

**BUREAU VERITAS**  
Certification



# Environmental Management System – Audit Report

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**Volkswagen AG**  
Wolfsburg, Germany

**Audit Dates: August 26-30, 2019**  
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**In case of any questions to this report please contact**  
**Bureau Veritas Certification Germany GmbH**  
**Contact Number: +49 40 2362 - 5701**  
**Contact Email: [cert-germany@de.bureauveritas.com](mailto:cert-germany@de.bureauveritas.com)**

### ***Disclaimer and Limitations***

*Bureau Veritas' objective was to obtain reasonable evidence from the VW Defendants whether the Environmental Management System related to the Product Development Process is effective to meet compliance obligations for applicable US environmental laws and regulations for vehicles slated for sale in the United States. Reasonable evidence is a high level of assurance, but it is not a guarantee that an audit conducted in accordance with applicable professional standards will always detect a flaw in the management system. Bureau Veritas conducted this audit in accordance with professional standards as applicable in Certification business and Bureau Veritas represents that the services, findings, and recommendations herein were performed in accordance with the procedures, protocols, and practices ordinarily exercised by professionals in Bureau Veritas' profession for use in similar conditions. Bureau Veritas has made no other implied or express representation or warranty with respect to the services findings recommendations or advice provided herein.*

*Bureau Veritas believes that the audit evidence it has obtained from the VW Defendants is sufficient and appropriate to provide a basis for its opinion. This audit report is based on the audit evidence obtained up to the date of the audit report. However, future events or conditions may cause Bureau Veritas to revise its opinion. This Audit Report and any related assessments were issued solely in accordance with the agreed scope described in Section 2. This Audit Report, and any other reports issued in connection with this subject matter, do not constitute a guarantee of continued or absolute compliance with US laws and/or regulations related to vehicle emissions. They are solely intended to provide non-exhaustive information to assist the Client's effort in evaluating its adherence with US emissions laws and regulations.*

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*\*The VW Defendants mean Volkswagen AG, AUDI AG and VWGoA Inc.*

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## **1.0 APPLICABILITY**

Sections 1.0 through 4.0 of this report provide introductory information which is applicable to three affected Volkswagen entities - Volkswagen AG, Volkswagen Group of America, Inc. and AUDI AG. Therefore the term Volkswagen is used for simplicity and refers to these three entities collectively. Sections 5.0 through 8.0 of this report apply specifically to Volkswagen AG, Wolfsburg, Germany, and therefore the term Volkswagen AG is used in those Sections.

## **2.0 BACKGROUND**

On September 18, 2015, the US Environmental Protection Agency (EPA) issued a Notice of Violation to Volkswagen detailing Clean Air Act violations with regard to approximately 590,000 diesel motor vehicles (model years 2009 to 2015) that were sold in the United States (US). Following investigations, the EPA issued a second Notice of Violation to Volkswagen on November 2, 2015. As a result, on January 4, 2016, The United States of America Department of Justice (DOJ) on behalf of the EPA filed a complaint against Volkswagen.

Subsequently, a Third Partial Consent Decree MDL No. 2672 was executed between the DOJ and Volkswagen to address required actions specific to the Clean Air Act violations. The Consent Decree required Volkswagen to retain an independent third party to conduct an Environmental Management System (EMS) audit for each of the calendar years 2017, 2018, and 2019 pursuant to an industry recognized standard for their Product Development Processes (PDP) that are utilized for vehicles to be certified for sale in the US.

Within 90 days after the effective date of the Third Partial Consent Decree, Volkswagen have contracted with Bureau Veritas Certification Germany GmbH (Bureau Veritas) as an independent third party to conduct the EMS audits described above. These EMS audits included an assessment of Volkswagen's processes to comply with US environmental laws and regulations and recommendations for corrective actions.

### 3.0 COMMISSION

Bureau Veritas Group is a world leader in testing, inspection and certification services. Created in 1828, the Group has more than 75,000 employees in approximately 1,400 offices and laboratories located all around the globe. Bureau Veritas helps over 400,000 clients to improve their performance by offering services and innovative solutions. They ensure that their client's assets, products, infrastructure and processes meet standards and regulations in terms of quality, integrity, health and safety, environmental protection and social responsibility.

Bureau Veritas Certification Germany GmbH is accredited by DAkkS against ISO 17021 standard to deliver management system certification services. This ISO 17021 standard contains principles and requirements for the competence, consistency and impartiality of bodies providing audit and certification of management systems. Bureau Veritas accreditations are available on DAkkS website (<https://www.dakks.de/content/akkreditierte-stellen-dakks>).

Bureau Veritas was commissioned by Volkswagen to complete an annual EMS audit in the calendar years 2017, 2018 and 2019 at specific locations that are involved in the company's PDP. The PDP defines the processes and procedures used at Volkswagen to develop new cars starting with planning and ending with Start of Production (SOP) which can take several years. Based on this defined scope, audits were conducted in 2019 at the following locations which are directly related to or have organizational interfaces and/or responsibilities within the brand specific PDPs:

- For Volkswagen AG in Wolfsburg, Germany
- For Audi AG in Ingolstadt and Neckarsulm, Germany
- For Volkswagen Group of America, Inc. (VWGoA): Engineering and Environmental Office (EEO), in Auburn Hills, Michigan and Test Center California (TCC) in Oxnard, California.

To ensure relevance and impartiality of the audit, Bureau Veritas appointed an audit team with high expertise in both environmental and automotive matters and not previously involved in any business with Volkswagen. For the 2019 audit in Wolfsburg, the team was expanded to include a lead auditor and two audit teams each consisting of 2 auditors and an assistant auditor. The audit team consisted of Francois (Lead Auditor), Engelbert (Auditor, Automotive Expert), Anne (Auditor, Expert for US environmental law), Bernd (Auditor), Nikolay (Auditor) and Simone and Manuel served as Assistant Auditors to manage organization and documentation of the audit. In addition

Phillipe, Senior Vice President Technical Quality and Risk for Bureau Veritas served as the Executive Sponsor for the overall project. The two team format allowed more in-depth interviews, program evaluations, observations, and dedicated document reviews to occur throughout the audit week as noted in the agreed upon audit plan. Resume's for the audit team members can be found in Attachment 1.

## **4.0 AUDIT SCOPE AND METHODOLOGY**

### **4.1 Choice of ISO 14001:2015 as EMS standard**

In general the purpose of the environmental management standard ISO 14001:2015, which is well known and implemented in many industries (about 350,000 ISO 14001 certificates exist around the world), is to provide organizations with a framework to protect the environment and respond to changing environmental conditions in balance with socio-economic needs. The standard specifies requirements that enable an organization to achieve its intended outcomes and to ensure the compliance of a product and services to applicable environmental regulations. The ISO 14001:2015 standard is routinely used to evaluate company-wide processes; but as requested in the Consent Decree, this audit focused on the Volkswagen's product development process for vehicles.

In general, the intended outcomes of an effective environmental management system as applied to the PDP are the following:

- enhancement to environmental performance;
- fulfilment of compliance obligations to US environmental laws and regulations for vehicle certified for sale in the US;
- achievement of specified environmental objectives.

The objective of the audits was to conduct an EMS audit of Volkswagen's PDP using an industry-recognized EMS standard as a guideline and to evaluate the effectiveness of the system to fulfill compliance obligations with applicable US environmental laws and regulations for vehicles certified for sale in the United States.

Based on the worldwide application and its reputation the standard selected by Bureau Veritas in conjunction with Volkswagen was the ISO 14001:2015 Standard.

## **4.2 Selection of applicable criteria of ISO 14001:2015**

The methodology developed for these audits was to adapt the ISO14001:2015 Standard to the scope of the PDP with a focus on compliance with applicable US environmental laws and regulations identified during the audit preparation. The audit covered the locations and functions involved in or interfacing with the PDP. For each location, the EMS was evaluated against the Audit Criteria and to determine if appropriate and effective measures were in place to assure compliance against environmental regulatory requirements for vehicles certified for sale in the US market.

Based on the limited audit scope, regarding the PDP, and the focus on compliance, certain standard clauses or requirements of the ISO 14001:2015 Standard were considered as not applicable. Table 1 below outlines the requirements of the ISO 14001:2015 Standard that were considered applicable to the audit scope.

Bureau Veritas also developed Audit Criteria based on the applicable ISO 14001:2015 clauses to guide the auditors during the performance of the audit. These criteria specifically relate to the PDP. A summary of the Audit Criteria applied to the EMS audits is shown in Attachment 2.

**Table 1: ISO 14001:2015 Applicability by Clause**

Clause	Title	Relevant for the Audit
<b>4</b>	<b>Context of the Organization</b>	
4.1	Understanding the organization and its context	X
4.2	Understanding the needs and expectations of interested parties	X
4.3	Determining Scope of Environmental Management System	X
4.4	Environmental Management System	X
<b>5</b>	<b>Leadership</b>	
5.1	Leadership and Commitment	X
5.2	Environmental Policy	X
5.3	Organizational Roles, Responsibilities and Authorities	X
<b>6</b>	<b>Planning</b>	
6.1.1	Actions to Address Risks and Opportunities	X
6.1.2	Environmental Aspects	X
6.1.3	Compliance Obligations	X
6.1.4	Planning Action	X
<b>6.2</b>	<b>Environmental Objectives and Planning</b>	
6.2.1	Environmental Objectives	
6.2.2	Planning Action to Achieve Environmental Objectives	
<b>7</b>	<b>Support</b>	
7.1	Resources	X
7.2	Competence	X
7.3	Awareness	X
<b>7.4</b>	<b>Communication</b>	
7.4.1	General	X
7.4.2	Internal Communication	X
7.4.3	External Communication	X
<b>7.5</b>	<b>Documented Information</b>	
7.5.1	General	X
7.5.2	Creating and Updating	X
7.5.3	Control of Documented Information	X
<b>8</b>	<b>Operation</b>	
8.1	Operational Control and Planning	X
8.2	Emergency Preparedness and Control	
<b>9</b>	<b>Performance Evaluation</b>	
9.1	Monitoring, Measurement, Analysis and Evaluation	X
9.1.1	General	X
9.1.2	Evaluation of Compliance	X
<b>9.2</b>	<b>Internal Audit</b>	
9.2.1	General	X
9.2.2	Internal Audit Program	X
9.3	Management Review	X
<b>10</b>	<b>Improvement</b>	
10.1	General	X
10.2	Nonconformity and Corrective Action	X
10.3	Continual Improvement	X

In cases of non-fulfillment of applicable clauses, a deviation was identified. Each deviation is graded (ranked) as Minor or Major, depending on its seriousness or occurrence. In addition, Opportunities For Improvement (OFI) and Best Practices are identified and reported.

