Committee of Inquiry into Emission Measurements in the Automotive Sector

Written questions to the Italian Ministry of Infrastructure and Transport, Directorate-General for Engine and Land Transport Security - EMIS hearing of 10/10/2016

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1.	The EMIS Committee has received answers from several national Type Approval Authorities (TAA) following its questionnaires sent to Member States. Asked what happens in case of failure of the type approval procedure, the received answers divert significantly: "The law does not forbid a manufacturer to apply to another authority; We have no knowledge whether it is allowed to approach another TAA (in case of failure); With such a decision (failure) the manufacturer shall not be able to apply in another member state and the decision of refusal shall be communicated to all Member States; If testing failed with a technical service, the manufacturer is allowed to contact another technical service. A manufacturer can apply for type approval to only one approval authority"
	How do we ensure that TAA are well aware of the EU rules and indeed apply them equally? Do technical services retest failed cars, without being aware of it? Do technical services exchange information on previous tests?
	Article 8 of the Framework Directive 2007/46/EC requires the approval authority to inform without delay the approval authorities of the other Member States of its refusal or withdrawal of any vehicle approval, together with the reasons for its decision. In addition, the approval authority shall send at three-monthly intervals to the approval authorities of other Member States a list of systems, components or separate technical units for which it has granted, amended, refused or withdrawn EC approval during the previous period. Therefore, there are means to inform Member States about the refusal of a type approval. However, this does not preclude a manufacturer to submit application for approval to another authority.
2.	The official report on the Italian investigations "Programma Di Prove Per La Valutazione Del Comportamento Emissivo Di Vetture Diesel Euro 5
	Commercializzate In Italia Con Prove In Laboratorio E Su Pista" contains only very limited information on the Ministry's for infrastructure and
	Ministry be willing to make the arguments and discussions in the context of drafting the aforementioned report that your Ministry had with OEMs,

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	information that you received from OEMs as well as the minutes and the testing protocols available to our committee? Why didn't your Ministry already publish this additional information with the report? In the report it is also not obvious if the Ministry performed multiple tests with multiple cars of the same type in order to obtain sounder results. Can the Ministry please elaborate how many tests were actually conducted?
	Manufacturers were invited and participated to the tests. They cooperated and provided the necessary data and any useful information to ensure proper communication between the electronic control unit of the vehicle and the test laboratory instrumentation. It was decided to publish only the summary of the results with the aim of describing the vehicle behavior in the laboratory and on the road focusing on checking for defeat devices not allowed by the emission legislation. For this reason it was deemed sufficient to test a single vehicle for each selected type. We believe that the report format is in line with the reports published in other MS.
3.	Can you please explain by which means and procedures a homogeneous interpretation and implementation of the EU legislation on type-approval is currently guaranteed by European type approval authorities from your Ministry's point of view? Are there any weak points in the current system? If so how can this weaknesses be addressed in the best way?
	At national level MIT (the approval authority) and its technical services (CPA) that are part of the MIT have regular contacts in order to ensure uniform interpretation of the rules. At EU level, MIT regularly contacts the correspondent authorities of other MS in the framework of meetings of TAAM, TAAEG and by sending questions to other MS and the Commission. In spite of that the different interpretation of rules by 28 type approval authorities is a weak point.
	Only through continuous and strengthen consultation with Member States and the Commission it is possible to ensure uniform application of rules.
4.	Fiat Chrysler Automobiles (FCA) have been accused by the German authorities of using an illegal cheat device in certain light-duty vehicles (such as the Fiat 500x) to switch off exhaust treatment systems, however your department has said that the cars conform to current emissions rules and do not contain defeat devices. The German type-approval authority Kraftfahrt-Bundesamt (KBA) found that emissions treatment system was being throttled back after 22 minutes. The normal duration of the NEDC type approval test is about 20 minutes. The German Minister for Transport has even addressed this issue with the European Commission.

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Can you please comment on those allegations? Do you consider that switching off the emissions control system of a vehicle after operating the vehicle for 22 minutes of (slightly exceeding the 20-minute duration of the NEDC test) must be considered a defeat device? Did Italian authorities investigate these claims? What was the justification given by FIAT? Why did the government stop FIAT from going to the German authorities to explain their emissions control strategy?

