINK TANKS IN SUPPORT OF THE IMPLEMENTATION OF THE EU STRATEGY AGAINST PROLIFERATION OF WEAPONS OF MASS DESTRUCTION (EU WMD NON-PROLIFERATION STRATEGY)**1. Objectives**

The objective of this Decision is to further implement the new lines for action by the European Union in combating the proliferation of weapons of mass destruction and their delivery systems (the 'New Lines for Action'), laid down in the Council Conclusions of 8 December 2008, as an elaboration of the 2003 EU WMD Non-proliferation Strategy. According to the New Lines for Action, the Union could benefit from the support provided by a network of non-governmental non-proliferation think tanks in its fight against the proliferation of WMD. The network should bring together foreign policy institutions and research centres specialising in the Union's strategic areas. Such a network could be extended to institutions in third countries with which the Union is conducting specific dialogues in connection with disarmament and non-proliferation.

This network of independent non-proliferation and disarmament think tanks (the 'Network') would continue to encourage political and security-related dialogue and the long-term discussion of measures to combat the proliferation of WMD and their delivery systems and the interrelated issues of disarmament within civil societies, and more particularly among experts, researchers and academics.

The work of the Network is extended to issues related to conventional weapons, including SALW, with a special emphasis on measures to ensure the continuous implementation of the EU SALW Strategy. The Network will help to provide fresh ideas on the Union's actions related to conventional weapons, including the illicit trade and excessive accumulation of SALW and their ammunition. This includes not only the reactive dimension of security issues, but also its preventive dimension. Preventing the illegal and unregulated trade of conventional weapons, including SALW, has been recognised as a priority of the Union within the framework of the Arms Trade Treaty (ATT).

The Network shall also address all aspects of export control linked to WMD or conventional weapons, including dual use goods, as well as space security issues.

The Network aims at enhancing the awareness of third countries of challenges related to WMD and conventional weapons proliferation, including the illicit trade and excessive accumulation of SALW and their ammunition, through publications, meetings, conferences, and dedicated education and outreach projects. It aims furthermore at raising awareness of the need to work in cooperation with the Union and in the context of multilateral fora, in particular the United Nations, in order to prevent, deter, halt and where possible, eliminate proliferation programmes of concern worldwide and the illicit trade and excessive accumulation of SALW and their ammunition.

The Union wishes to support this Network as follows:

- through organising three major annual conferences and — as a side-event — 'next generation workshops', with a view to submitting reports and/or recommendations to the representatives of the High Representative of the Union for Foreign Affairs and Security Policy (the 'HR'),
- through organising three consultative meetings between representatives of Union institutions, representatives of Member States and academic experts to exchange views on major issues and critical developments in the fields of disarmament, non-proliferation and arms export control with a view to submitting reports and/or recommendations to the representatives of the HR,
- through the organisation of up to nine ad-hoc seminars for experts and practitioners on the full range of non-proliferation and disarmament issues covering both unconventional and conventional arms, with a view to submitting reports and/or recommendations to the representatives of the HR,

- through the preparation and publication of up to 20 policy papers, which will cover topics under the mandate of the Consortium and put forward political and/or operational policy options,
- through continued management and further development of a help-desk facility within the Consortium, to provide ad-hoc expertise on questions related to the full range of non-proliferation and disarmament issues covering both unconventional and conventional arms, for responses within a 2- to 3-week time frame, including the preparation of up to 18 expert papers,
- through the maintenance and further development of an e-learning course covering all relevant aspects of non-proliferation and disarmament,
- through the setting-up of up to 36 non-proliferation and disarmament internships for graduate students or young diplomats from the Union and third countries,
- through the organisation of annual Brussels study visits for the participants in the UN Programme of Fellowships on Disarmament in order to promote and raise the visibility of Union policies in the fields of non-proliferation, disarmament and arms export control,
- through the development of a pilot training course to raise awareness of proliferation risks, including these stemming from science and technology developments, among graduate and post-graduate students of the natural sciences,
- through further maintaining, managing and developing an internet platform and related social networks to facilitate contacts, provide a unique forum for European disarmament and non-proliferation research, promote the Network, reach out to the global non-proliferation and disarmament community and promote the educational offers of the Consortium both with respect to on-site training courses and e-learning.

2. **Organisation of the network**

The Network is open to all relevant think tanks and research institutes from the Union and associated states and is fully respectful of the diversity of opinion within the Union. It will be involved in all activities of the Consortium to the highest possible extent, in order to grant its members ownership and visibility.

