

BUREAU VERITAS
Certification



Environmental Management System – Audit Report

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Volkswagen Group of America
Test Center California, Oxnard, California
Audit Dates: March 26, 2019 - September 26-27, 2019
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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.

This Audit report can only be relied upon by the VW Defendants and the Department of Justice in conjunction with the Third Partial Consent Decree and no other third party may rely upon this report. This report shall only be reproduced in its entirety.

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

Table of Contents

1.0	APPLICABILITY	3
2.0	BACKGROUND	3
3.0	COMMISSION	4
4.0	AUDIT SCOPE AND METHODOLOGY	5
4.1	Choice of ISO 14001:2015 as EMS standard	5
4.2	Selection of applicable criteria of ISO 14001:2015.....	6
5.0	AUDIT PLANNING	8
6.0	AUDIT EXECUTION	9
7.0	TEST CENTER CALIFORNIA (TCC)	10
7.1	Process Overview.....	10
7.2	Emissions Laboratory	10
7.3	Emission Testing Quality Verification Processes	11
7.4	Emission Test Data Security.....	12
7.5	Employee Competency and Training	13
7.6	Technical Center - Workshop and Facility Management.....	13
7.7	Business Management, Processes/Policies, PMO/Legal Audits, Management Systems .	13
8.0	AUDIT RESULTS	14
8.1	Major and Minor Deviations	14
8.2	Suggested Opportunities For Improvement (OFI):	15
8.3	Best Practices	17
9.0	CONCLUSIONS	18



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. (VWGoA) and AUDI AG. Therefore the term Volkswagen is used for simplicity and refers to these three entities collectively. Sections 5.0 through 9.0 of this report apply specifically to VWGoA Test Center California (TCC) in Oxnard, California and therefore the term TCC 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.

In addition to the audit conducted at EEO in October 2018, Bureau Veritas determined that a pre-audit should be conducted at the TCC as part of the year 2019 audit cycle. TCC was originally thought to be out of scope of the audit cycle in 2018 because they did not conduct any testing activities related to the PDP. However, Volkswagen was planning to use TCC for vehicle certification testing beginning in mid to late 2019. Bureau Veritas completed the pre-audit referenced in this report in March 2019 prior to TCC performing any certification testing. The main



audit was then conducted at TCC in September 2019. Lastly, a complimentary audit was conducted by Bureau Veritas in March 2020 specifically focused on the end to end emissions testing process and the associated quality controls.

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 audits at VWGoA, the team was expanded to include a lead auditor and two audit teams each consisting of 1 auditor and an assistant auditor. The audit team consisted of Francois (Lead Auditor), Engelbert (Auditor, Automotive Expert), Anne (Auditor, Expert for US environmental law), and Simone and Wendy served as Assistant Auditors to manage organization and documentation of the audit. In addition, Phillippe, 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. The complementary audit in March 2020 was conducted by Philippe (Lead Auditor) and Anne (Auditor, Expert for US environmental law), and Wendy served as Assistant Auditors to manage organization and documentation of the audit.

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 of environmental performance;
- fulfilment of compliance obligations to US environmental laws and regulations for vehicles certified for sale in the US; and
- 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 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
4	Context of the Organization	
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
5	Leadership	
5.1	Leadership and Commitment	X
5.2	Environmental Policy	X
5.3	Organizational Roles, Responsibilities and Authorities	X
6	Planning	
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
6.2	Environmental Objectives and Planning	
6.2.1	Environmental Objectives	
6.2.2	Planning Action to Achieve Environmental Objectives	
7	Support	
7.1	Resources	X
7.2	Competence	X
7.3	Awareness	X
7.4	Communication	
7.4.1	General	X
7.4.2	Internal Communication	X
7.4.3	External Communication	X
7.5	Documented Information	
7.5.1	General	X
7.5.2	Creating and Updating	X
7.5.3	Control of Documented Information	X
8	Operation	
8.1	Operational Control and Planning	X
8.2	Emergency Preparedness and Control	
9	Performance Evaluation	
9.1	Monitoring, Measurement, Analysis and Evaluation	X
9.1.1	General	X
9.1.2	Evaluation of Compliance	X
9.2	Internal Audit	
9.2.1	General	X
9.2.2	Internal Audit Program	X
9.3	Management Review	X
10	Improvement	
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
Major Deviation	A major deviation is typically defined as “Based on objective evidence, the absence of 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.
Minor Deviation	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.
Opportunities For Improvement	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.
Best Practices	A procedure or process that has shown optimal results suitable for consideration for widespread adoption.