Definitions of deviation, OFI and Best Practices are presented in Table 2 below.

**Table 2: Audit Finding Descriptions**

Finding Type	Description
<b>Major Deviation</b>	A major deviation is typically defined as “Based on objective evidence, the absence or significant failure to implement and/or maintain conformance to the requirements of the applicable clauses of ISO 14001:2015 or Volkswagen’s internal EMS or US laws and regulations.
<b>Minor Deviation</b>	The requirements of ISO 14001: 2015 (as defined in the Audit Criteria) are implemented but a management system weakness is detected, but it does not affect the capability of the EMS to achieve its intended outcomes. However, there are cases where multiple minor deviations against a specific requirement could demonstrate a systemic failure and thus may be considered a major deviation. It could be reasonably assumed that more than three minor deviations from one requirement of a section of applicable ISO 14001:2015 clauses may give rise to a major deviation.
<b>Opportunities For Improvement</b>	Evidence presented indicates a requirement has been effectively implemented, but based on auditor experience and knowledge, additional effectiveness or robustness might be possible with consideration of a modified approach.
<b>Best Practices</b>	A procedure or process that has shown optimal results suitable for consideration for widespread adoption.

## 5.0 AUDIT PLANNING

In advance of the audit, a comprehensive audit plan was developed by Bureau Veritas and then presented and accepted by Volkswagen AG. This audit plan was adapted for each location according to its function, area of responsibility and processes related to the PDP. The Audit Plan for the Wolfsburg location can be found in Attachment 3.

During the execution of the audit, the audit plan could be modified as necessary to assure the objectives of the audit were met. If changes did occur, the changes were discussed with Volkswagen AG, reviewed and documented accordingly.

In addition the approach used to develop audit planning along the 3 year cycle and to meet the requirements of article 24 of the Third Partial Consent Decree is described in the attachment 3,



and particularly how the PDP and US environmental laws and regulations related to vehicles are covered.

The audit plan included an evaluation of the operation of the emission test benches that was conducted on August 29, 2019. The scope of this portion of the audit was to evaluate the organization, processes and procedures associated with the emission test benches. Bureau Veritas evaluated the operations of the test benches against the applicable US environmental regulatory requirements as outlined during audit preparation.

## **6.0 AUDIT EXECUTION**

In order to meet the audit's objectives, activities included:

- an on-site visit,
- process overview presentations for selected functional departments associated with the PDP,
- interviews and question and answer sessions with the process managers,
- some witnessed activities at the test benches,
- a review of technical files (certification files, testing files, design change files ...),
- a review of corresponding documentation for verification/confirmation of management system implementation and
- the effective implementation of US environmental laws and regulations related to vehicle (passenger cars).

Further Bureau Veritas reviewed many of the management system elements that have been implemented in response to the Third Partial Consent Decree over the past 3 years.

Since the 2018 BV audit, process and organizational changes continue to be enhanced and implemented, and some are in different stages of implementation with defined targets for completion, therefore, development and implementation of some management system elements may require a more detailed review as part of Volkswagen AG's internal audit program to continue evaluating the on-going effectiveness of the EMS. In these instances, the audit team estimated to what degree specific elements had been implemented and evaluated effectiveness of the newly developed processes based on the available evidence. If an element of the management system was partially implemented or there was not yet sufficient evidence of its effectiveness, Bureau Veritas has made recommendations in the Opportunities for Improvement section of this report (7.1).

## **6.1 PDP Overview**

The PDP defines the organizational processes and procedures used at Volkswagen AG to develop new vehicles and new models. In line with the Third Partial Consent Decree requirements, the PDP starts with planning and ends with the Start of Production (SOP) of new vehicles at a manufacturing facility.

At Volkswagen AG, the PDP is based on the principles of project organization and the overall responsibility for a vehicle project lies with the Project Line Manager. Technical development of the vehicle is tasked with the development of new vehicle models that conform to relevant regulations including US environmental laws and regulations. The PDP at Volkswagen AG describes the tasks and responsibilities during product development including homologation/certification. The PDP was most recently updated in August 2019.

In 2017, Volkswagen AG implemented a significant organizational change to the PDP in the Technical Conformity (ET) function, which carries out the interpretation of US legal requirements independently of the subsequent development phases. The function of ET was established as a result of the Third Partial Consent Decree. The cooperation between ET and EEO is ensured through the organizational interfaces, which are coordinated with the VWGoA and the Wolfsburg group organization. In addition, in 2018, it was decided to add an additional steering function at the Group and Brand level for interpretation of laws and regulation. The VKO (coordinators of regulations) Steering Office Technical Regulations organizes and monitors the VKO process on a group level. VKOs provide the regulatory contents and assist in the technical interpretation of regulatory requirements. The VKOs provide these information for the VEX (regulation experts) who are responsible for the implementation of these requirements. In 2019, the ETB organization continued to grow and mature and reorganized the department structure to include ETB/7 in April 2019. Furthermore ETB/7 will take over the administration of GETEX database whereas ETB/1 will maintain responsibility for the contents.

EEO also interfaces with the relevant organizational units at Volkswagen Group level to communicate and coordinate the interpretation of US compliance obligations and EEO serves as a Regional VKO and is an active member of the Group Steering Committee on Emissions Legislation and Fleet Compliance as well as the Regulatory Exchange Group Meeting NAR.



The vehicle emissions data is provided by the test center in Wolfsburg via test reports summarized in a “Vehicle Book”. The Vehicle Book is a compilation of all of the technical data and test results that are required by regulation in the US. Prior to submittal to EEO and upon receipt of a Vehicle Book, a series of quality checks are conducted on the data to confirm accuracy and enhance accountability.

This information is then compiled into the appropriate regulatory formats and submitted to the US regulatory agencies, including the Environmental Protection Agency (EPA) and California Air Resources Board (CARB). These submittals are managed by the EEO organizational unit. The topics related to the homologation/certification process are integrated into the PDP in accordance with a chronological sequence of tasks and testing activities.

## **6.2 Organization and Responsibilities**

ET is a key function to ensure compliance with the US environmental regulations associated with vehicle emissions along with VKO and VEX. An essential aspect for ensuring technical conformity for a vehicle is the introduction of a universal 4-eyes principle which requires multiple layers of approval during various milestones within the PDP process. The main tasks of ET are the organization, implementation and monitoring of homologation-relevant processes which includes compliance with applicable laws and regulations.

The ET organization responsible for homologation is divided into the following functions:

- Homologation / whole vehicle and safety
- Homologation powertrain
- Technical regulations, authorities and associations
- Change Management & Technical Compliance.

The Tasks Authorities and Responsibilities (TAR) for each function are documented and described in the TAR job description which can include descriptions for environmental related compliance responsibilities.

In 2019, ETA/6 (previously ETA/2) was restructured and has homologation responsibility for vehicles imported into the US. An updated process standard has been drafted for ETA/6 with clear distinction of roles and responsibilities between ETA/6 and EEO and is planned to be finalized by the end of 2019. ETA/6 has made process improvements including the use of a

standardized data evaluation tool to input all emission test results to review data quality prior to completion of the Vehicle Book. In addition, a centralized Data Management System (DMS), has been established to control homologation/certification and vehicle files and to share information with EEO in a common file location. In addition ETA/6 is having weekly communication calls with EEO.

### **6.3 Test Benches**

As part of the EMS Audit, on August 29, 2019, Bureau Veritas conducted an in-depth evaluation of the emission test benches. Although there is no development or engineering activities being conducted at the test benches, the test bench data is a key component for verifying compliance with the US emissions regulations for certifying engines and vehicles to be sold in the US market. Thus, the test benches were included in the audit.

The mode of operation of the area is based on the international standard for testing organization according to ISO/IEC 17025.

The organizational department for emissions testing of Technical Development (EAPF) is classified as independent and free from obstructions and interferences for the handling of the test activities on vehicles. The independence of the test center is documented in an internal document signed by Volkswagen's Board of Management (BoM) level. Independence and freedom from obstructions and interferences are documented in the internal communication of November 24, 2016, by the Group Management Board, Brand Management Board and Head of Powertrain Development. In addition, there is a real separation of responsibilities between Vehicle Test Facilities & Emission Control Technology and the Function (ETA) for Test Registration, Analysis & Evaluation of Test Results activities.

During the evaluation of the test bench operations the audit consisted of test bench walkthrough and observations, personnel interviews, and a detailed review of emission test data provided in the Vehicle Books. The following observations were noted:

- Conditioning of vehicles was witnessed and was evaluated in association with the emission data files.
- The calibration of the measuring equipment was verified both at the test bench and in association with the emission data files.
- Test Requests were standardized with orders from ETA.

- Clear organizational independence from other organizational units.
- Organizational interface to ETA was defined.
- Operation in global accordance with main ISO/IEC 17025 requirements.
- Calibration gas tracking system.
- Test fuel certifications were reviewed and conducted by a certified laboratory.
- Dynamometer calibration.
- Driver and operator qualifications were reviewed.

The emissions test software for the engine and transmission control unit as well as the assigned serial numbers of the mentioned control units are documented in the test report of the exhaust gas measurement via the test program, whereby the traceability of the test data (software, control units) is confirmed. This process has been automated by the test program, thus, additionally confirming traceability of the test data (software controls).

## 7.0 AUDIT RESULTS

There were no Major deviations identified against the applicable Audit Criteria and ISO 14001:2015 Standard clauses during the 2019 audit. There were, however, two minor deviations identified as listed in Table 3 below. Bureau Veritas has reviewed and approved the listed corrective actions provided by Volkswagen AG to address each of the deviations.