The Network will continue to promote contacts within the European non-proliferation and disarmament research community, and especially reach out to natural scientists working in the field of CBRN security. It will continue to facilitate contacts between non-governmental experts, Member States' representatives and the institutions of the Union. The Network will stand ready to engage with non-governmental actors from third countries in line with the EU WMD Non-proliferation and SALW Strategies.

The Network's mandate covers non-proliferation of WMD, their delivery systems, disarmament, and issues related to conventional weapons, including SALW, as well as arms export control and space security.

The participants in relevant preparatory bodies of the Council (such as CONOP/CODUN and COARM) will be able to consult the Network on issues related to disarmament and non-proliferation of non-conventional and conventional weapons, including SALW, and its representatives may attend the Network's meetings. The Network's meetings may be organised back to back with the working group meetings, if feasible.

The Network will continue to be led by the EU Non-Proliferation Consortium, which has been formed by the FRS, HSEK/PRIF, the IISS, SIPRI, the IAI and the VCDNP, and which will be entrusted with the management of the projects, in close cooperation with the representatives of the HR.

The Consortium, in consultation with the representatives of the HR and Member States, will invite participants who have expertise in non-proliferation and disarmament policies of WMD and conventional weapons to expert seminars and annual major conferences and to share their publications and activities on the dedicated website. The Consortium will also contribute to the competence development on non-proliferation and disarmament affairs of both officials and scholars within the Union and beyond.

3. Description of the projects

3.1. *Project 1: Organisation of an annual major conference with a report and/or recommendations*

3.1.1. Purpose of the project

The annual major non-proliferation and disarmament conferences, with the participation of governmental experts and independent think tanks and other specialists from academia from the Union and associated states as well as third countries, will discuss and identify further measures to combat the proliferation of WMD and their delivery systems and interrelated disarmament objectives, as well as address challenges related to conventional weapons, including countering the illicit trade and excessive accumulation of SALW and their ammunition. As the flagship event of the project, the annual conference will continue to enhance awareness of the EU WMD Non-proliferation and SALW Strategies and the New Lines for Action and associated implementation efforts by the institutions.

The annual conferences will also serve to foster the role and cohesion of European think tanks specialising in fields related to non-proliferation and disarmament and will help to enhance capacity in these and other institutions, including in areas of the world without great depth of expertise in disarmament and non-proliferation.

The annual conferences and any preparatory meetings will address issues related to disarmament and non-proliferation that are of topical relevance to the work of the European External Action Service (EEAS). Based on these discussions and other work overseen by the Consortium, policy-oriented reports will be produced together with a set of action-oriented recommendations to the representatives of the HR. The report will be disseminated to the relevant institutions of the Union and the Member States and made available online.

3.1.2. Results of the project:

- maintain a major European-led international non-proliferation and disarmament conference that will continue to be the key venue for promoting strategic discussion of measures to combat the proliferation of WMD and their delivery systems and interrelated disarmament objectives to address challenges related to conventional weapons, including countering the illicit trade and excessive accumulation of SALW and their ammunition,
- increase the visibility and awareness of Union policies in the field of WMD and SALW non-proliferation and in the field of chemical, biological, radiological or nuclear (CBRN) action among the government officials, academia and civil society of third countries,
- promote the role and cohesion of the Network and the Union's role in this field, and build up non-proliferation expertise in countries where it is insufficient, including in third countries,
- submit policy-oriented reports and/or action-oriented recommendations that would enhance the implementation of the EU WMD Non-proliferation and SALW Strategies and constitute a useful stepping stone for non-proliferation and conventional weapons-related action by the Union and the international community,
- increase the awareness and knowledge of the institutions of the Union, of Member States, civil society and third countries about threats related to WMD and their means of delivery, allowing them to improve anticipation.

3.1.3. Description of the project

The project provides for the organisation of three annual major conferences, with preparatory meetings as necessary, and the preparation of associated reports and/or recommendations:

- a yearly conference of 1,5 days held in Brussels, with the participation of up to 300 experts from think tanks and academia and governments from the Union and associated states and third countries, specialised in non-proliferation, disarmament, arms control and conventional weapons issues, including SALW,
- attention to development of 'next generation' specialists, including from countries outside Europe and North America, who will be invited to an extra day before or after the conference for specialised training and exposure to relevant Union institutions,

- policy-oriented reports and/or action-oriented recommendations that would boost the implementation of the EU WMD and SALW Strategies.

3.2. *Project 2: Organisation of annual Union consultative meetings*

3.2.1. Purpose of the project

The project provides for the organisation of three annual consultative meetings with the preparation of associated reports and/or recommendations. The seminars should address both short- and mid-term challenges for the Union in the fields of non-proliferation and disarmament, in particular WMD and their delivery vehicles, conventional weapons including SALW, new types of weapons and delivery systems. They should also provide an opportunity for Union decision-makers to focus on longer-range challenges and trends in the field of non-proliferation and disarmament as well as of other relevant issues which go beyond their ordinary day-to-day business.