5.0 AUDIT PLANNING

In advance of the audit, comprehensive audit plans were developed by Bureau Veritas and then presented and accepted by TCC. These audit plans were adapted for each location according to its function, area of responsibility and processes related to the PDP. The audit plans for TCC can be found in Attachment 3.

During the execution of the audits, 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 TCC 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.

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 test benches;
- interviews of key personnel involved in the testing process
- a review of end to end testing process and its monitoring and control
- a review of technical files (certification files, testing files, design change files, etc.);
- a review of corresponding documentation for verification/confirmation of management system implementation; and
- the effective implementation of US environmental laws and regulations related to vehicles (passenger cars).

The complementary audit in March 2020 was conducted remotely because of government issued travel restriction in place at the time of the audit due to the COVID-19 world-wide situation.

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

Since the 2018 BV audit, further process and organizational changes continue to be implemented; 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 to evaluate 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 no yet sufficient evidence to date of its effectiveness, Bureau Veritas has made recommendations in the Opportunities for Improvement Section of this report (8.1).



7.0 TEST CENTER CALIFORNIA (TCC)

7.1 Process Overview

The TCC is an independent provider of various types of vehicle emission testing services both for Volkswagen as well as for other vehicle manufacturers. Types of testing include certification testing for Volkswagen, emissions testing, climatic testing, electric vehicle testing and on-road testing.

The TCC facility in Oxnard, California consists of:

- Emissions Laboratory
- Technical Center – Engineering, Facility Environmental Compliance, Facility Management
- Business Management – Processes/Policies, PMO/Legal Audits, Management Systems, Risk Management, HR, Strategy.

7.2 Emissions Laboratory

Any certification testing for the VW brand at TCC requested by Volkswagen entities, is coordinated through the Auburn Hills EEO office. For each test conducted, the process is initiated by a test request, which outlines the technical specifications for each test. This test request will come through EEO as the TCC is not involved in determining what the test specifications are. After approving the test request, the TCC will receive the vehicle to be tested, will perform the emission tests and will then send the requestor the test results. By design, the TCC is not involved in the analysis or the evaluation of the test results provided to the requestor and they are not informed of the intent of the test. The TCC's responsibility is only providing test data to the requestor. This delineation of roles and responsibilities between EEO and TCC is defined in an executed Service Level Agreement dated January 12, 2018.

The TCC conducts emission certification testing for Volkswagen for vehicles being developed for the US market. As with any test performed by TCC, at the time of the test, they do not know the intention of the test data. The test data may be ultimately used for emissions certification for these vehicles.

During the inspection of the emission test operations at TCC, the following observations were noted:

- Vehicle preparation procedures were well documented and were being followed
- The calibration of the measuring equipment was verified both during the test laboratory walk-through as well as during a file review
- Pre-conditioning of the vehicles is completed as required in climate controlled areas
- Test criteria are defined by the test requestor and listed on the test request
- There is clear organizational independence from other organizational units
- The test lab operates in global accordance with main ISO / IEC 17025 requirements
- The facility has a dedicated resource to maintain equipment calibration and servicing records
- Vehicle prototype destruction follows a defined process and a Letter of Destruction is received upon completion

7.3 Emission Testing Quality Verification Processes

The TCC has implemented a quality control structure and hierarchy for verifying and controlling the data generated by the emission testing laboratory. The control structure is a 5- Step process as outlined below with emphasis on the multi-eye principles.

Steps	Responsible Department	Quality Check Performed	Responsible Staff
1	Emissions Laboratory	General Overview	Emissions Lab Technicians
2		Second Review plus Plausibility Check	Emissions Lab Shift Lead
3		Full Plausibility Check	Lab Manager/Engineer
4		Efficacy Spot Check	Senior Manager Emissions Laboratory
5	Business Management	Test Package Efficacy Check	Risk Associate Analyst

Steps 1 through 3 are the responsibility of the Emissions Test Laboratory personnel with Step 3 being a detailed completeness check and a technical/plausibility review by the Lab Engineer. The Lab Engineer can disqualify or invalidate a test if warranted. Upon the Lab Engineer's approval and sign-off, the test package can be sent to the customer.