**Table 3: Identified System Deviations and Agreed Upon Corrective Actions**

Finding	Rank	Clause	Description	Corrective Action/Recommendation
W-EMS-01	Minor	9.2 b	The 3 year internal audit program has not been considering all relevant changes in processes and organization: PDP, Labelling process. These changes shall be evaluated in terms of risks and the need or not for an update of 3 year internal audit program.	A regular exchange (at least twice a year) has been organized to consider key PEP changes and other risk factors that may potentially impact the 3-year internal audit program. This approach has been defined and implemented by end of November 2019 and an adapted audit work instruction has been issued.

Finding	Rank	Clause	Description	Corrective Action/Recommendation
W-EMS-02	Minor	8.1	There was no risk assessment and evaluation formally documented for the change of the tire pressure requirement from 3.1 bar to manufacture recommended tire pressure (related to the type and manufacture of the tire) to confirm there is no impact to emissions measurement.	<p>An analysis of the change of tire pressure has been carried out and has demonstrated that the influence is negligible. In order to ensure regulatory compliance and perform risk assessments new Process Standards and Work Instructions have been created and trained within ETA/6.</p> <p>The new concept of Homologation Maturity Gates (4 Gates before start of Homologation) was released as a Process Standard by EO TE Operations. Here the Maturity Gate 4 represents the official handshake from project management to ETA/6.</p> <p>The certification conditions (incl. road load) are protocolled and signed by EO, EEO and ETA/6 management before start of certification.</p> <p>For certification compliance ETA/6 created a new VW Certification Compliance Powertrain Concept with several Quality Checks.</p> <p>The Maturity Gates are owned by EO and for each project a DMS folder will be installed and the released documents locked after completion of a Gate. Thus traceability is ensured according to the respective CSD.</p> <p>All Certification documents are stored in EEO Exchange DMS and reviewed in multi-eye reviews EEO/ETA/6 with signed documents for each quality check.</p> <p>Pilot project is MY20 Jetta semi-pressure tank.</p>

A brief closing meeting was held at each location at the conclusion of the site visit. This meeting focused on positive aspects of the respective EMS as well as a high-level discussion specific to opportunities for improvement identified during the audit.

### **7.1 Suggested Opportunities for Improvement (OFI)**

As part of the 2018 EMS audit, some OFIs were raised that Volkswagen AG voluntarily implemented. Table 4 below presents the implementation status of OFIs raised in 2018 that were evaluated as part of the 2019 audit.

**Table 4: Implementation Status of OFI raised in 2018**

Opportunity for Improvement Recommendation	Implementation Status
Consider creating a Work Instruction that explicitly outlines the required steps for qualifying any software update or change for the emission calculations at the Test Bench.	A work instruction was developed and released in December 2018 describing the required steps for qualifying any software update or change for the emission calculations at the Test Bench.
Consider enhancing the document control between GETEX and K-GEAG Intranet Sites and link K-GEAG to GETEX instead of maintaining duplicate information.	GETEX is now the primary source for regulatory information, whereby the K-GEAG information is displayed on the K-GEAG homepage. A fixed link to the K-GEAG homepage has been included in GETEX. In this way there is no need to maintain duplicate information and still the information from K-GEAG is accessed from GETEX.
K-VKO Executive Office implementation should be followed through once staff is put in place.	The VKO/VEX positions are now being managed by a newly formed department ETB/7. This department continues to be built out and the VKO/VEK roles are being managed at the Brand level.
Consider improving EMS internal audit finding tracking to include notifications to responsible parties, due date tracking, and KPI tracking. Volkswagen AG will be piloting a software solution in 2019.	Internal audit findings are tracked, including notifications to responsible parties, due date tracking, and KPI tracking. A pilot for enhanced software support has been conducted. Development and start of rollout of a software solution is planned by end of 2020.
Consider developing a project plan to outline clear work tasks identified for the transfer between Audi and Volkswagen for homologation.	There is a clear distinction between homologation responsibilities between Audi and Volkswagen. The developer of the vehicle will be responsible for homologation even if the vehicle contains an engine from the other brand.
Consider adding content to the Management Review related to performance of PDP processes and the effectiveness.	The content of the Management Review has been updated and delivered in November 2019.
Consider better defining the interface between EMS and the Whistleblower process to assure relevant environmental information is communicated to EMS team.	Interfaces between EMS and the Whistleblower process have been implemented including a revision to procedures and establishment of KPI's.
Consider centralizing the management of the CARB Deficiency data and making it accessible to both Wolfsburg and EEO to ensure the same information and most recent information is readily available.	There is a shared DMS drive with EEO now having access to common files related to homologation.

During the 2019 audit, additional OFIs and associated recommendations were raised and shared with Volkswagen AG for consideration (see Table 5). This table presents the actions Volkswagen AG intends implementing to answer to these OFIs.

**Table 5: Opportunities For Improvement Recommendation raised in 2019**

No.	Current Process/Procedure	Opportunity for Improvement Recommendation	Action decided by Volkswagen AG
1	Sharing the outcomes of internal audits related to transverse or cross organization entities (example EEO versus TE) would be beneficial for Volkswagen Group	Consider distributing internal audit reports to relevant departments or key internal stakeholders that could be impacted and should be aware of the audit findings.	A regular meeting with Volkswagen, EEO and AUDI product audit experts has been set up to share the outcomes of internal audit results by end of 2019. After establishing the group assurance function, responsible for informing and aligning the findings with the affected functions the regular meeting with Volkswagen, EEO and AUDI will be reorganized to share the outcomes of internal audits related to transverse or cross organization/entities
2	The changes inside the content of procedures, work instructions, etc. could be made more visible Example: Working Instruction “external and internal environmental audits”.	Consider showing edits to a revised document or summarize changes in a revision history for the document.	Requirement to mark track changes is described in a process standard. The work instruction on internal and external audit has been revised accordingly. MS Word option “track changes” has been activated to see changes made on the right margin of the pages.
3	Completion of the implementation of the new management review procedure, including status on non-compliance, corrective actions, training	Assure that the revised management review template is utilized for the management review to be completed by the end of 2019.	The 2019 ECMS management review – technical development - has been completed ensuring that all required topics are discussed, and the outcomes of the management review have been documented. Management’s annual report completed by end of 2019 and presented to the Board. Handover of new responsibilities of management review implemented in Q1 2020 and delivery of Management annual report for 2019 planned for Q2 2020.
4	Version of control unit software could be recorded within the Vehicle Book.	Consider adding a field in the Vehicle Book to record the version of the software control unit.	Adding a field in the Vehicle Book to record the version of the software control unit will be considered in the update of the functionalities of the vehicle book at Group Level in Q2 2020.
5	A software application for homologation instead of vehicle book could be considered in terms of	Consider utilizing a database for recording, analyzing and documenting the Vehicle Books.	An IT solution is planned.



	efficiency improvement.		
6	An estimated 20,000 employees have access to the GETEX database. Monitoring the real users and their purpose of use would provide some data to monitor the system effectiveness.	Consider monitoring the use of the GETEX database to better understand who, how many, and how often the system is being used.	A GETEX task force was initiated in July 2019 and has been questioned about a successor-system that is more user friendly (Q1 2020). Depending on the outcome the monitoring of the use of GETEX might be included.
7	ETG/3 has minimum resources in comparison to the workload, based on the vehicle launch.	Consider adding additional staff to support the self-certification work load.	The identification of number of needed new personnel has been initiated since November 2019. The evaluation of the needs of the target group of "self-certification"-trainings as well as the hiring of new personnel regarding the defined criteria will occur in Q1 2020. Training material for "self-certification"-trainings for the end users will be distributed end of Q1 2020.
8	Self-certification (ETG/3) has not conducted training to the end users about their expectations on certification forms.	The self-certification process has not been optimized and a training of end-users should be considered.	
9	Approval to proceed with change process is given by "experts".	Documenting a risk assessment could secure the process (not people dependent) and reinforce the validation process.	Documentation of all development activities for release with a sheet of activity in System "TI-Syncro" by Q1 2019. Milestone report (P9-Process) and level of maturity in system "Fahst" will be updated by end of 2019."
10	The part identification should be organized more efficiently for vehicle preparation.	Consider a more systematic approach to the part identification process.	The parts-check-process is being implemented while building the vehicles in the plants. This includes the first check from pre-series-logistics
11	Formalized documentation and communication for the use of "worst case scenario" values for road load parameters.	Formally document the required road load values that should be used for testing parameters.	Formalization of the documentation and communication for the use of "worst case scenario" values for road load parameters has been considered and implemented in a work instruction in Q1 2020. Furthermore the definition of the use of "worst case scenario" values for road load parameters is also being addressed as a topic for the "Homologation Kick-off (Maturity Gate 4)" - as part of the Volkswagen work instruction "Ensure Certification Compliance during Powertrain Homologation for NAR Market" which

			has already been approved and released.
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## **7.2 Best Practices**

As part of the audit, the following points were rated as an appropriate and relevant solution for optimizing the PDP at Volkswagen AG, Wolfsburg:

- Governance structure and top management involvement continues to improve
- PDP structure, vehicle project monitoring (reporting system using traffic light symbols, deployment of PEP Online) and escalation process were effectively implemented
- Cross functional meetings on US environmental laws and regulations (Q&A from experts), communication loop for cascading requirements and evaluating their impact
- Change management tool (AVON) has been implemented
- A data evaluation tool used to input and analyze the emissions test data prior to entering the information into the Vehicle Book and can now import data into the tool versus manual entry
- Establishment of the data hub in DMS to have one source of data for the Vehicle Book and associated files to share between Germany and EEO
- Summary of country specific requirements in general and specific to US Environmental laws and regulations (both Federal and CARB) within a comprehensive document.

## **8.0 CONCLUSIONS**

Overall, the EMS for the PDP at Volkswagen AG conforms to the ISO 14001:2015 standard as defined in the agreed Audit Criteria. Bureau Veritas notes that many of the departments, functions, and responsibilities that were reviewed during the audit continue to be modified and optimized and their implementation is a continuous process. As shown in Table 5 above, Bureau Veritas has identified opportunities for improvement where Volkswagen AG can potentially improve the effectiveness of the EMS. All OFIs have been already taken into consideration, implementation has started or is already finished for most of them.