The consultative meetings will also serve to strengthen the cohesion of European think tanks specialising in fields related to non-proliferation and disarmament and will help to enhance capacity in these fields, especially in those regions of the Union where disarmament and non-proliferation expertise is improvable.

3.2.2. Results of the project:

- exchange of information and analysis regarding current proliferation trends among policy practitioners and academic experts from the Member States, as well as specialised staff from the EEAS and institutions of the Union,
- discussion on the best ways and means to implement Union policies against proliferation,
- provide constructive feedback to the Union on its strategies against the proliferation of WMD and SALW by independent Union think tanks, and suggestions from practitioners to the think tanks on most policy-relevant topics for further research,
- identify relevant issues in the field of non-proliferation and disarmament for policy-oriented reports,
- produce policy-oriented reports together with a set of action-oriented recommendations to the representatives of the HR.

3.2.3. Description of the project

The project provides for the organisation of three annual consultative meetings with the preparation of associated reports and/or recommendations. The agenda of these events shall be prepared in close cooperation with the Council's CFSP working groups in the fields of non-proliferation and disarmament (CODUN/CONOP) and arms export control (COARM). The meetings should address both short- and mid-term challenges for the Union in the fields of non-proliferation and disarmament in the following weapon categories: WMD and their delivery vehicles, conventional weapons, including SALW, new types of weapons and delivery systems.

The annual consultative meetings shall last 1,5 days and allow for the participation of up to 100 individuals from Union think tanks, Member States and Union institutions, specialised in non-proliferation and conventional weapons issues, including SALW. These seminars should serve mainly a consultative purpose between the Union non-proliferation and disarmament think tanks, the Union and its Member States. The annual consultative meetings should be held in Brussels.

3.3. *Project 3: Organisation of ad-hoc seminars*

3.3.1. Purpose of the project

The project provides for the organisation of up to nine ad hoc expert seminars with the preparation of associated reports and/or recommendations. These seminars should, in particular, serve a consultative purpose between the Union non-proliferation think tanks, the Union and its Member States, on an ad hoc basis, in order to address salient events and Union policy options, as well as provide an opportunity for the Union think tanks, Member States and Union institutions to reach out to target audiences inside and outside the Union.

3.3.2. Results of the project

- Exchange of information and analysis regarding current proliferation trends among policy practitioners and academic experts from the Member States, as well as specialised staff from the EEAS and institutions of the Union.
- Discussion on the best ways and means to implement Union policies against proliferation.
- Provide constructive feedback to the Union on its strategies against the proliferation of WMD and SALW by independent Union think tanks, and suggestions from practitioners to the think tanks on most policy-relevant topics for further research.
- Identify relevant issues in the field of non-proliferation and disarmament for policy-oriented reports.
- Produce policy-oriented reports together with a set of action-oriented recommendations to the representatives of the HR. These reports will be disseminated to the relevant institutions of the Union and the Member States.

3.3.3. Description of the project

The project provides for the organisation of up to nine ad hoc expert seminars with the preparation of associated reports and/or recommendations. The ad hoc seminars shall last up to 2 days and allow for the participation of up to 45 individuals, to be determined on a case-by-case basis.

3.4. *Project 4: Publications*

3.4.1. Purpose of the project:

- to provide information and analysis on topics related to non-proliferation of WMD, their delivery systems, conventional arms, including SALW, and disarmament that feed a political and security-related dialogue on these issues, primarily by experts, researchers and academics,
- to provide a resource that the participants in the relevant preparatory bodies of the Council can use to inform their discussion of Union non-proliferation, arms control and disarmament policy and practice,
- to provide ideas, information and analysis that can assist in the development of non-proliferation, arms control and disarmament actions at Union level.

3.4.2. Results of the project:

- enhanced political and security-related dialogue on measures to combat the proliferation of WMD and their delivery systems, arms control and disarmament, primarily by experts, researchers and academics,
- increased awareness, knowledge and understanding within civil society, particularly the broader Union network of independent non-proliferation think tanks, and governments of issues related to Union non-proliferation, arms control and disarmament policies,
- political and/or operational policy options provided to the HR, the Union's institutions and the Member States,
- development of non-proliferation, arms control and disarmament actions at Union level assisted through ideas, information and analysis.

3.4.3. Description of the project

The project provides for the preparation and publication of up to 20 policy papers. The policy papers will be prepared or commissioned by the Consortium and do not necessarily represent the views of the Union's institutions or the Member States. The policy papers will cover the topics under the mandate of the Consortium. Every paper will frame political and/or operational policy options. All policy papers will be published on the website of the Consortium.