In addition to Steps 1 through 3 above, two additional levels of quality control checks are performed. Step 4 is an efficacy check of test packages selected randomly on a quarterly basis. This spot check is conducted by the Senior Manager of the Emissions Laboratory who is evaluating the test package data for completeness and to assure the multi-eye principle has been utilized during the completion of Steps 1 through 3. The efficacy spot checks are documented, tracked and reported to the Site Leadership Team.

Step 5 is also an efficacy check conducted by personnel from the Business Management Department on a monthly basis. A Risk Analyst, who is not part of the Emissions Test organization, completes the checks looking for completion of the quality reviews outlined in Steps 1 through 4. The Risk Analyst generates a report that is reviewed with the Senior Manager of the Emissions Test Laboratory.

TCC has defined key performance indicators (KPIs) for both Steps 4 and 5 and have set goals as part of the site's quality objectives for achieving at least a 95% completion rate of the required quality checks. For the first quarter of 2020, no discrepancies were identified during the efficacy checks.

The quality control procedures outlined above are documented in TCC's Process Descriptions which are part of the site's Quality Management System and were recently released in February 2020.

7.4 Emission Test Data Security

TCC has a well-established process for assuring emission test data is secured. Once test data is validated as part of Steps 1-3, the test data is transferred to two locations. The raw test data is automatically saved to a secured location called SnapLock. This is managed externally and cannot be modified by TCC after 7 days from the last modification. This 7-day wait period allows Steps 1-3 to be completed. Data transferred to SnapLock can only be viewed by TCC personnel to assure the data is being transferred properly from the AVL software and cannot be modified.

Data is also transferred to a TCC internal drive which has controlled access that can only be granted by the Vice President of TCC. This drive is considered the Working Share drive where the final scanned Test Close-Out packet is stored.

Data security for the Emission Test Laboratory is documented in the Test Close-Out Process Description last updated March 30, 2020. A quarterly check of IT Security is conducted by IT personnel in conjunction with the Risk Analyst.

7.5 Employee Competency and Training

TCC has a well-defined employee Performance Management Process (PMP) with focus on three main areas including:

- Experiential Learning
- Mentoring and Coaching
- Training and Education

TCC develops a Qualification Matrix for each employee based on the position job description and their level of expertise. This is monitored and discussed with employees twice per year. In addition, TCC specific and Corporate level mandatory training is defined. Corporate training includes topics such as Code of Conduct, Integrity, Ethics and Whistleblower. TCC specific training includes department specific trainings as well as an annual Environmental Management System (EMS) training.

7.6 Technical Center - Workshop and Facility Management

The TCC Technical Center provides the following services:

- Engineering Services (Workshop Operations, Prototype Fleet Operations, On-Board Diagnostic Testing)
- Tenant and Facility Management
- Finance & Purchasing
- Facility Environmental Compliance.

All of the above are support functions for the operations of TCC and are now part of the EMS.

7.7 Business Management, Processes/Policies, PMO/Legal Audits, Management Systems

The Business Management (BM) group was established approximately June 2017 and is responsible for the following:

- Development of Written Processes and Policies for TCC Operations
- Quality, Environmental, Compliance Management Systems
- Legal/PMO and Compliance Liaison for the Consent Decree
- Audit and Self-Assessments and Reporting

- Emission Test Efficacy Checks
- Review of Data Governance
- Human Resource Support
- Risk Management
- TCC Strategy.

8.0 AUDIT RESULTS

8.1 Major and Minor Deviations

There was one minor deviation identified during the TCC Pre-Audit conducted in March 2019 as listed in Table 3 below. There was one Major deviation identified against the applicable Audit Criteria ISO 14001:2015 Standard clauses during the subsequent TCC 2019 audit conducted in September 2019 and there were no major or minor deviations identified during the complimentary audit in March 2020.

Bureau Veritas has reviewed and approved the listed corrective actions provided by TCC to address the deviations from both the TCC Pre-Audit in March 2019 and the audit completed in September 2019.