Taking into consideration the timeline of the PDP (several years) and the implementation of the revised version, which was reviewed as part of this EMS audit, some vehicles approved for sale in the US could have been partly developed under a former version of the PDP. The former version of the PDP was not required to be assessed under the Third Partial Consent Decree.



Nevertheless, within Bureau Veritas' scope the emission test benches were assessed and underwent random sampling. No deviations from the specifications were observed. The vehicles that were approved for sale in the US were tested on these test benches in compliance with the homologation-specific specifications for emission measuring equipment; and should therefore, meet the US exhaust emissions requirements. However, Bureau Veritas makes no warranty or guarantee that all Volkswagen vehicles meet all applicable US emissions laws or regulations.

As contractually agreed, Bureau Veritas has completed the 3-year audit cycle to assess Volkswagen's processes to comply with US environmental laws and regulations. The audit team has seen increased maturity in the management system, along with on-going improvements which are continuing to be implemented over the course of the 3 years so that Volkswagen may ensure compliance with US environmental laws and regulations.



## ATTACHMENT 1: Resume of audit team – Anne

### Job history

#### More than 25 years of experience in integrated Environmental, Health and Safety roles with various industries

- Senior Environmental, Health & Safety Consultant
- Director of Health, Safety and Compliance
- EHS/ Environmental Health & Safety Manager
- Environmental, Health and Safety Business Area Manager
- Director of Regulatory Affairs and Facilities
- Environmental, Health and Safety Manager for Building Insulations Division
- Compliance / Chemical Engineer

#### Project experience in various industries

- Environmental, Health and Safety Auditing – Regulatory Compliance Evaluations  
ISO 9001/14001/18001 Gap Assessments and Loss Control Risk Assessments
- Health and Safety Program Development

### PROFESSIONAL QUALIFICATIONS and TRAINING

#### Professional Affiliations

- American Society of Safety Engineers
- American Institute of Chemical Engineers
- National Safety Council

#### Wide range of qualifications and trainings for HSE

- Safety & Emergency Manager- Incident Commander Training
- OSHA 40-HR HAZWOPER
- OSHA 8-HR Training for Supervisors
- OSHA 10-HR Occupational Safety & Health Training
- 49 CFR DOT Training
- 8-HR RCRA Training
- ISO Auditor Training

### EDUCATION

- B.S., Chemical Engineering, 1991 Minor: Environmental Engineering  
Colorado School of Mines, Golden, CO

## ATTACHMENT 1: Resume of audit team – Engelbert

### Job history

Since 1993 active in the auditing process with a strong expertise within the automotive, electronic and production equipment industry

- General Manager (various companies)
- Environmental, Health and Safety manager
- Chief executive officer
- Manager of Logistics, Quality, Work scheduling department and engineering
- Team Leader

### PROFESSIONAL QUALIFICATIONS and TRAINING

Wide range of qualifications and trainings of various fields

- Project management
- Education for moderators (KVP and FMEA)
- Statistic test planning
- Technique for accreditation and expertise for test laboratories in accordance to ISO/IEC 17025
- Safety and Environmental Engineer
- Expert for power station facilities
- Auditor for VDA 6.1
- Auditor for VDA 6.4
- Auditor for ISO/TS 16949
- Auditor for ISO 14001 and OHSAS 18001
- Management Conference The Academy of Management
- Energy Management to ISO 50001 (EnMs)
- Education for quality manager (ÖVQ)
- Education for Auditor (ÖVQ)
- Expert according to EN 45000 and EN ISO 17025 and EN ISO 17024
- Education for Environmental Auditor (ÖVQ)
- Lead Auditor certificate VDA 6.4 and VDA 6.1, ISO 9001, ISO 14001 and OHSAS 18001
- Lead Assessor for ISO/IEC 17024 approved by ICMCI (International Council of Management Consultant Institute)
- Trainer for FMEA, 5S-program, MSA, SGU, SCC

### EDUCATION

- University of applied science, diploma for industrial engineering and management
- Higher Technical Federal School, Higher Division of Mechanical Engineering

### LANGUAGES

- German (mother language)
- English

## ATTACHMENT 1: Resume of audit team – François

### Job history

#### 20 years of auditing experience, especially in automotive business

- Lead auditor ISO TS and IATF 16949 since 2014
- Lead auditor ISO 9001 / IRCA since 1999
- Automotive and railway operations manager since 2010

#### Extensive experience in quality and design:

- Quality manager
- Quality engineer
- Design engineer

### PROFESSIONAL QUALIFICATIONS and TRAINING

#### Wide range of qualifications and trainings of various fields

- IATF 16949 Training and qualification
- IRIS lead auditor training course and qualification
- ISO TS 16949 Training and requalification
- ISO 14001 – Lead auditor training course and qualification
- ISO TS 16949 qualification renewal
- OHSAS 18001 – Lead auditor training course and qualification
- ISO TS 16949 – Lead auditor training course and qualification
- SA 8000 - Lead auditor training course and qualification
- ISO 9001 – Lead auditor training course and qualification

### EDUCATION

- Technical degree in mechanical engineering – Paris XI University
- Technical degree in Flexible Production Systems / Paris XI University

### LANGUAGES

- French (mother language)
- English (business fluent)

## ATTACHMENT 1: Resume of audit team - Nikolai

### Job history

Since 2008, active in the auditing process for QMS, EMS and OHS management systems

- Lead auditor QMS, EMS, OHS
- Consultant QMS, EMS, OHS incl. development and implementation of management systems for more than 10 international companies
- Tutor for ISO9K & 14K internal auditor courses
- Head of department for Ecology and environmental protection, Assoc. Prof., PhD
- Vice rector for research, applied science and projects, Assoc. Prof., PhD

### PROFESSIONAL QUALIFICATIONS and TRAINING

Wide range of qualifications and trainings of various fields

- IRCA certified Annex SL Training course
- IRCA certified ISO 9001:2015 Auditor Transition Training course
- IRCA certified ISO 14001:2015 Auditor Transition Training course
- Occupational health and safety management systems Auditor Conversion course OHSAS 18001:2007 and ISO 19011:2011, IRCA certified course A17235
- ISO 9001:2008 upgrade training course
- ISO 9000:2000 Series Auditor/Lead Auditor
- Environmental management systems Auditor/Lead Auditor training course ISO 14001:2004

### EDUCATION

- Master in mechanical Engineering, ship machineries
- PhD in Dynamics, strength and reliability of machines
- Associate Professor in Dynamics, strength and reliability of machines

### LANGUAGES

- Bulgarian (mother tongue)
- German (business fluent)
- English (fluent)

## ATTACHMENT 1: Resume of audit team – Bernd

### Job history

Since 10 years, active in the auditing process for QMS, EMS and OHS management systems

- Lead auditor QMS, EMS, OHS since 2014
- Consultant for Management Systems (ISO 9001, ISO 14001, BS OHSAS 18001 and ISO 45001)
- EHS manager, toxicologist, chemist, internal auditor in chemical and pharmaceutical industry

### PROFESSIONAL QUALIFICATIONS and TRAINING

Wide range of qualifications and trainings of various fields

- Graduate Laboratory Chemist
- Certificate in European Environmental Law
- QM System auditor, Internal Auditor and Quality Management Officer DIN EN ISO 9001
- System auditor DIN EN ISO 14001
- Specialist Waste Management Facilities (EfbV)
- Qualified Expert for the German Recycling Association and Pollution Control
- Auditor DIN EN ISO 50001
- Auditor BS OHSAS 18001
- Internal auditor DIN EN ISO/IEC 17021:2011
- Certificate as Hazardous Substances Manager
- Certificate as Hazardous Goods Officer (Road, Rail, Seagoing Ship)
- Certificate as Water Pollution, Waste and Emission Control Officer (Environment Officer)
- Certificate in Occupational Health and Safety
- Certificate in Environmental Public Health (EPHOC)
- Certificate as Risk Compliance Management Professional (CRCMP)

### EDUCATION

- PhD in Occupational and Social Medicine
- Postgraduate course in Toxicology
- Graduate Laboratory Chemist

### LANGUAGES

- German (mother tongue)
- English (business fluent)
- French (basics)



## ATTACHMENT 1: Resume of audit team - Philippe

### Job history

#### 36 years of experience

Since 1987 various operational, managerial positions within Bureau Veritas  
Since 2013 Senior Vice President Technical, Quality & Risk for I&F Division since February 2013 (Revenue 2.5 B€)  
President and Managing Director of Bureau Veritas Certification Holding

### PROFESSIONAL QUALIFICATIONS and TRAINING

#### Automotive experience:

- Development of FIEV production process audit methodology applicable to the automotive industry (Leading the FIEV working group)
- Performance of various process audit training by automotive equipment manufacturers (FAURECIA, SAFRAN, MAGNETTI MARELLI, EATON, VALEO ...)
- Performance of various audits in automotive sector against QS9000/EAQF 94 (FAURECIA, EATON, DELPHI ...)
- Management of IATF accreditation

#### Environmental experience:

- Director of HSE consulting activities from 2001 to 2004
- Project Director to assist AIRBUS to implement a product/site environmental management system globally in Europe (3 M€)

#### Auditing skills:

- Lead auditor (IRCA) in ISO 9001, ISO/TS 16949, EN 9100
- Lead auditor ISO 17020, ISO 17021 & ISO 17025 standards

### EDUCATION

- Graduate Engineer (Mechanical and Metallurgical Engineering) - Ecole Centrale de Paris (France) (1978 - 1981)
- Executive Master Business of Administration (Institut français de Gestion) (1992 - 1994)

### LANGUAGES

- French (mother language)
- English

## **ATTACHMENT 1: Resume of audit team – Manuel (support team)**

### **Job history**

- Auditor, project and client manager especially in the automotive business
- Lead auditor 2nd party since 2017
- Customer Service / Operations Manager
- Key account manager (food industry)
- Warehouse manager
- Management assistant

### **LANGUAGES**

- German (mother tongue)
- English (business fluent)

## **ATTACHMENT 1: Resume of audit team – Wendy (support team)**

### **Job history**

- Project manager with more than 17 years of experience in the certification industry
- Regional sales manager
- Management Systems Information Specialist
- Client Services Key Account Manager
- Administration Training & Process Manager
- Business Development Associate

## **ATTACHMENT 1: Resume of audit team – Simone (support team)**

### **Job history**

- Lead auditor in Food, Pest Control and 2nd party
- QMS auditor
- Project and client Manager
- Quality manager
- Data security officer
- Assistant QMB, QMB, internal auditor, risk and crisis manager

### **LANGUAGES**

- German (mother tongue)
- English (business fluent)

## ATTACHMENT 2: Audit Criteria

### REVISED AUDIT CRITERIA

#### A. Consent Decree Requirements from Paragraph 24:

“VW Defendants shall contract with and retain an independent third party to conduct an EMS audit pursuant to an industry-recognized standard for product development processes for vehicles to be certified for sale in the United States for each year for calendar years 2017, 2018, and 2019. Beginning with the EMS audit covering calendar year 2017, the EMS audit shall include:

- (1) an assessment of the VW Defendants’ processes to comply with U.S. environmental laws and regulations; and
- (2) a recommendation for corrective actions.”