3.5. *Project 5: Managing and further developing the help-desk facility*

3.5.1. Purpose of the project

The continued management and further development of the help-desk facility within the Consortium, to provide ad-hoc expertise in relation to questions related to the full range of non-proliferation and disarmament issues, covering both unconventional and conventional arms, will inform and facilitate the shaping of Union policy action in relation to specific and urgent topics.

3.5.2. Results of the project:

- manage ad-hoc research requests, with responses within a 2- to 3-week time frame, on specific issues requested by the EEAS,
- promote ad-hoc topic-specific dialogue between the Consortium think tanks and the EEAS,
- thus strengthen the knowledge basis for evolving discussions on non-proliferation issues in the Union,
- allow the EEAS comprehensive access to the expertise and research-dedicated resources of the Consortium for short-time and occasional requests.

3.5.3. Description of the project

The project will provide the EEAS and the relevant Council working groups with up to 18 5-to-10-page expert papers on current non-proliferation and disarmament issues within 2 to 3 weeks of being requested by the EEAS. The papers will be based on a review of existing academic literature and primary documents (not original research). Potential topics in light of the international agenda, forthcoming Union events and Union policy documents will be identified through discussions with the EEAS. The EEAS can request this function (a) through a paper; and/or (b) through a briefing to CONOP or COARM; and/or (c) in form of remote expert input when urgent advice is required.

3.6. *Project 6: E-learning*

3.6.1. Purpose of the project:

- to build capacity in the next generation of scholars and practitioners in the fields of non-proliferation and disarmament,
- to enhance the in-depth knowledge of Union non-proliferation and disarmament policies across the Union and in third countries,
- to contribute to global initiatives aimed at advancing non-proliferation and disarmament education,
- to renew and expand the expertise on WMD and SALW issues within the Union and in partner countries,
- to provide the institutions of the Union, the Member States and the European think-tank network with tailored and updated knowledge on the whole spectrum of non-conventional and conventional arms control.

3.6.2. Results of the project:

- maintenance and optimisation of a complete e-learning course covering all relevant aspects of non-proliferation and disarmament,
- outreach and assistance to educators and trainers to use the Union non-proliferation and disarmament educational resources,
- support for integration of the Union e-learning resources into university master's programmes,
- combination of e-learning and classroom training for Consortium-designed proliferation awareness training ('blended learning'),
- increased in-depth knowledge of Union non-proliferation and disarmament policies across the Union and in third countries,

- provision of a constantly updated open educational resource for all stakeholders involved in non-proliferation research and programming,
- development of further online content to improve course syllabus and to provide critical supportive knowledge for non-proliferation practitioners and scholars.

3.6.3. Description of the project

The project will focus on the worldwide dissemination and use of the e-learning tool, which was developed under Decision 2014/129/CFSP.

For this purpose the user-friendliness of the e-learning site and the associated Certificate Section will be enhanced continuously, based on participant feedback and on the evaluation of user behaviour through various statistical tools. Special attention will be devoted to the upgrade of the e-learning offer for users with visual or hearing impairments, in order to facilitate the barrier-free usage of the course and allow for a maximum of potential participants. Also, the intelligibility of the whole course will be enhanced through a comprehensive language review provided by specialised English native speakers.

All 15 Learning Units will be updated in order to provide students with the most actual facts and figures. Outreach and support to educational institutions will allow easy integration of the e-learning into university master's programmes and other educational offers, and encourage worldwide usage of the e-learning course.

Up to five additional Learning Units will be developed and launched between 2018 and 2020. The additional e-learning content will be developed in close consultation with the EEAS and the Member States and can fall in one of the following categories:

- (a) Advanced Learning Unit, elaborating on existing course content and providing more in-depth knowledge;
- (b) Practical Learning Unit, focusing on practical implementation issues of non-proliferation or export control regimes;
- (c) Academic Learning Unit, providing theoretical reflections on non-proliferation and disarmament;
- (d) Supportive Learning Unit, providing critical knowledge to better understand the broad problematique of non-proliferation and disarmament (e.g. legal, financial or ethical aspects);
- (e) Customised Learning Unit, supporting specific classroom training courses and used in combination with those courses ('blended learning').

3.7. *Project 7: Internships*

3.7.1. Purpose of the project:

- to build capacity in the next generation of scholars and practitioners in non-proliferation policy and programming,
- to enhance the understanding and the ownership of Union non-proliferation and disarmament policies across the Union,
- to disseminate and enhance the knowledge of Union SALW and WMD policies in third countries,
- to build networks of emerging experts at the regional levels where the Union has a strong interest in non-proliferation,
- to strengthen capacity-building within the Network,
- to renew and expand the expertise on WMD and SALW issues within the Union and in partner countries.