Table 3: Status Update of 2019 TCC Pre-Audit System Deviation and Corrective Action

Finding #	Rank	Clause	Description	Corrective Action/Recommendation
TCC-EMS-01	Minor	6.1.1 Risks and Opportunities	The risk and opportunities register for the EMS does not include all of the potential risks that could impact the EMS. These risks have been identified in the VWGoA Operational Risk Register tool used by TCC but they are not specifically captured in the EMS Manual.	Consolidate the Risk and Opportunities information into the EMS to assure all risks are being captured and communicated. September 2019 Status Update: TCC has incorporated the results of the Risk Register tool into the EMS risk identification process.

In addition, as part of the audit, Bureau Veritas identified processes in place that could be considered strengths or Best Practices (Section 8.2) and have also provided detailed recommendations as Opportunities for Improvement (OFIs) shown in Table 5 under Section 8.1 below.

A brief closing meeting was held at TCC 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.

After the audit at TCC in September 2019, Bureau Veritas was made aware that after an intensive review of testing files some of the documents were modified or complemented outside the currently defined and controlled process. This resulted in a major deviation being raised to address this point as outlined below. The subsequent corrective action (additional refinement of “efficacy check of test packages”) initiated by TCC, was reviewed by Bureau Veritas during the complementary audit in March 2020.

Table 4: 2019 TCC Audit Deviation and Corrective Action

Finding #	Rank	Clause	Description	Corrective Action/Recommendation
TCC-EMS-02	Major	4.3 / 5.1 / 7.5.3 / 8.1 / 9.2 / 9.3 / 10.2	This lack of control constitutes a breach against the clauses and the basic fundamentals of any management system. In addition such initiative should have been considered as an internal audit, managed through the corrective action process and reported as such and the outcomes consolidated in the management review.	The TCC has implemented a quality control structure and hierarchy for verifying and controlling the data generated by the emission testing laboratory. The control structure is a 5- Step process involving both the Emission Laboratory and the Business Management business units.

8.2 Suggested Opportunities For Improvement (OFI):

As part of the 2019 TCC EMS audits some OFIs were raised that TCC voluntarily implemented.

During the 2019 pre-audit and subsequent audit, opportunities for improvement and associated recommendations were raised and shared with TCC for consideration (see Table 5). This table presents the actions TCC intends implementing to answer to these OFIs. There were no additional OFI's raised during the complimentary audit in March 2020.

Table 5: Opportunities For Improvement Recommendations Identified in 2019

No.	Current Process/Procedure	Opportunity for Improvement Recommendation	Action decided by TCC
TCC (March 2019)			
1	The EEO maintains the Compliance Obligation Register and asks for input from the TCC during a review process. There is not a formal process for documenting the review and input from TCC for the Compliance Obligation Register.	Consider documenting TCC's review and input into the Compliance Obligation Register.	TCC provided input to the Compliance Obligation Register that is maintained by EEO. This input was documented through the TCC Leadership Team meeting minutes.
2	TCC has a document control and numbering process for management system documents, however, they do not always add the effective date on all the documents.	Consider adding effective date on all controlled documents, even Attachments or Appendices.	Effective date has been added to all management system controlled documents for the EMS.
3	TCC is currently working towards being ISO 17025 and being certification ready. VWGoA has also made a decision to become ISO 9001 certified along with the implementation of the EMS. There are many common elements of these standards but TCC is approaching them independently.	Consider Integration of the ISO 17025, ISO 9001 and ISO 14001 common elements.	The site is actively working on consolidation of the management systems where there is overlap.
4	The current EMS at TCC is very limited to only portions of their business that potentially impact PDP. It may be more effective if it was expanded to include all operations including facility environmental aspects.	Consider expanding the Scope of ISO 14001 EMS to include more than PDP	TCC has expanded the scope of the EMS to include all environmental programs applicable to the site, included waste management, and prototype destruction.