The German approval authority (KBA) with letters of 21 April 2016 and 20 May 2016, has asked the relevant Italian authorities (Ministry of Infrastructure and Transport - DG MOT) to check compliance of the vehicle Fiat 500X with the requirements of emission legislation. According to Article 30.3 of Directive 2007/46/EC (Framework Directive on the approval of vehicles) DG MOT carried out the necessary checks and sent to the German authorities a detailed report which shows that the vehicle concerned is in compliance with the emission regulation. In particular, in the concerned vehicle no prohibited "defeat devices" was found, unlike the findings on the VW- Group vehicles. In fact, according to the legislation there is a prohibited "defeat devices" when a distinctly different emission behavior of the vehicle on the bench test and on the road is recorded , with the same boundary conditions, as there was in the case of VW but not in the tested FCA vehicles.

In addition, the emission control strategy adopted by FCA does not include any EGR "switch off" after 22 minutes of engine operation, as stated by the KBA, but rather its modulation necessary for the purpose of protecting the engine against the risk of damage , that it is fully compatible with Article. 5.2 of Regulation 715/2007/EC. This was proved by testing the vehicle with EGR off when the NOx emissions exceeded by 13 times the allowed limit while in normal condition the above figure is never reached.

With regard to ban MIT would have imposed on FCA to provide explanations to the KBA regarding their emission control strategies, we would like to note that MIT, on the basis of the provisions of the Framework Directive 2007/46/EC, on the competence of the approval authorities, asked the German Ministry and KBA to start a dialogue with MIT since the latter is the competent authority that has granted approval to FCA. At the same time MIT did not deem necessary anymore a direct contact between FCA and KBA. In fact, FCA representatives had already visited several times the German Ministry to provide the required explanations. We underline that a similar approach was taken by MIT with KBA when information about a possible non conformity of VW vehicles were received by EPA.

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5.	Italy is currently in breach of EU legal limits for NO ₂ and the Commission has opened infringement proceedings due to lack of action to reduce emissions. Why despite this, and that Italy is ranked by the EEA (Air Quality in Europe 2015 report) as having the highest rate of air pollution related deaths in the EU, did Italy lobby in the TCMV for a weakened final second RDE package? For example Italy asked for a first step conformity factor of 3.0 and 1.4 for the second step (<i>we note that this is stricter than the finally agreed 1.5</i>); pushed for delayed application of the new tests for all new vehicles by one year; argued for more narrow boundary conditions and did not support RDE being used for In Service Conformity. Do you see this position as compatible with the efforts needed to improve air quality in Italy? And did you consult the mayors of cities including Milan, which has joined a legal challenge, on the TCMV decision as being incompatible with Italy's (and the EU's) obligations to reduce air pollution?
	As part of the preparatory work of the RDE package it was agreed on the adoption of a timetable for implementation in two stages, beginning with a stage that would have made it possible with minor intervention RDE approval of EURO 6 vehicles recently approved, safeguarding investments already made by manufacturers. For this reason, and given the results obtained in the framework of emission measurement campaigns conducted by several MS, a compliance factor of around 3 appeared sufficient to achieve that goal.
	Anyway, Italy has supported the adoption of the CF of 2.1 as part of a compromise package that led to the adoption of an implementation timetable in two stages in order to allow a reasonable lead time to manufacturers to adapt their production.
	We underline that the adoption of the RDE package since 2017, will contribute to the placing on the European market of cleaner diesel vehicles when driven on the road, reducing emissions of nitrogen oxides (NOx), whose type approval limit values - as stated by the European Commission- are also exceeded by 400% on certain vehicles, allowing to take an important step towards air pollution reduction. A delay in the adoption of these measures would have implied a further deterioration of air quality endangering the ability of Member States to achieve EU air quality targets and resulting in a damage for the environment and public health.
	Also for this reason Italy has supported the adoption of a CF of 1.4 for the second phase, thus more severe than the one proposed by the Commission and supported by the majority of MS including FR and GE.
	The national position has been defined by a ministerial-level consultations trying to balance the need to improve air quality and to preserve the competitiveness of the automotive industry. In this regard, we underline that the NOx emissions during 1990-2014 period were reduced by 61 per