3.7.2. Results of the project:

- enhanced capacity in the next generation of scholars and practitioners in non-proliferation policy and programming,
- increased in-depth knowledge of Union non-proliferation and disarmament policies across the Union,

- better understanding of Union strategies, policies and non-proliferation approaches in third countries,
- the creation of networks of young practitioners and academics and the facilitation of practical cooperation,
- strengthened capacity-building on Union policies in the fields of WMD and SALW within the Network.

3.7.3. Description of the project

The project provides for European non-proliferation and disarmament internships for up to 36 graduate students or young diplomats, each for a period up to 3 months. The internships will be set up, supervised and documented by the Consortium, and combine lectures, discussion sessions, structured reading, and project integration.

All institutes belonging to the Network are eligible as host institutes. 30 out of 36 internships shall be reserved for European candidates, whereas the remaining six internships are reserved for non-European candidates, ideally from South Asia, East Asia, the Middle East and North Africa.

All interns will be invited — to the extent possible — to the conferences and seminars organised by the Consortium taking place during their internship.

3.8. *Project 8: Union study visit for the participants in the UN Programme of Fellowships on Disarmament*

3.8.1. Purpose of the project:

- to enhance the in-depth knowledge and ensure visibility of Union non-proliferation and disarmament policies in third countries,
- to renew and expand the expertise on WMD and SALW issues in third countries, in particular by raising awareness of possibilities created by the Union programmes for capacity-building in areas such as arms export control, non-proliferation and disarmament and CBRN risks mitigation,
- to support UN efforts to enhance disarmament education and promote multilateralism.

3.8.2. Results of the project:

- increased in-depth knowledge and visibility of Union non-proliferation and disarmament policies in third countries,
- enhanced expertise on WMD and SALW issues in partner countries,
- enhanced UN disarmament education.

3.8.3. Description of the project

The project will include an annual 2- to 3-day Brussels study visit for the UN Programme of Fellowships on Disarmament, including a seminar with speakers from the Union institutions and experts from the Consortium network, and a field trip to relevant locations. The visit will be scheduled to fit into the European component of the fellowship programme, typically in advance of the UN General Assembly.

3.9. *Project 9: Proliferation awareness training*

3.9.1. Purpose of the project:

- to build awareness among the natural sciences and other relevant fields of WMD proliferation risks associated with certain materials, software and technology, and the relevant international treaties and mechanisms,
- to build capacity among these groups to establish internal compliance mechanisms in their institutions to control sensitive technology flows as well as materials safety and security,
- to provide the institutions of the Union, Member States and the Union non-proliferation network with fresh ideas on technological developments and their potential impact on non-proliferation.

3.9.2. Results of the project:

- enhanced capacity in the next generation of scholars of the natural sciences and other relevant fields in non-proliferation instruments and policies,
- contribution to the goals of Union non-proliferation policy through enhanced awareness of proliferation risks among disciplines with major proliferation risks and technological developments,
- combination of distance learning (e-learning) and on-site training ('blended learning').

3.9.3. Description of the project

This project will develop a pilot course to raise awareness of proliferation risks for graduate and post-graduate students of the natural sciences and other relevant fields. This will include the development of a dedicated curriculum for two distinct audiences (such as biomedical, engineering or nuclear) and delivery of one pilot course for each of these target groups.

3.10. *Project 10: Management of an internet platform*

3.10.1. Purpose of the project

The maintenance and the development of an internet website will facilitate inter-sessional contacts between meetings of the Network and foster research dialogue among the non-proliferation think tanks. The institutions of the Union and Member States could also benefit from a dedicated website where Network participants are free to exchange information, share their ideas and to publish their studies on non-proliferation of WMD and their means of delivery and conventional weapons issues, including SALW. The project will provide an online follow-up to the events and a window for European research. It will contribute to efficient dissemination of research results among the think tank community and to governmental circles. This will lead to better anticipation and knowledge of threats linked to the proliferation of WMD and their means of delivery, and conventional weapons, including the illicit trade and excessive accumulation of SALW and their ammunition.

3.10.2. Results of the project:

- managing of a platform where non-proliferation think tanks can continuously share their independent views and analysis on WMD proliferation and conventional weapons issues, including SALW,
- expanding, managing and updating the existing network of independent think tanks,
- promoting of a better understanding of the EU WMD Non-proliferation and SALW Strategies within civil society and ensuring an interface between the Union and the network of think tanks,
- permanent and free downloading of documents from the Network's meetings and from independent think tanks who may wish to share their research results without financial compensation,
- increased awareness and knowledge of the institutions of the Union, the Member States, civil society and third countries about threats related to conventional weapons, WMD and their means of delivery, allowing them to improve anticipation.