“VW Defendants” means Volkswagen AG, Volkswagen Group of America, Inc., Volkswagen Group of America Chattanooga Operations, LLC, and Audi AG.

#### B. This means:

1. The VW Defendants have hired BV to conduct this audit according to the Consent Decree requirements
2. The industry recognized standard is ISO 14001:2015 as a base.
3. The audits will occur in 2017, 2018 and 2019
4. The scope of each audit is the product development process for vehicles sold in the US (currently only passenger vehicles are sold in the US)
5. The product development process begins with the milestone PS/PM and ends with SOP (incl. the model update development process and engine development process).
6. The objective of the audit is to evaluate whether the product development process is able to ensure compliance with applicable US environmental laws and regulations for vehicles. This does not cover legal requirements related to on site activities (e.g. emission test benches). It also does not mean that auditors will carry out a compliance audit. For the term “environment” the definition of ISO 14001:2015 is taken.
7. Wherever the product development process does not ensure compliance with applicable US environmental laws and regulations, BV will provide recommendations for corrective action.

#### C. Therefore, BV will evaluate the relevant EMS elements which are necessary to ensure compliance with US environmental laws and regulations for vehicles applicable to the product development process. The following EMS elements are relevant and will serve as the audit criteria:

1. Clause 4.1 (Understanding the organization and its context)  
Have the VW defendants identified external and internal issues that could affect the ability of the EMS to fulfil compliance obligations with regard to US environmental laws and regulations for vehicles?  
Does the organization have a high-level, conceptual understanding of the internal and external issues that can affect, either positively or negatively, its ability to achieve the intended outcomes of its Environmental Management System (EMS) and specifically fulfil compliance obligations with regard to US environmental laws and regulations for vehicles?

*Remarks: Stakeholders (EPA, CARB, DoJ ...) Analysis of the related parties i.e. customers, regulators, suppliers, nongovernmental organizations to be considered.*

2. Clause 4.2 (Understanding the needs and expectations of interested parties)  
What processes do the VW Defendants have to understand the needs/expectations of US legal and regulatory bodies; which of those needs/expectations are US environmental laws and regulations (compliance obligations) relevant to the vehicle and its product development process of vehicles?
  - a) Has the organization determined the roles and responsibilities within the EMS and its scope to ensure compliance of vehicles sold in the US market?
  - b) Has the organization effectively considered the following prior to determining the scope of the EMS?
  - c) The extent of organization's control and influence, context, external and internal issues, compliance obligations, processes, activities, products and services?
  - d) Has the organization made its scope in relation to ensuring compliance with US legislations available to all interested parties as documented information?

*Remark: project organization, performance specification, identification of compliance obligations*

3. Clause 4.3 (Determining the scope of the environmental management system)  
How have the VW Defendants determined the boundaries and applicability of the environmental management system to the PDP, and particularly considering the compliance obligations; its organizational departments or units, and functions; outside the environmental departments/divisions of its activities, and its authority and ability to exercise monitoring, control and influence wholly all along the PDP?
4. Clause 4.4 (Environmental management system)  
How does the organization establish, implement, maintain and continually improve an environmental management system, including the PDP processes and sub-processes and their interactions?
5. Clause 5.1 (Leadership)  
Is the top management of the VW Defendants (those responsible for the product development process) demonstrating leadership and commitment for achieving compliance of vehicles with US environmental laws and regulations?  
How is it obvious that Top Management is committed to EMS and shows leadership?
  - a) Is top management demonstrating accountability for the effectiveness of the EMS?
  - b) Are the environmental policy and objectives established, and compatible with the strategic direction, US compliance requirements and the context of the organization?
  - c) Is top management involvement obvious?
  - d) Does top management ensure that the EMS requirements are effectively implemented into the organization's Product Development processes?
  - e) Does top management allocate resources and ensure their availability needed for the EMS?
  - f) Does top management communicate the importance of effective environmental management and of conforming to the EMS requirements?
  - g) Does top management ensure that the EMS achieves its intended outcome(s)?
  - h) Does top management direct and support persons to contribute to the effectiveness of the EMS?
  - i) Does top management promote continual improvement?

- j) Does top management support other relevant management roles to demonstrate their leadership in their areas of responsibility, when applicable?

*Remark: The understanding of environmental issues related to US compliance obligations has to promoted and realized within the organization.*

6. Clause 5.2 (Environmental Policy)

How have the VW Defendants developed and implemented their environmental policy (for each defendant)?

Seek objective evidence for top management's involvement in establishing, implementing and maintaining an environmental policy.

- a) Is the policy appropriate to the defined scope, purpose, and context of the organization, including the nature, scale and environmental impacts of its activities, products and services? In particular does this policy cover the PDP?
- b) Does the policy provide a framework for setting environmental objectives?
- c) Does the policy include a commitment to protection of the environment, covering prevention of pollution and other specific commitments relevant to the context of the organization?
- d) Does the policy include a commitment to fulfill the compliance obligations, such as US environmental laws and regulations related to vehicles?
- e) Is the policy communicated within the organization, to all persons doing work (directly or indirectly) within the Product Development Process or under the organization's control?
- f) Is the policy made available to interested parties?

7. Clause 5.3 (Organizational Roles, Responsibilities and Authorities)

Are roles, responsibilities and authorities clearly defined and understood for complying with US environmental laws and regulations along the Product Development Process (PDP)?

In order to facilitate effective environmental management:

- a) Does top management ensure that the roles and their relevant responsibilities and authorities are assigned and communicated within the organization to ensure that;
  - Performance of the EMS and particularly along PDP and including compliance with US environmental laws and regulations related to vehicles, is reported to top management?

8. Clause 6.1.1 (General) Risk and Opportunities

Have the Volkswagen Defendants determined risks and opportunities associated with noncompliance with US environmental rules and regulations for vehicles?

- a) What process has been developed to identify risks and opportunities?
- b) Is it obvious that the organization has considered its context, relevant requirements of their relevant interested parties and their defined scope when planning for the EMS?
- c) Does the organization maintain documented information on its risks and opportunities, and are the processes needed documented to the extent necessary to be sure they are carried out as planned?
- d) Has the organization determined the risks and opportunities that need to be addressed to: give assurance that the EMS can achieve its intended outcome(s), prevent, or reduce, undesired effects, including the potential for external environmental conditions to affect the organization?

9. Clause 6.1.2 (Environmental aspects)

How does the VW Defendants determine the environmental aspects of PDP and products and their associated environmental impacts considering a life cycle perspective?

- a) The organization determine and have access to the compliance obligations related to its environmental topics?
- b) How are these significant environmental aspects communicated within the organization and its different functions?
- c) How are the environmental aspects, their associated environmental impacts identified?
- d) How does the organization determine the significant environmental aspects?
- e) How has the organization communicate its significant environmental aspects among the various levels and functions of the organization?

*Remark: For PDP when determining its environmental aspects, the organization can consider emissions to air; releases to water; releases to land; use of raw materials and natural resources; use of energy; energy emitted; generation of waste and/or by-products.*

#### 10. Clause 6.1.3 (Compliance Obligations)

What processes do the VW Defendants have to implement to identify the US environmental laws and regulations for vehicles, assess and evaluate their applicability? These processes include communication with the authorities.

- a) Does the organization determine and have access to the compliance obligations related to its environmental matters?
- b) Does the organization have processes to identify applicability of US environment laws and regulations?
- c) Does the organization determine how its compliance obligations apply to the organization, the projects of vehicles and the PDP and related activities?
- d) Does the organization take its compliance obligations into account when establishing, implementing, maintaining and continually improving its environmental management system?
- e) Does the organization maintain documented information of its compliance obligations?

#### 11. Clause 6.1.4 (Planning Action)

Through its planning processes, how do the VW Defendants take action to comply with US environmental laws and regulations for vehicles?

- a) Has the organization planned to:
  - Take actions to address its compliance obligations (homologation including testing and approval)
  - Integrate and implement the actions into its EMS processes or other operational processes within PDP?
  - Evaluate the effectiveness of these actions?
- b) When planning these actions, does the organization consider its technological options and its financial, operational and business requirements?

#### 12. Clause 7.1 (Resources)

How does the VW Defendants determine and provide the resources needed for the establishment, implementation, maintenance and continual improvement of the environmental management system within the PDP?

#### 13. Clause 7.2 (Competence)

How do the VW Defendants ensure that those persons involved in tasks and activities related to vehicle compliance with US environmental laws and regulations for vehicles are competent?

- a) How does the organization determine the necessary competence of person(s) doing work under its control that affect the compliance of vehicle with US environmental legislations?
- b) How does the organization ensure that persons doing the job are competent? What is the basis for their competency? (e.g. appropriate education, training, or experience)
- c) How does the organization determine training needs associated with its environmental obligations and its EMS?
- d) How does the organization take actions to acquire the necessary competence, and evaluate the effectiveness of the actions taken (where applicable)?
- e) Has the organization retained appropriate documented information has evidence of competence (e.g. competence or skills matrix)?