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	cent while the share of transport sector accounts for 50 per cent of the total. However, although the above-mentioned reduction of traffic emissions, an increase of 22 per cent of emissions those from non-industrial sources was recorded. (Source: National inventory of emissions into the atmosphere from 1990 to 2014 published by ISPRA).
	Therefore, the position taken by Italy is deemed as compatible with the EU air quality targets.
6.	According to article 4 para 2 of the regulation 715/2007 durability testing for a light-duty vehicle's pollution control devices shall cover 160,000 km. Has your service ever checked whether the long term durability of the emission control systems of in-use vehicles is guaranteed? What were the results?
	With regard to durability checks on in –use vehicles, the provisions of Annex II of Regulation 692/2008/ EC implementing Regulation 715/2007/EC applies. Essentially, these checks are undertaken by manufacturers on selected vehicles and their results are made available to the approval authority which can acquire them and decide to accept such controls, request integration or consider the vehicles as no compliant.
	On this basis in some cases MIT services have checked the records of controls made by manufacturers with positive results.
7.	How do you consider the in-house expertise in your organisation with regard to vehicles, vehicle systems, emission technologies and engine management? How much do you rely on the expertise of technical services? Do you often challenge information or arguments provided by technical services or manufacturers? How much funding and staff does your organisation have, what tasks do they perform and what is their educational background? Do you offer regular trainings and updates to ensure a high level of technical expertise? Do you consider your capacity and expertise adequate to perform your duties in an effective and efficient manner and ensure an adequate performance of vehicles with regard to safety, health and environmental protection? What procedures and arrangements do you have in place to ensure the independence and impartiality of your own organisation, what procedures do you have in place to ensure the independence and impartiality of designated technical services? Do you believe these procedures and arrangements are adequate? What is the total revenue of your organisation and what share of the revenue of your
	these procedures and arrangements are adequate? What is the total revenue of your organisation and what share of the revenu organisation comes from providing consultancy services or technical service work to car manufacturers?

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	MIT along with its test centers is institutionally responsible for performing the task of the approval authority and technical service; The competence level of technical services is high and fully reliable. Only sporadically MIT, has made observations on the judgment provided by a technical service. Regularly, the staff takes part to training and refresh courses which allows to carry out the assigned tasks properly and to ensure safety and environmental performance of vehicles. We highligth that the Italian technical services are local offices of MIT; therefore their independence and impartiality are guaranteed by membership of the staff to the roles of state officials. MIT and its Technical services do not provide consultancy services or technical service work to car manufacturers.
8.	Do you have in place any specific procedures, checks or tests to assess the possible use of a defeat device, beyond the standard NEDC test carried out by a technical service? Do you consider it legally possible under the current rules to perform an alternative emissions test, other than the NEDC test, to verify the use of defeat devices? Could you please motivate your decision to use or not use an alternative test? What are your procedures to ensure conformity of production by manufacturers (for vehicles in production, after type approval was issued) and how often such checks (witness testing) are made, in comparison to your total number of type approval tests? Do you supervise emission tests to ensure conformity of production, or do you only check the general quality management system of a manufacturer on paper? Who decides on the choice of vehicles for emission test for conformity of production checks?
	There are no specific procedures to evaluate the possible use of a prohibited defeat device, except for those measures taken after the beginning of the "diesel gate", as part of the test campaign carried out on several EURO 5b diesel vehicles. It is not legally possible to run an alternative emission test, other than the NEDC, since it is not allowed by the legislation. The conformity of production procedures are based on tests which are identical to those required during type approval (NEDC). The control frequencies are of the magnitude of a vehicle / month for production plant, while the number of global approvals issued every year amounts to 350.
	In the framework of compliance checks, tests are performed under the supervision of the approval authority. Moreover, during periodic visits to the production plants the quality system is checked on the basis of specific "checklists"
	The approval authority decides about the procedure modalities for the selection of vehicles to be submitted to the control of conformity of production.

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9.	The Euro 5/6 Regulation (715/2007/EC) requires in its Article 5(1) that manufacturers shall equip vehicles so that vehicle in normal use is in accordance with emission limit values, i.e. 80 mg NOx/km in this case. As a type approval authority, how did you interpreted 'in normal use' while certifying the car manufactures vehicles? Was there any doubt ever that maybe the emission measurements in the laboratory were not in accordance with normal use? In view of Article 5(1) and the evidence regarding the discrepancy of Euro 5 and Euro 6 vehicle emissions on the road compared to the laboratory conditions that has been available at least since 2011, what measures have you taken as homologation authority to verify and bring the vehicles in compliance?
	RDE test procedure was adopted by the Commission Regulations (EU) 2016/427 and 2016/647. Recital 9 of Regulation 2016/647 / EU makes reference to the need to " <i>establish quantitative RDE requirements to limit tailpipe emissions in all normal operating conditions in compliance with the emission limits laid down in Regulation (EC) No. 715/2007</i> ". Therefore, in the absence of "normal use" definition, checks on vehicle emissions were carried out only in accordance with NEDC procedures. In the past, before the VW scandal, we did not carry comparative tests to assess the representativeness of measurements of pollutant emissions including CO2 (and thus fuel consumption) on the NEDC cycle. However, concerning at least CO2 emissions and fuel consumption, we were aware of the need to develop a new test cycle (WLTP) that would have been more representative of driving conditions on the road. For this reason at UNECE (Geneva) we have been working to adopt WLTP. No measures has been adopted to bring vehicle in compliance since we believe that in the absence of RDE test the only test to certify the conformity of a vehicle to Regulation 715/2007 / EC is NEDC test cycle where no conformity has been detected.
10.	The report of your investigations, as transmitted to the EP on 6 September 2016, highlights in its conclusion two types of behaviours with regards of NOx emission of the tested diesel vehicles: those who emit 2-4 times more NOx on a NEDC cycle at hot start compared to cold start as defined by the NEDC standard homologation cycle, and those vehicles who emit high NOx at temperatures above 30°C. You conclude for the first type of behaviour that probably for the cold start a different "engine calibration" is used, and for the second type of behaviour the presence of a "sensitivity" to air intake temperatures. Did you consider potential presence of defeat devices or unlawful emission control strategies rendering inactive or partially inactive the emission control system outside the scope of the test? Did you asked manufacturers to provide an explanation for these behaviours? Will you conduct an additional investigation to rule out the presence of defeat devices? What measures will you be taking to enforce the provision of Regulation 715/2007/EC Article 5(1) which requires manufacturers to equip vehicles so as to enable the vehicle to comply with the emission limit values contained in the Regulation "in normal use"?