3.10.3. Description of the project

- The use of a social-network type of technology, when feasible and appropriate, could be developed in order to allow active online communication and information exchange between the Network participants in a familiar environment.
- The Consortium, in charge of the project, will be responsible for web hosting, web design and technical maintenance of the website.
- Union policies relating to WMD proliferation and conventional weapons issues, including SALW will be followed and supported by appropriate documentation on a regular basis.

- Publications of the Consortium will be promoted and supported by specific historical records.
- Conferences organised by the Consortium will be promoted and relayed on the website (background papers, agenda, presentations, video recording of open meeting when appropriate).
- The e-learning course of the Consortium will be made available through the website. An intranet access will be specifically developed for Network members and Union officials (integrated tool for the e-learning course).
- Special focus pages will be published on a bimonthly basis on topical subjects relating to WMD proliferation and conventional weapons issues, including SALW.

4. **Duration**

The total estimated duration of the implementation of the projects is 42 months.

5. **Beneficiaries**

5.1. *Direct beneficiaries*

The suggested projects serve the purposes of the CFSP and contribute to meeting the strategic objectives laid down in the EU WMD Non-proliferation and SALW Strategies.

5.2. *Indirect beneficiaries*

The indirect beneficiaries of the projects are:

- (a) independent think tanks and academics specialised in non-proliferation, disarmament and conventional weapons issues, including SALW, from the Union and third countries;
- (b) institutions of the Union, including educational institutions, students and all other recipients of the e-learning course;
- (c) Member States;
- (d) third countries.

6. **Third-party participants**

The projects will be financed in their entirety by this Decision. Experts from the Network may be considered third-party participants. They will work in accordance with their standard rules.

7. **Steering Committee**

The Steering Committee for this project will be composed of representatives of the HR and of the implementing entity referred to in paragraph 8 of this Annex. The Steering Committee will review the implementation of this Decision regularly, at least once a year, including by the use of electronic means of communication.

8. **Implementing entity**

Technical implementation of this Decision will be entrusted to the Consortium, which will perform its task under the control of the HR. In carrying out its activities, the Consortium will cooperate with the HR, the Member States, other State Parties, and international organisations, as appropriate.

COMMISSION IMPLEMENTING DECISION (EU) 2018/300**of 11 January 2018****on the compliance of the joint proposal submitted by the Member States concerned for the extension of the Atlantic rail freight corridor with Article 5 of Regulation (EU) No 913/2010 of the European Parliament and of the Council***(notified under document C(2018) 51)***(Only the French, German, Portuguese and Spanish texts are authentic)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) No 913/2010 of the European Parliament and of the Council of 22 September 2010 concerning a European rail network for competitive freight ⁽¹⁾, and in particular Article 5(6) thereof,

Whereas:

- (1) In accordance with Article 5(5) of Regulation (EU) No 913/2010, the ministries responsible for rail transport in Germany, Spain, France and Portugal sent the Commission a letter of intent received on 6 March 2017. The letter included a proposal to extend the Atlantic rail freight corridor to Valongo terminal, Zaragoza, La Rochelle and Nantes St Nazaire.
- (2) The Commission has examined this proposal pursuant to Article 5(6) of the Regulation. It considers it to be compliant with Article 5 of the Regulation for the reasons set out below.
- (3) The proposal takes account of the criteria set out in Article 4 of the Regulation. The rail freight corridor extensions concern the territory of three Member States (Spain, France and Portugal), while the total number of participating Member States in the corridor remains at four. The new connections will improve the integration of the rail freight corridor with other modes of transport. The extensions will create a new connection with the Mediterranean rail freight corridor at Zaragoza; the consistency of both rail freight corridors, as well as with the TEN-T, is ensured. The extensions are in line with the TEN-T network as those to Zaragoza and Nantes St Nazaire are on the core network, the extension to La Rochelle is part of the comprehensive network and the extension to the Terminal of Valongo is in the catchment area of the TEN-T core node of Porto.
- (4) The results of the transport market study carried out by the Management Board of the rail freight corridor show that the extensions are expected to lead to additional international rail transport volumes along the Atlantic rail freight corridor and to a steady increase in the modal share of rail. This modal shift will provide significant socioeconomic benefits by reducing carbon emissions and road congestion. The link to the Mediterranean rail freight corridor at Zaragoza will add the autonomous communities of Aragón and Navarra to the corridor's catchment area. The market study estimated that the extensions would aid the development of rail freight traffic by increasing the rail freight modal share between Portugal and the three Spanish autonomous communities of Madrid, Navarra and Aragón to 60 % in 2050 from 28 % in 2010. This would be in the context of an estimated six-fold increase in total rail freight tons moved. Similarly, the links to the ports and terminals at Nantes-St. Nazaire, La Rochelle and Valongo will strengthen the corridor by facilitating multimodal trips and increasing demand on the corridor, thereby developing the competitiveness of the European rail freight.
- (5) In accordance with the letter of intent, both the Management Board and the applicants have been consulted and have expressed their support for these extensions.
- (6) The measures provided for in this Decision are in accordance with the opinion of the Committee established pursuant to Article 21 of Regulation (EU) No 913/2010,