*Remark: Particular attention shall be paid upon personnel whose work has the potential to cause a significant environmental impact; b) who are assigned responsibilities for the environmental management system, determine and evaluate environmental impacts or compliance obligations; contribute to the achievement of an environmental objective; perform internal audits; perform evaluations of compliance.*

#### 14. Clause 7.3 (Awareness)

How do the VW Defendants ensure that employees and contracted service providers doing work under the organization's control are aware of the environmental policy; their contribution to the effectiveness of the environmental management system?

Are those responsible for assuring compliance with US environmental laws and regulations for vehicles aware of their duties and the implications of not complying?

Are the persons doing work under the organization's control aware of the organization's environmental policy, any objectives that are relevant to them, how they are contributing to the effectiveness of the EMS and what the implications are of them not conforming to EMS requirements?

*Remark: training of involved project team members*

#### 15. Clause 7.4 (Communication); clause 7.4.1 (General)

What processes do the VW Defendants have to implement to manage external and internal communication related to Environmental Management System and compliance of vehicles against US environmental laws and regulations?

In particular how the VW Defendants ensure consistency and reliability of communication against the information provided through the operations of environmental management system?

Are there appropriate records of such communication?

#### 16. Clause 7.4.2 (Internal communication)

How does the top management of the VW Defendants (those responsible for the product development process) communicate about environmental management system (policy, objectives, achievements, processes and procedures ...) throughout the organization including supply chain if appropriate?

How is this communication used to contribute to continual improvement?

#### 17. Clause 7.4.3 (External communication)

How have the top management of the VW Defendants (those responsible for the product development process) define process for external communication (To whom, what, when, how ...). In particular relating to Authorities and other stakeholders (Consumer association, NGOs, ...) what is the process to communicate information as required by US environmental laws and regulations?

18. Clause 7.5.1 (General) and clause 7.5.2 (Creating and updating)

How do the VW Defendants document the organization's environmental management system covering the PDP (tasks and activities), its interrelations and interactions with other operational processes? It shall include:

- a) documented information required by the International Standard ISO 14001:2015;
- b) documented information determined by the organization as being necessary for the effectiveness of activities and tasks related to PDP.

Remark: The extent of documented information could depend on:

- the size of organization and its type of activities, processes, products and services;
- the need to demonstrate fulfilment of its compliance obligations;
- the complexity of processes and their interactions;
- the competence of persons doing work under the organization's control.

How does the organization ensure that for processes not directly under their responsibility changes and having an impact on the compliance with US environmental laws and regulations are reported and submitted for approval before implementation?

How does the organization ensure appropriate identification and description, format and review and approval for suitability and adequacy of documented information?

19. Clause 7.5.3 (Control of Documented Information)

How do the VW Defendants control documents and records associated with compliance with US environmental laws and regulations for vehicles? This includes updates of US laws and regulations.

- a) Is the documented information controlled in order to ensure that it is available where needed and that it is suitable for use?
- b) Is it adequately protected against improper use, loss of integrity and loss of confidentiality?
- c) For the control of documented information; - Does the organization address distribution, access, retrieval and use of documented information?
- d) Is there a process for control of changes (version control), storage and preservation (including preservation of legibility), retention and disposition of documented information?
- e) Has the organization identified and established controls for any documented information of external origin that it considers necessary for the planning and operation of the organizations' EMS?

20. Clause 8.1 (Operational Planning and Control)

Do the VW Defendants have documented operational control procedures in place to ensure that product development activities are carried out in a way that ensures compliance with US environmental laws and regulations for vehicles?

Do the VW Defendants have a Management of Change process to ensure continued compliance with US environmental laws and regulations for vehicles and when changes occur within the product development process?

- a) In order to meet requirements of EMS and to address the issues determined in 6.1:
  - How does the organization plan, implement, monitor and control any processes, tasks and activities related to PDP?
  - How does the EMS verify effectiveness of environmental-related processes controlled by other departments?
  - What criteria (e.g., KPI) are established to monitor the processes?
- b) In accordance with the above criteria, are controls implemented on the processes, to prevent deviation from the environmental policy, environmental objectives and compliance



- obligations? For processes, tasks or activities within the PDP and not in direct control of EMS how does the organization ensure appropriate and timely reporting in case of deviations?
- c) Does the organization control planned changes and review the consequences of unintended changes, taking action to mitigate any adverse effects, as necessary? How does the EMS organization verify effectiveness to changes in areas not under its direct control?
  - d) Has the organization ensured that outsourced processes are controlled or influenced? Are the type and degree of control or influence to be applied to these processes are defined within the EMS?
  - e) To make the control processes consistent with a life cycle perspective, has the organization:
    - determined environmental requirements for the procurement of products and services, as appropriate?
    - established controls to ensure that environmental requirements are considered in the design process for the development including prototype manufacturing and testing, and end-of-life treatment, as appropriate?
    - communicated relevant environmental requirement(s) to external providers, including suppliers and contractors?
    - considered the need to provide information about potential significant environmental impacts during the delivery of the products or services and during use and end-of-life treatment of the product?
  - f) Does the organization maintain documented information to the extent necessary to document that the processes have been carried out as planned?

*Remark: Tasks, activities and sub-processes within the PDP include all tasks related to the design of components, equipment systems and functions of a vehicle during its development phase as well as in production phase for design change only, the production of prototypes (including purchasing for parts from the supply chain), the inspection and testing of these prototypes (including external testing facilities) and their final disposal or end of life.*

*When a process is outsourced or out of direct control, or when products and services are supplied by (an) external provider(s), the organization's ability to exert control or influence can vary from direct control to limited or no influence. In some cases, an outsourced process performed onsite might be under the direct control of an organization; in other cases, an organization's ability to influence an outsourced process or external supplier might be limited.*

#### 21. Clause 9.1.1 (General – Monitoring, Measurement, Analysis and Evaluation)

Do the VW Defendants have processes to monitor, measure (e.g. testing, certifying), analyse and evaluate its compliance with US environmental laws and regulations for vehicles?

- a) Is the organization monitoring, measuring, analyzing, and evaluating its environmental compliance?
- b) Has the organization determined what to monitor and measure?
- c) In order to ensure valid results; has the organization determined the methods for its monitoring, measurement, analysis and evaluation, as applicable?
- d) Are there any criteria determined by organization against which, it will evaluate its environmental compliance, using appropriate indicators?
- e) Has the organization determined when monitoring and measuring shall be performed?
- f) Is it determined when the organization shall analyze and evaluate the results from monitoring and measurement?
- g) Does the organization ensure that the equipment used for its monitoring and measurement are calibrated, verified and maintained as appropriate?

- h) Does the organization evaluate its environmental compliance and the effectiveness of the EMS?
- i) Does the organization retain appropriate documented information as evidence of the monitoring, measurement, analysis and evaluation results?
- j) Is the information relevant to organization's environmental performance being communicated both internally and externally, as determined by organization's communication process and as required by its compliance obligations?

#### 22. Clause 9.1.2 (Evaluation of Compliance)

Do the VW Defendants have a process to evaluate its compliance with US environmental laws and regulations for vehicles [identical like 9.1.1]?

- a) Are there any processes planned, implemented and maintained by the organization to evaluate fulfillment of its compliance obligations?
- b) Is the frequency of compliance evaluation determined by the organization?
- c) Does the organization evaluate compliance and take action if needed, in particular interacting with the Authorities if needed?
- d) Is the knowledge and understanding of the compliance status, being maintained by the organization?
- e) Is the evidence of the compliance evaluation result(s) being retained as documented information by the organization?

#### 23. Clause 9.2 (Internal Audit)

Do the VW Defendants have an internal audit process which evaluates the effective implementation of EMS all along the PDP and its adequacy including the processes related to PDP which are controlled by other departments?

- a) Are internal auditors competent to check whether the EMS within the PDP assures compliance of vehicles with US environmental laws and regulations for vehicles?
- b) Does the organization conduct internal audits at planned intervals to provide information on whether the EMS:
  - Conforms to the organization's own requirements for its EMS?
  - Is effectively implemented and maintained?
  - Has the organization planned, established, implemented and maintained audit program(s), to include the frequency, methods, responsibilities, planning requirements and reporting of the audits?
  - Does the organization's internal audit program take into consideration the environmental importance of processes concerned, changes affecting the organization, and the results of previous audits?
  - Are the audit criteria and scope defined for each audit?
  - Are the objectivity and the impartiality of the audit process ensured during the auditors' selection and conducting audits?
  - Are the results of the audits reported to relevant management?
  - Are the audit results and other evidence of the implementation of the audit program retained as documented information by organization?

#### 24. Clause 9.3 (Management Review)

Do the VW Defendants have a management review process which includes review of compliance with US environmental laws and regulations for vehicles and their evolution?

- a) Has the top management reviewed the organization's EMS, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness?
- b) Is the status of actions from previous management reviews considered during management review?
- c) Does the management review consider the changes in:
  - external and internal issues that are relevant to the EMS?
  - compliance obligations of interested parties?
  - risks and opportunities?
- d) Does the management review consider the extent to which objectives have been met?
- e) Does the management review consider the information on the organization's environmental performance, including trends in:
  - nonconformities and corrective actions?
  - monitoring and measurement results?
  - compliance obligations fulfillment?
  - audit results?
- f) Is adequacy of resources considered in the management review?
- g) Are the communications from interested parties considered in the management review? Does it also include complaints?
- h) Does the management review consider opportunities for continual improvement?
- i) Do the outputs of the management review include:
  - conclusions on the continuing suitability, adequacy and effectiveness of the EMS?
  - decisions related to continual improvement opportunities?
  - decisions on any need for changes to the environmental management system, including resource needs?
  - actions if needed, when objectives have not been met?
  - opportunities to improve integration of the environmental management system with other business processes, if needed
  - any implications for the strategic direction of the organization?
- j) Does the organization retain documented information as evidence of the results of management reviews?

25. Clause 10.2 (Nonconformity and Corrective Action)

Do the VW Defendants have a process for investigating root causes of nonconformities and addressing them through a corrective action system?

What is the process to address a nonconformity: identification, analysis of extent, correction and containment plan, identification of root cause, development and implementation of corrective action, review their effective implementation and effectiveness.

26. Clause 10.3 (Continual Improvement)

How can the VW Defendants demonstrate that it is actively working to improve its processes for complying with US environmental laws and regulations related to vehicles?