TCC (September 2019)			
1	A conversion tab is used to calculate tire pressure instead of using a direct reading instrument.	Consider the usage of manometer for measurements of tire pressures in accordance to the required units bar or psi instead of using a conversion tab.	TCC is testing/piloting a new pressure gauge that is able to switch between PSI and bar units. The tool specifically meets CA requirements (stated on tool). If the testing period is completed successfully, the corporate purchasing process will be initiated to acquire more tools to replace the old tools that are PSI only.
2	Supplier Assessments are conducted as part of the Quality Management System but does not include a detailed review specific to environmental risks.	Detailed information regarding environmental compliance and practices for the vehicle scrap recycler and the battery recycler should be considered in the Supplier Assessments.	TCC will develop a strategy to include this matter in ECMS and Purchasing process. Some environmental questions will be added to our TCC internal supplier evaluation as an interim solution (Q1 2020) until clarity has been provided by VWGoA EHS.
3	It is the TCC process to review auditor competencies and was evidenced as part of the file review with availability of auditor's CVs, this is in line with Audit Criteria requesting that auditors must be competent.	For the selection of internal auditors, consider including criteria on qualification against EMS standards and/or other technical requirements.	TCC may consider this OFI during the selection of a supplier for the next EMS internal audit (Q3 2020). Feasibility depends on the scope and roll-out of TCC ECMS and the requirements set forth by the ECMS policy.

8.3 Best Practices

The auditors identified the following Best Practices at TCC within the scope of the audit:

- There is a Service Level Agreement executed between EEO and TCC clearly defining roles and responsibilities.
- TCC has implemented a robust IT/IS platform for test files recording and archiving.
- The EMS Scope has been expanded to include all environmental activities and is not just focused on PDP, including scrap and waste management.

- Implementation of a work flow checklist for emission testing operation
- Preparation for upgrade of Test Cell 1 (climatic chamber) of the laboratory to meet Code of Federal Regulations (CFR) §1066.
- Calibration plan for emission test facilities referring to US laws and regulations.
- TCC has incorporated the “human element” when implementing the quality check process.
- TCC has established KPIs to track the emission test data efficacy checks.

9.0 CONCLUSIONS

Overall, the EMS for the PDP at TCC 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 TCC can potentially improve the effectiveness of the management systems including EMS. Most of these OFIs have been already taken into consideration for further implementation.

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 USA 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 emissions requirements. However, Bureau Veritas makes no warranty or guarantee that all Volkswagen or AUDI 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 fulfilment 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: TCC (Oxnard) Audit Plan

March 2019

Day	Start	Stop	No.	Issue / Topic	Subjects to be discussed (! Can be changed depending upon information gained during the audit)	Department involved
Day 1	08:30	09:00		Opening meeting: Objectives and scope of the audit, audit team presentation, confirmation of planning & logistics, reminder on NCR/OFI, ...)		
	09:00	10:00	1.1	Structure of the EMS, responsibilities, Organisation and Processes (within the scope PDP/EMS) Documentation of 2018 changes and related communication	Document review + interviews	
	10:00	10:15		Auditor communication meeting		Auditor
	10:15	11:15	1.2	EMS Internal audit Auditor independence and qualification Corrective action process	Document review + interviews	
	11:15	12:15	1.3	Management review and related communication Reporting structure, Information flow within VWGoA about compliance obligations and communication	Document review + interviews	
	12:15	13:00		Lunch		
	13:00	16:00	1.5	Emission Test Center: Lay out and processes	Test Instructions, Maintenance, software of testbench, Interviews + files reviews	
	16:00	16:30		Auditor preparation for feedback meeting		Auditors
	16:30	17:00		Final closing meeting (presentation of audit results - Strength, weaknesses, OFI, best practises, NCR - reminder on the process for corrective action and associated timeline)		Auditors + Representatives of departments interviewed during the audit