⁽¹⁾ OJ L 276, 20.10.2010, p. 22.

HAS ADOPTED THIS DECISION:

Article 1

The proposal expressed in the letter of intent received on 6 March 2017 concerning extensions of the Atlantic rail freight corridor to Valongo terminal, Zaragoza, La Rochelle and Nantes St Nazaire, sent to the Commission by the ministries responsible for rail transport in Germany, Spain, France and Portugal is compliant with Article 5 of Regulation (EU) No 913/2010.

Article 2

This Decision is addressed to the Federal Republic of Germany, the Kingdom of Spain, the French Republic and the Portuguese Republic.

Done at Brussels, 11 January 2018.

For the Commission

Violeta BULC

Member of the Commission

COMMISSION IMPLEMENTING DECISION (EU) 2018/301**of 26 February 2018****amending Implementing Decision (EU) 2017/926 on the clearance of the accounts of the paying agencies of Member States concerning expenditure financed by the European Agricultural Fund for Rural Development (EAFRD) for financial year 2016***(notified under document C(2018) 1078)*

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) No 1306/2013 of the European Parliament and of the Council of 17 December 2013 on the financing, management and monitoring of the common agricultural policy and repealing Council Regulations (EEC) No 352/78, (EC) No 165/94, (EC) No 2799/98, (EC) No 814/2000, (EC) No 1290/2005 and (EC) No 485/2008 ⁽¹⁾, and in particular Article 51 thereof,

After consulting the Committee on the Agricultural Funds,

Whereas:

- (1) Commission Implementing Decision (EU) 2017/926 ⁽²⁾ cleared for financial year 2016, the accounts relating to the 2014-2020 programming period of all paying agencies except for the Bulgarian paying agency 'State Fund Agriculture', the Danish paying agency 'Danish Agrifish Agency', the French paying agency 'OADRC', the Hungarian paying agency 'ARDA', the Italian paying agencies 'AGEA' and 'ARCEA', the Maltese paying agency 'Agriculture and Rural Payments Agency', and the Slovakian paying agency 'Agricultural Paying Agency'.
- (2) Article 54(4) of Regulation (EU) No 1306/2013 requires Member States to attach to the annual accounts that they have to submit to the Commission pursuant to Article 29 of Commission Implementing Regulation (EU) No 908/2014 ⁽³⁾ a certified table reflecting the amounts to be borne by them under Article 54(2) of Regulation (EU) No 1306/2013. Rules on the application of the Member States' obligation to report the amounts to be recovered are laid down in Implementing Regulation (EU) No 908/2014. Annex II to Implementing Regulation (EU) No 908/2014 sets out the model of the table that Member States have to use to provide information about amounts to be recovered in 2016. On the basis of the tables completed by the Member States, the Commission should decide on the financial consequences of non-recovery of irregularities older than 4 or 8 years respectively.
- (3) Pursuant to Article 54(3) of Regulation (EU) No 1306/2013, on duly justified grounds, Member States may decide not to pursue recovery. Such a decision may be taken only if the costs already and likely to be incurred, total more than the amount to be recovered or if the recovery proves impossible owing to the insolvency, recorded and recognised under national law, of the debtor or the persons legally responsible for the irregularity. If the decision has been taken within 4 years from the date of the recovery request, or within 8 years where the recovery is taken before the national courts, 100 % of the financial consequences of the non-recovery should be borne by the Union budget. The amounts for which a particular Member State decided not to pursue recovery and the grounds for its decision are to be included in the annual accounts as per Article 29(e) of Implementing Regulation (EU) No 908/2014, referred to in point (c)(iii) of Article 102(1) of Regulation (EU) No 1306/2013. Therefore, such amounts should not be charged to the Member States concerned and are consequently to be borne by the Union budget.
- (4) Annex III to Implementing Decision (EU) 2017/926 sets out the amounts to be charged to the Member States, as a result of the application of Article 54(2) of Regulation (EU) No 1306/2013 in relation to the 2014-2020 programming period for the European Agricultural Fund for Rural Development (EAFRD).