*Remark: a timescale of actions that improve the management system related to product development process should be demonstrated.*

**D. As part of this assignment, BV is required to:**

1. Evaluate the relevance of Volkswagen Group of America Chattanooga Operations, LLL

2. Prepare an individual audit report for each legal entities (Volkswagen AG, AUDI AG, Volkswagen Group of America) for 2017, 2018 and 2019
3. Identify deviations (major/minor)
4. For each deviation (major/minor), provide recommendations for corrective action
5. Identify opportunities for improvement (no corrective actions are required)
6. Work directly with VW Defendants to resolve any disagreements that may arise during the audits regarding scope, interpretation, criteria, applicability, etc.

Updated and approved: 23.04.2019 by Philippe

## ATTACHMENT 3: VOLKSWAGEN (Wolfsburg) Audit Plan

Auditplan for the EMS Audit in Wolfsburg								
Day	Start	End	No.	Issue / Topic	Documents to be provided by VW	involved department	Audit-team 1	Audit-team 2
	08:00	08:15		Auditors daily kick off		Auditors	x	x
	08:15	09:00		Opening meeting: Objectives and scope of the audit, audit team presentation, confirmation of planning & logistics, reminder on Deviations/OFI, presentation of audit process (daily debriefing, clarification meeting on last audit day ...)		K-GETU K-PPSU	x	x
	09:00	11:30	1.1	<p>Organisation and Processes (within the scope PDP/EMS), incl :</p> <ul style="list-style-type: none"> <li>* Changes in organisation &amp; in the Handbook of Golden rules</li> <li>* PEP Update 2018/2019</li> <li>* Implementation of EMS, documentation of changes and related communication</li> <li>* Interrelationships and interactions between EMS departments at Group and Brand levels and other departments or functions not under their direct control.</li> </ul> <p>Responsibilities for the business units, committees, and boards involved in the Product Development Process This topic will be covered for the different departments involved in PDP under direct control of EMS division or not.</p>	<p>Environmental policy Organisation chart, responsibilities Structure of EMS List of changes from 2018 (Handbook of Golden rules, organisation, processes, PEP/PDP) PEP/PDP processes and update from 2018 Mapping of PDP activities versus functions/departments Mapping of interactions and monitoring/controlling actions Interrelation matrix between different entities and sites</p>	<ul style="list-style-type: none"> <li>- K-GETU</li> <li>- EX (TE Organization)</li> <li>- EXZ2 - TE-PEP</li> <li>- GSOP - M-PEP</li> <li>- K-GEAX ?? - Agg PEP</li> <li>- K-GSKO - K-PEP</li> <li>G? Baureihenhandbuch (EO, GxX)</li> <li>- K-GETK (zur technischen Konformität)</li> <li>- K-PPS (KSK-UE)</li> <li>- K-PPSU (UMA)</li> </ul>	x	x
	11:45	12:15		<b>Additional time if needed : Organisation &amp; related (1.1)</b>		See sections concerned	x	x
1	13:00	13:45	1.2.1	EMS Internal Audit (covering PDP activities) - Generic presentation	Internal audit procedure	K-GETU/1	x	x
	13:45	15:00	1.2.2	EMS Internal Audit (covering PDP activities) - Review the internal audit program and particularly that key activities have been audited, auditor independence and qualification, corrective action process.	Internal Audit programme, audit files, list of auditors with qualification / experience, list of corrective actions,	K-GETU/1		x
	13:45	15:00	1.3	Management review and related communication. Reporting structure, Information flow within Volkswagen AG about compliance obligations and communication. KPI (monitoring) related to EMS processes and sub-processes.	Management review process and procedure 2019 management review with associated action plan	<ul style="list-style-type: none"> <li>- K-GETU</li> <li>- K-PPS</li> <li>- ET</li> <li>- EO (CTO)</li> </ul>	x	
	15:00	15:30		<b>Additional time if needed : Internal audit (1.2), Management review (1.3)</b>		See sections concerned	x	x
	16:00	17:00	1.4	Group wide process - Interpretation and input of laws (VKO/VEX); Process for cascading environmental laws and regulations related to vehicle into the design and development specifications of the product incl. testing and certification process. I.e "top down approach" = process to collect applicable laws, to interpret them, to forward interpretation to brands, using tools (ex : input in GETEX).	<p>Workflow diagram Process and activities description Responsibilities of the different parties involved Definition of interfaces between the entities involved and ways to communicate</p>	<p>ETB ETB/6</p>	x	x
	17:00	17:30		Auditor preparation for feedback meeting		Auditors	x	x
	17:30	18:00		Feed back meeting 1st audit day (including potential deviations, clarification or documentation request ...)		Auditors + Representatives of departments interviewed during the audit	x	x

Day	Start	End	No.	Issue / Topic	Documents to be provided by VW	involved department	Audit-team 1	Audit-team 2
2	08:00	08:15		Auditors daily kick off		Auditors	x	x
	08:15	08:45		Daily Opening meeting (confirmation of planning, logistics ...)		K-GERUP	x	x
	08:45	09:15	2.1.1	Application at brand level of processes linked to US environmental Laws and Regulations (linked to 1.4) : GETEX database use (output, incl. training of involved people and knowledge of changes) - one people will be selected to explain when he uses the database, and show how he uses it	List of people with access to GETEX database Training material for GETEX database + training records	ETB/1 -> User (VEX)	x	x
	09:15	12:00	2.1.2	Application at brand level of processes linked to US environmental Laws and Regulations (linked 1.4): GETEX database (comparison of GETEX database content vs US applicable Laws and Regulations)	List of environmental relevant regulations from GETEX List of recent updates made in the GETEX database (2018 & 2019)	ETB/1	x	
	09:15	10:15	2.2.1	Application at brand level of processes linked to US environmental Laws and Regulations (linked to 1.4): process linked to vehicle emissions (Power train, ECM) including purchasing. I.e how, by whom and when US Environmental Laws and Regulations are considered in the design of vehicle emissions (Power train, ECM).	Processes, documents and activities description, incl. responsibilities, linked to ECM / Powertrain. Esp. all the ones with a link to US Environmental Laws and Regulations.	ETB/5 VEX Developer VEX: EAOV/EACO (EA)		x
	10:15	12:00	2.2.2 (formerly file 2.2.2)	Application at brand level of processes linked to US environmental Laws and Regulations (linked to 1.4): vehicle emissions (Power train, ECM) for one product / model		EAOE/EACO VEX: EAOV		x
	12:15	12:30		Additional time if needed : GETEX (2.1) and ECM (2.2)		See sections concerned	x	x
	13:00	14:00	2.3.1	Application at brand level of processes linked to US environmental Laws and Regulations (linked to 1.4): hazardous material, refrigerating/coolant liquid	List of hazardous material, refrigerating/coolant liquid and waste potentially involved Process associated to these hazardous material, refrigerating/coolant liquid	ETB/3	x	
	14:00	15:30	2.3.2	Application at brand level of processes linked to US environmental Laws and Regulations (linked to 1.4): hazardous material, refrigerating/coolant liquid (one or several to be selected)	Report of evaluating material conformity, collection of selected material data sheets	ETB/3	x	
	13:00	15:30	2.4	Review of vehicles homologation files : for these vehicles identification of US environmental laws and regulations and review their compliance in the technical files.	List of homologation files related to vehicles sold in the US within the last 18 month	ETA/6		x
	16:00	16:30		Additional time if needed : hazardous material, refrigerating/coolant liquid (2.3) and vehicles homologation/certification (2.4)		See sections concerned	x	x
	16:30	17:30		Auditor preparation for feedback meeting including call with Philippe		Auditors	x	x
	17:30	18:00		Feed back meeting 2nd audit day (including potential deviations, clarification or documentation request ...) (Philippe attending by call)		Auditors + Representative s of departments interviewed during the audit	x	x

Day	Start	End	No.	Issue / Topic	Documents to be provided by VW	involved department	Audit-team 1	Audit-team 2
3	08:00	08:15		Auditors daily kick off		Auditors	x	x
	08:15	08:45		Daily Opening meeting (confirmation of planning, logistics ...)		K-GETU/1	x	x
	08:45	10:15	3.1	ETA - Technical Conformity process. Homologation process for powertrain incl. interface to VWGoA (EEO) for vehicles to be certified for sale in the United States (only in Wolfsburg, US not needed)	Process and activities description List of certification files related to vehicles sold in the US within the last 18 months	ETA/6	x	
	08:45	10:15	3.2	Continuation of 2.4: Review of vehicles homologation files : for these vehicles identification of US environmental laws and regulations and review their compliance in the technical files.		ETA/6		x
	10:30	12:15	3.3	Vehicle Compliance - self-certifying for the US market (only in Wolfsburg, US not needed)	Live demo of the process	ETG/3	x	
	10:30	12:15	3.4	Process for ensuring prototypes used for homologation measurements have the same properties as series representative production cars	Process standard/ check list	ETG/6		x
	12:15	12:45		Additional time if needed : Technical conformity (3.1), self certification (3.2), vehicle homologation files (3.3) and "prototype" process (3.4)		See sections concerned	x	x
	13:30	15:00	3.5.1	Change management process : i.e what happens if there is a software / hardware change during the vehicle life cycle	Processes linked to change in hardware or software	SW: ETC (EAOx/EACO) HW: EAMS (EAOx) EX	x	x
	15:00	16:00	3.5.2	Software changes along vehicle life cycle: sampling	List of vehicle with changes in software (2017 / 2018 / 2019)	EAOE, EACO. ETC		x
	15:00	16:00	3.5.3	Hardware changes along vehicle life cycle: sampling	List of vehicle with changes in hardware (2017 / 2018 / 2019)	EAOB EAMS1 EAOE ETA (Komm. Behörde)	x	
	16:00	16:30		Additional time if needed : change management process (3.5)		See sections concerned	x	x
	16:30	17:00		Auditor preparation for feedback meeting including call with Philippe		Auditors	x	x
	17:30	18:00		Feed back meeting 3d audit day (including potential deviations, clarifications or documentation request ...) (Philippe attending by call)		Auditors + Representatives of departments interviewed during the audit	x	x