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	No prohibited defeat device was found so far since no difference between the vehicle behavior in the laboratory and on the road was observed; no explanations have been requested to manufacturers about the observed emission behavior; Further investigations are planned for vehicles made by VW where we will perform comparative tests upstream and downstream of the recall action authorized by the KBA. The procedure to be followed to check compliance during the normal use are those of Regulation 715/2007/EC and the 692/2008 / EC as applicable (NEDC cycle and future RDE test).
11.	The EMIS Committee has received the results of your recent investigation, where you tested 14 vehicles, 7 of which belonging to Fiat Chrysler Automobiles brands. How many of them have been type-approved in Italy? Why you have entirely omitted to disclose the model by model results for CO2, CO and PM? How does it come that at page 8 of your final report you refer to 8 vehicles being tested for CO2, CO, TH, NOx and PM and from Fig.7 on it seems you have tested 14 vehicles for NOx (Fig.7) and then 11 (Fig. 12-15 and RDE with PEMS)? Have the 8 vehicles you refer to at page 8 been included among the 14 as reported from Fig. 7 on? Is there any particular reason why you did not tested Jeep Cherokee (that has showed the highest NOx emission in figure 7), Alfa Romeo Giulietta 1.6 and Lancia Y 1.3 on the ratio between NEDC reverse/NEDC warm and NDC reverse/NEDC cold (Tab.1)? Is there any reason why the same type of vehicles have not been tested for RDE with PEMS like others?
	Seven FCA vehicle types have been approved in Italy. The test report focused on the detection of possible prohibited defeat device connected to NOx emissions; for this reason other pollutant emissions are not shown; Eleven vehicles on a total of 14 have also been tested on the road. There are not special reasons for not submitting the above mentioned vehicles to some specific tests; however, this has not affected the emission behaviour the results of which are clear. In any case a new version of the report without evidence of some editorial errors, and with a number of additions, including VW vehicle testing, is being processed.
12.	Regarding the type approval process is seen in the absence of a strong EU agency enforcing the rules and also the question of absence of pan- European fine as individual EU MS impose quite different fines with some countries having fines of only €1,000, €2,000, or €4,000. Would you support this view or would you provide any further comments or views differing from this interpretation? Do you consider the penalties for using defeat devices as the important element and obligation by Member states in enforcing this obligation? If so, why have you failed to fulfil the obligation imposed by the article 13 of the Regulation 715/2007 to set the penalties for the use of defeat devices and to inform the Commission by 2 January 2009 about the fines for the use of defeat devices. Member States were reminded of this obligation according to the minutes also in the last

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	possible moment on 18 December 2008 in the 4th TCMV meeting? Why did you fail to notify the Commission by 2009 and did so only by 2013?
	To date, the type-approval system is harmonized with regard to the technical and administrative requirements. However, at penalty level no harmonised national provisions apply.
	We agree on the need for MS to apply penalties in the event of use of a prohibited defeat device. Italy has not adopted a specific penalty – regarding the presence of prohibited defeat devices- since in the national law there were already provisions for the application of an administrative penalty from 80 to 318 Euro per in use vehicle running with non-compliant devices (Article 72.13 of the Highway Code) and a penalty from 841 to 3,366 euros if a vehicle does not conform to the approved type (article 77 paragraph 3); The highway code was notified to the Commission in 1992. Information about the penalty system was provided in March 2013 in response to a specific note of the Commission services.
	The enforcement of the said administrative penalties will be assessed at the end of the criminal proceedings (VW case).