September 2019

Auditplan for the EMS Audit in TCC Oxnard

Day	Start	End	No.	Issue / Topic	involved department	Audit-team 1	Audit-team 2	
1	08:30	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 ...)	US E-TCC	x	x	
	09:00	10:00	1.1	Organisation and Processes (within the scope PDP/EMS) Implementation of EMS, Documentation of changes and related communication. This topic will be covered for the different departments involved in PDP under direct control of EMS division or not.	US E-TCC/1 & 2	x	x	
	10:00	10:45	1.2	Implementation of US laws and regulations related to testing (including interrelation to EEO Auburn Hills and other relevant departments within Volkswagen Group)	US E-TCC/2	x		
	10:00	10:45	1.3.1	Emission Test Center : interface with provider. I.e process to collect specifications for testing	US E-TCC/2		x	
	11:00	11:30	1.3.2	Emission Test Center : interface with provider. Review of request(s) received by EEO (at least vehicle which is going to be prepared in the afternoon)	Auditors - no TCC staff present		x	
	11:30	12:00	1.3.3	Emission Test Center: audit of one test performance - vehicle preparation (Vehicle check-in, and drain & fill)	US E-TCC/2		x	
	11:00	12:00	1.4	Waste disposal for "prototypes"; compliance with US environmental laws and regulations	US E-TCC/1	x		
	12:00	12:15		Additional time if needed : 1.1, 1.2, 1.3 & 1.4	See related sections for involved departments	x	x	
	13:00	16:30	1.5	Emission Test Center: Review of technical testing files (mixed test benches and gasoline/HEV & EV vehicles)	Auditors - no TCC staff present	x		
	13:00	15:00	1.6	Emission Test Center: organisation and management of operations, validation and monitoring of installations, procedures and instructions versus US environmental laws & regulations	US E-TCC/2		x	
	15:00	16:30	1.3.3	Emission Test Center: audit of one test performance - vehicle preparation	US E-TCC/2		x	
	16:30	17:00		Additional time if needed : Emission Test (1.5, 1.6 & 1.7)	See related sections for involved departments	x	x	
	17:00	17:30		Auditor preparation for feedback meeting (including call with Philippe)	Auditors	x	x	
	17:30	18:00		Feed back meeting 1st audit day (including potential deviations, clarification or documentation request ...) (Philippe attending by call)	Auditors + Representatives of departments interviewed during the audit	x	x	
	2	08:30	08:45		Daily Opening meeting (confirmation of planning, logistics ...)	US E-TCC	x	x
		08:45	10:30	2.1	Follow-up 1.5 : Emission Test Center: Review of technical testing files (mixed test benches and gasoline/HEV & EV vehicles)	Auditors - no TCC staff present	x	
		08:45	10:30	2.2	Follow-up 1.7 : Emission Test Center: audit of one test performance - test performance	US E-TCC/2		x
10:30		10:45		Additional time if needed : Emission Test Center (2.1 & 2.2)	See related sections for involved departments	x	x	
10:45		11:15	2.3.1	EMS Internal Audit - Generic presentation	US E-TCC	x	x	
11:15		12:15	2.3.2	EMS Internal Audit - Review the internal audit program and particularly that key activities have been audited, auditor independence and qualification, corrective action process.	Auditors - no TCC staff present		x	
11:15		12:15	2.4	Management review and related communication. Reporting structure, Information flow about compliance obligations and communication.	US E-TCC	x		
13:00		13:30		Monitoring of EMS processes		x	x	
13:30		15:00		Clarification and closure of open items		x	x	
15:00		16:00		Auditor preparation for closing meeting, agreement on wording of NCR and on related actions. Audit conclusion final preparation and sharing of messages/ information disseminated during closing meeting (including call with Philippe)	Auditors	x	x	
	15:00	16:00		Final closing meeting (presentation of audit results - Strength, weaknesses, OFI, Good practices, Deviations - reminder on the process for corrective action and associated timeline) (Philippe attending by call)	Auditors + Representatives of departments interviewed during the audit	x	x	

March 2020

Auditplan for the EMS Audit in TCC Oxnard

Day	Start	End	No.	Issue / Topic	involved department	Audit-team 1
1	08:30	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 ...)	US/OE-TCC & US/OE-TCC/2	x
	09:00	10:00	1.1	Organisation and Presentation of testing process (end to end) Documentation of changes and related communication since last audit	US/OE-TCC/2	x
	10:00	10:15		Break		x
	10:15	11:45	1.2	Presentation of the monitoring & control of testing process (Test package efficacy check & test result quality check) Escalation process Analysis of reviews outcomes	US/OE-TCC/2	x
	11:45	12:45	1.3	Interviews BML & Risk Associate Analyst	US/OE-TCC	x
	12:45	13:30		Lunch break		x
	13:30	16:30	1.4	Selection of test packages to be audited Emission Test Center: Review of test packages incl. testing files (mixed test benches and gasoline/HEV & EV vehicles) end to end process from test request/work order to test report/test package	US/OE-TCC/2	x
	16:30	17:00		Auditor preparation for feedback meeting	Auditors	x
	17:00	17:30		Feed back meeting 1st audit day (including potential deviations, clarification or documentation request ...)	Auditors + Representatives of departments interviewed during the audit	x