Day	Start	End	No.	Issue / Topic	Documents to be provided by VW	involved department	Audit-team 1	Audit-team 2
4	08:00	08:15		Auditors daily kick off		Auditors	x	x
	08:15	08:45		Daily Opening meeting (confirmation of planning, logistics ...)		K-GETU	x	x
	08:45	11:45	4.1	Emission Test Center: Review of technical testing files (mixed test benches and gasoline/HEV & EV vehicles)	List of testing technical files	ETA	x	
	08:45	10:30	4.2	Emission Test Center: organisation and management of operations, validation and monitoring of installations, procedures and instructions versus US environmental laws & regulations	Organisation chart, responsibilities Management of operations (focusing on changes since 2018 and actions implemented further to the last BV audit) Structure of documentation versus US environmental laws & regulations Validation of installations and equipment and their monitoring	EAPF		x
	10:30	11:45	4.3.1	Emission Test Center: audit of one test performance - vehicle preparation		ETG/6 (EGW/1) & ETA		x
	13:00	15:30	4.1	Emission Test Center: Review of technical testing files (mixed test benches and gasoline/HEV & EV vehicles)	List of testing technical files	ETA	x	
	13:00	15:30	4.3.2	Emission Test Center: audit of one test performance - test performance		EAPF + ETA		x
	15:00	16:00	4.4	Management Board : (Board member)		Mr. Welsch		FS only
	15:45	16:30		Additional time if needed : review of technical files (4.1) and vehicle performance testing (4.3.2)		See sections concerned		
	16:30	17:30		Auditor preparation for feedback meeting with Philippe attending		Auditors	x	x
17:30	18:00		Feed back meeting 4th audit day (including potential deviations,, clarification or documentation request ...) (Philippe attending)		Auditors + Representatives of departments interviewed during the audit	x	x	

Day	Start	End	No.	Issue / Topic	involved department	Audit-team 1	Audit-team 2
5	08:00	08:15		Daily Opening meeting (confirmation of planning, agenda, logistics ...)	K-GETU	x	x
	08:15	10:15	5.1	Clarification and closure of open items		x	x
	10:15	11:15		Auditor preparation for closing meeting, agreement on wording of deviations, and on related actions. Audit conclusion final preparation and sharing of messages/ information disseminated during closing meeting	Auditors + K-GETU	x	x
	11:15	12:15		Final closing meeting (presentation of audit results - Strengths, weaknesses, OFI, Good practices, Deviations - reminder on the process for corrective action and associated timeline, reminder on the process for report delivery and associated timelines)	Auditors + Representatives of departments interviewed during the audit	x	x
	12:30	13:30		Lunch break		x	x



## Audit methodology and planning

The Third Partial Consent Decree requires the independent third party to conduct an Environmental Management System (EMS) audit for each of the calendar years 2017, 2018, and 2019 pursuant to an industry recognized standard for their Product Development Processes (PDP) that are utilized for vehicles to be certified for sale in the US.

As the scope and objectives of this audit significantly differ from usual ones delivered in Certification business, a specific methodology has been developed to ensure that the performance of this audit will meet the expectations as expressed in the article 24 of the Third Partial Consent Decree.

The section 4 of this report describes how ISO 14001:2015 was selected as the industry recognized standard and then customized within the Audit Criteria to fit to PDP activities.

The 3 year cycle audit plans have been developed to cover the PDP activities, the aspect of compliance to US environmental laws and regulations related to vehicle and so the interactions within the different Volkswagen Group entities or locations.

Considering the PDP the following key master activities have been identified:

- the identification of US environmental laws and regulations applicable to vehicles;
- technical development & engineering tasks;
- homologation / certification activities;
- testing at benches as a key component for verifying compliance with the US emissions regulations for certifying engines and vehicles to be sold in the US market;
- transfer of car configuration between technical development and manufacturing;
- change management after SOP.

The Table I presents per entity/site (involved in the PDP) and per year when and where these key master activities have been audited along the 3 year cycle (With the reference of the date & time from the audit plan of the relevant site/year – Audit plans are presented in attachment 3 of each EMS audit report).

As PDP is longer than the 3 year cycle (refer to section 6.1 of this report) and as there are various vehicle models, the sampling lists (for files and/or documentary reviews) have been selected to address:

- vehicles projects at different progress steps,
- different projects vehicles (gasoline, electric, hybrid).

**Table I: Coverage of PDP activities over the 3 years audit planning**

	2017	2018	2019
<b>Identification of US environmental laws and regulations</b>			
VW Wolfsburg	14/11 - 8:45/9:45 15/11 - 8:15/10:45	1.2	2.1.1 & 2.1.2
AUDI Ingolstadt	17/11 - 15:15/17:15	2.1 & 2.2	2.1.1
VWGoA EEO	6/2 – 15:15/17:15 7/2 - 10:00/12:15	31/10 – 8:45/9:30 & 10:45/12:00	1.4.1
<b>Technical development &amp; Engineering activities</b>			

VW Wolfsburg	14/11 - 8:45 /11:30 & 12:45/16:30 15/11 - 8:15/10:45 & 13:30/15:30	2.1, 2.2 & 2.3 3.1 & 3.3	2.2.1 & 2.2.2 2.3.1 & 2.3.2 2.4 & 3.2
AUDI Ingolstadt	20/11 - 10:45/17:15 21/11 – 9:00/16:30	2.3 & 2.4 3.1 & 3.2	2.2.1 & 2.2.2 2.3.1 & 2.3.2 2.4 & 3.2
<b>Homologation/Certification activities</b>			
VW Wolfsburg	13/11 – 10:00/12:00 14/11 - 12:45/16:30 15/11 – 11:00/12:30 & 13:30/15:30	3.2 & 3.3	2.4 & 3.2 3.1 & 3.3
AUDI Ingolstadt	20/11 - 10:45 to 15:30 21/11 - 11:00 to 16:30	4.1 & 4.2 & 4.3	2.4 & 3.2 3.1 & 3.3
VWGoA EEO	6/12 - 15:15/17:15 7/12 – 9:00/12:15	31/10 - 10:45/12:00 & 13:00/14:30	1.2.1 & 1.2.2 2.2
<b>Test bench activities</b>			
VW Wolfsburg	14/11 - 8:45/11:30 15/11 - 13:30/15:30	27/9 – 14:30/17:00	29/8
AUDI Ingolstadt	20/11 - 13:00/15:30 18/12 - 10:00/15:30	17/10 – 13:00/16:30	19/10 24 & 25/10 (Neckarsulm)
VWGoA TCC	6/2 (2018)		26/3, 26 & 27/9, 23 & 24/3 2020
<b>Transfer to Production</b>			
VW Wolfsburg			3.4
AUDI Ingolstadt	21/11 - 11:00/16:30		3.4
<b>Change Management after SOP</b>			
VW Wolfsburg	14/11 - 12:45/16:30		3.5.1, 3.5.2 & 3.5.3
AUDI Ingolstadt	20/11 - 10:45/15:30	3.2	3.5.1, 3.5.2 & 3.5.3
VWGoA EEO			2.4.1 & 2.4.2

The US environmental laws and regulations applicable to passenger cars as issued by EPA, CARB (either local or federal) were considered and have been categorized into 5 main subtopics:

- Self-certification process of vehicle or vehicle components;
- Performance tests for certification;
- Communication to authorities;
- Prohibited or restricted substances;
- Waste management, which have to be considered especially at TCC Oxnard (disposal of prototype vehicles).

The Table II presents how the audit planning over the three years have covered these subtopics (With the reference of the date & time from the audit plan of the relevant site/year – Audit plans are presented in attachment 3 of each EMS audit report).

In order to cope with the diversity of US environmental laws and regulations the sampling lists (for files and/or documentary review) have been selected to address either local or federal Regulations set in force for several months or recently updated/promulgated.

**Table II: Coverage of US environmental laws and regulations over the 3 year audit planning**

	VW Wolfsburg	AUDI Ingolstadt Neckarsulm	VWGoA EEO Auburn Hills TCC Oxnard
<b>Self-Certification Process (Vehicle/Vehicle Component)</b>	<b>2017:</b> 14/11 - 12:45/14:30 <b>2018:</b> 3.3 <b>2019:</b> 3.3	<b>2017:</b> 20/11 - 10:45/15:30 <b>2018:</b> 4.2 <b>2019:</b> 3.3	<b>2017 EEO:</b> 6/12 – 13:00/15:00
<b>Performance Tests for Certification</b>	<b>2017:</b> 14/11 - 8:45/11:30 15/11 – 13:30/15:30 <b>2018:</b> 1.2, 1.3, 2.1, 2.2, 3.1 & 3.2 <b>2019:</b> 1.4, 2.1.1, 2.1.2, 2.2.1, 2.2.2, 2.4, 3.1, 3.2, 4.2	<b>2017:</b> 20/11 – 15:45/17:15 21/11 – 11:15/16:30 <b>2018 :</b> 2.1, 2.2, 2.3, 2.4, 3.1, 3.2 & 4.3 <b>2019:</b> 1.4.2, 2.1.1, 2.1.2, 2.2.1, 2.2.2, 2.4, 3.1, 3.2, 4.2 <b>2019:</b> 1.2 (Neckarsulm)	<b>2017 EEO:</b> 6/12 – 15:15/17:15 & 7/12 <b>2018 TCC:</b> 6/2 – 15:15/17:15 & 7/2 <b>2018 EEO:</b> 31/10 – 8:45/9:30 & 10:45/12:00 <b>2019 EEO:</b> 1.4.1, 1.4.2, 2.1 <b>2019 TCC:</b> 26/3 – 13:00/16:00 26 & 27/9 - 1.1, 1.2, 1.3, 1.5, 1.6 23 & 24/3 2020 – 1.2, 1.4
<b>Communication to Authorities</b>			<b>2017 EEO:</b> 6/12 – 15:15/17:15 & 7/12 <b>2018 TCC:</b> 6/2 – 13:00/15:00 <b>2018 EEO:</b> 30/10 – 14:45/16:15 <b>2019 EEO:</b> 1.2.1, 2.3
<b>Prohibited, Restricted substances</b>	<b>2019:</b> 2.3.1, 2.3.2	<b>2019:</b> 2.3.1, 2.3.2	
<b>Waste Management</b>			<b>2019 TCC:</b> 1.4