⁽¹⁾ OJ L 347, 20.12.2013, p. 549.

⁽²⁾ Commission Implementing Decision (EU) 2017/926 of 29 May 2017 on the clearance of the accounts of the paying agencies of Member States concerning expenditure financed by the European Agricultural Fund for Rural Development (EAFRD) for financial year 2016 (OJ L 140, 31.5.2017, p. 15).

⁽³⁾ Commission Implementing Regulation (EU) No 908/2014 of 6 August 2014 laying down rules for the application of Regulation (EU) No 1306/2013 of the European Parliament and of the Council with regard to paying agencies and other bodies, financial management, clearance of accounts, rules on checks, securities and transparency (OJ L 255, 28.8.2014, p. 59).

- (5) There are still amounts to be charged to the Member States, as a result of the application of Article 54(2) of Regulation (EU) No 1306/2013 in relation to the 2007-2013 programming period for EAFRD.
- (6) In order to have a complete view about the amounts charged to the Member States for EAFRD irrespective of the programming period and for reason of administrative efficiency, Implementing Decision (EU) 2017/926 should be amended accordingly,

HAS ADOPTED THIS DECISION:

Article 1

Implementing Decision (EU) 2017/926 is amended as follows:

- (1) Article 3 is replaced by the following:

‘Article 3

The amounts to be charged to the Member States, as a result of the application of Article 54(2) of Regulation (EU) No 1306/2013 relating to the 2014-2020 programming period for the European Agricultural Fund for Rural Development (EAFRD), are set out in Annex III to this Decision.

The amounts to be charged to the Member States, as a result of the application of Article 54(2) of Regulation (EU) No 1306/2013 relating to the 2007-2013 programming period for the European Agricultural Fund for Rural Development, are set out in Annex IV to this Decision.’;

- (2) the text in the Annex to this Decision is added as Annex IV to Implementing Decision (EU) 2017/926.

Article 2

This Decision is addressed to the Member States.

Done at Brussels, 26 February 2018.

For the Commission

Phil HOGAN

Member of the Commission

ANNEX

'ANNEX IV

CLEARANCE OF THE PAYING AGENCIES' ACCOUNTS

FINANCIAL YEAR 2016 - EAFRD

Corrections according to Article 54(2) of Regulation (EU) No 1306/2013 (*)

Member State	Currency	In National currency	In EUR
AT	EUR	—	—
BE	EUR	—	—
BG (**)	BGN	—	—
CY	EUR	—	—
CZ	CZK	36 969,05	—
DE	EUR	—	41 455,51
DK (**)	DKK	—	—
EE	EUR	—	233 063,44
ES	EUR	—	260 699,62
FI	EUR	—	4 602,87
FR (**)	EUR	—	601 073,78
UK	GBP	9 169,51	—
EL	EUR	—	34 706,51
HR	HRK	—	—
HU (**)	HUF	—	—
IE	EUR	—	179 494,91
IT (**)	EUR	—	67 180,48
LT	EUR	—	—
LU	EUR	—	—
LV	EUR	—	475,29
MT (**)	EUR	—	—
NL	EUR	—	—
PL	PLN	1 563 681,20	—
PT	EUR	—	22 273,99
RO	RON	125 075,98	—

Member State	Currency	In National currency	In EUR
SE	SEK	378 568,89	—
SI	EUR	—	497,82
SK (**)	EUR	—	—

(*) Only the corrections related to the 2007-2013 programming period are communicated in this annex.

(**) In respect of the paying agencies for which the accounts are disjoined, the reduction as laid down in Article 54(2) is to be applied once the accounts are proposed for clearance.

CORRIGENDA

Corrigendum to Commission Regulation (EU) 2017/1151 of 1 June 2017 supplementing Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) No 1230/2012 and repealing Commission Regulation (EC) No 692/2008

(Official Journal of the European Union L 175 of 7 July 2017)

On page 135, Annex IIIA, Appendix 2, point 4.3.5(c)(ii):

for: $'H = \frac{G}{E} = 100'$,

read: $'H = \frac{G}{E} \times 100'$.

On page 178, Annex IIIA, Appendix 7a, point 3.1.2:

for: $'d_i = \frac{v_i}{3}, 6, i = 1 \text{ to } N_t'$,

read: $'d_i = \frac{v_i}{3,6}, i = 1 \text{ to } N_t'$.

On page 434, Sub-Annex 2 to Annex XXI, point 3.5(b):

for: $'(b) P_{\text{available_i,i}} \geq P_{\text{required,j}}'$,

read: $'(b) P_{\text{available_i,j}} \geq P_{\text{required,j}}'$.