Auditplan for the EMS Audit in TCC Oxnard

Day	Start	End	No.	Issue / Topic	involved department	Audit-team 1
2	08:30	08:45		Auditors daily kick off	Auditors	x
	08:45	09:00		Daily Opening meeting (confirmation of planning, logistics ...)	US E-TCC	x
	09:00	10:00	2.1	Follow-up 1.4: Emission Test Center: Review of technical testing files (mixed test benches and gasoline/HEV & EV vehicles) Review and closure of pending topics	US/OE-TCC/2	x
	10:00	10:15		Break		x
	10:00	11:15	2.2	Interviews of MELS & ELSL & LOES	US/OE-TCC/2	x
	11:15	12:00	2.3	Management of competence Training (EMS/QMS, Specific dedicated to Integrity & Ethics)	US/OE-TCC	x
	12:00	12:30	2.4	Top Management interview	US/OE & US/OE-TCC	x
	12:30	13:00		Lunch break		x
	13:00	13:30	2.5	Recording and archiving of test packages	US/OE-TCC/2	x
	13:30	14:45	2.6	EMS Internal Audit - Review the internal audit program and particularly that key activities have been audited, auditor independence and qualification, corrective action process.	US/OE-TCC	x
	14:45	15:30	2.7	Management review and related communication. Reporting structure, Information flow about compliance obligations and communication. Monitoring of EMS processes	US/OE-TCC	x
	15:30	15:45		Break		x
	15:45	16:30		Clarification and closure of open items		x
	16:30	17:00		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	x
	17:00	17:30		Final closing meeting (presentation of audit results - Strength, weaknesses, OFI, Good practices, Deviations - reminder on the process for corrective action and associated timeline)	Auditors + Representatives of departments interviewed during the audit	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
Identification of US environmental laws and regulations			
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

Technical development & Engineering activities			
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
Homologation/Certification activities			
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
Test bench activities			
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
Transfer to Production			
VW Wolfsburg			3.4
AUDI Ingolstadt	21/11 - 11:00/16:30		3.4
Change Management after SOP			
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
Self-Certification Process (Vehicle/Vehicle Component)	2017: 14/11 - 12:45/14:30 2018: 3.3 2019: 3.3	2017: 20/11 - 10:45/15:30 2018: 4.2 2019: 3.3	2017 EEO: 6/12 – 13:00/15:00
Performance Tests for Certification	2017: 14/11 - 8:45/11:30 15/11 – 13:30/15:30 2018: 1.2, 1.3, 2.1, 2.2, 3.1 & 3.2 2019: 1.4, 2.1.1, 2.1.2, 2.2.1, 2.2.2, 2.4, 3.1, 3.2, 4.2	2017: 20/11 – 15:45/17:15 21/11 – 11:15/16:30 2018 : 2.1, 2.2, 2.3, 2.4, 3.1, 3.2 & 4.3 2019: 1.4.2, 2.1.1, 2.1.2, 2.2.1, 2.2.2, 2.4, 3.1, 3.2, 4.2 2019: 1.2 (Neckarsulm)	2017 EEO: 6/12 – 15:15/17:15 & 7/12 2018 TCC: 6/2 – 15:15/17:15 & 7/2 2018 EEO: 31/10 – 8:45/9:30 & 10:45/12:00 2019 EEO: 1.4.1, 1.4.2, 2.1 2019 TCC: 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
Communication to Authorities			2017 EEO: 6/12 – 15:15/17:15 & 7/12 2018 TCC: 6/2 – 13:00/15:00 2018 EEO: 30/10 – 14:45/16:15 2019 EEO: 1.2.1, 2.3
Prohibited, Restricted substances	2019: 2.3.1, 2.3.2	2019: 2.3.1, 2.3.2	
Waste Management			2019 TCC: 1.4