Environmental Management System – Audit Report

Reference No: 1-7108281369-BKL

Volkswagen Group of America

Visit Dates:

- Volkswagen Group of America Engineering and Environmental Office (EEO), Auburn Hills, Michigan, USA – December 6-7, 2017
- Volkswagen Group of America Test Center California (TCC), Oxnard, California, USA – February 6-7, 2018
- Volkswagen Group of America Engineering & Planning Center, Engineering (EPC-E), Chattanooga, Tennessee, USA – February 9, 2018
- Volkswagen Group of America Chattanooga Operations, LLC, Chattanooga, Tennessee, USA- February 9, 2018

Date of report: April 2018

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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 (VWGoA) and AUDI AG - therefore the term Volkswagen is used for simplicity and refers to these three entities collectively. Sections 5.0 through 10.0 of this report apply specifically to Volkswagen Group of America facilities and therefore the term VWGoA 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 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 procedures used at Volkswagen to develop new cars starting with

planning and ending with (SOP) Start Of Production (which can take several years). Based on this defined scope, audits were conducted 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, Germany
- For Volkswagen Group of America (VWGoA): Engineering and Environmental Office (EEO), Auburn Hills, Michigan

In addition, the Test Center California (TCC), Oxnard, California was also audited due to their emissions testing responsibilities.

Further, site visits were conducted at two additional VWGoA locations to confirm exclusion from the audit scope since neither location has a direct relationship or any responsibility within the PDP. The two locations were the VWGoA Engineering and Planning Center (EPC-E) and the Chattanooga Operations, LLC, both located in Chattanooga, Tennessee and which were subsequently verified by Bureau Veritas to be out of scope of the EMS assessments.

Bureau Veritas Group is a world leader in testing, inspection and certification services. Created in 1828, the Group has more than 69,000 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 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).

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. The audit team consisted of Engelbert (Lead Auditor), Anne

(Auditor, Expert for US environmental law), Peter (Auditor, Technical Automotive Expert) and David (Auditor, Expert for US environmental law). 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 are the following:

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

The objective of the audits was to conduct an EMS audit to an industry-recognized EMS standard for the PDP and evaluate the EMS effectiveness to validate compliance with applicable US environmental laws and regulations for vehicles certified for sale in the United States.

So considering the dissemination around the world 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.

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	
4.4	Environmental Management System	
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	
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	
7.2	Competence	X
7.3	Awareness	X
7.4	**Communication**	
7.4.1	General	
7.4.2	Internal Communication	
7.4.3	External Communication	
7.5	**Documented Information**	
7.5.1	General	
7.5.2	Creating and Updating	
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

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.

In cases of non-fulfillment of applicable clauses, a deviation was identified. Each deviation is graded (ranked) as a Minor or Major, depending on its seriousness or occurrence. In addition, opportunities for improvements (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
Deviations	
Major	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.
Minor	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.

4.3 Audit Scope Applicability Determination for EPC-E and Chattanooga Operations, LLC

As stated above, site visits were conducted at the VWGoA EPC-E and the Chattanooga Operations, LLC facilities to evaluate current processes and to confirm that neither entity has responsibilities within the PDP.

BV completed a site visit of the EPC-E on February 9, 2018 that consisted of a process overview along with a site tour. The EPC-E is an engineering center that provides support for technical project management, vehicle integration, and product optimization but is not involved in the vehicle development or design activities.

Chattanooga Operations, LLC is a production facility for the Volkswagen brand models: Passat and Atlas. The audit team completed a facility tour on February 9, 2018 and confirmed that this facility is clearly not within the PDP scope and is after SOP. There are no interfaces with the PDP process.

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. 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 EEO and the TCC locations 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, they were discussed with VWGoA, reviewed and documented accordingly.

6.0 ENGINEERING AND ENVIRONMENTAL OFFICE

6.1 Process Overview

The EEO is a Group Function within Volkswagen Group of America and its primary function is to ensure compliance with government regulation concerning environmental air quality, fuel

economy, Greenhouse Gas Emissions and substances of concern, as they relate to motor vehicles and engines.

The functions within the EEO are essentially broken down into four primary segments:

- Regulatory Affairs
- Emission Certification Group – interface with government agencies to submit vehicle certification documents and emission and fuel economy compliance reports for vehicles and fleet
- Defect Reporting
- In-Use Verification

The EEO is not involved in calibration, design, development or testing of vehicles. The Defect Reporting and In-Use Verification functions are considered to be after the Start of Production (SOP) and are therefore outside of the PDP and were not part of the EMS audit scope. The primary functions of EEO evaluated as part of the EMS audit were the Regulatory Affairs and the Emissions Certification Groups.

6.2 Regulatory Affairs

The EEO Regulatory Affairs group's primary function is to monitor and evaluate future US Federal and State vehicle environmental regulations with regard to engines and vehicles. This involves interacting with government agencies, trade organizations and various professional organizations to anticipate future regulatory requirements and to understand how those regulations could impact the company and the vehicle development requirements. New regulatory requirements are distributed by EEO's Regulatory Affairs team to Brand ETs and K-GEAG, who may use that input in their development decisions. If requested by the development departments or any other department, the Regulatory Affairs team helps interpreting current regulatory requirements and answers questions specific to vehicle type and overall emissions fleet requirements which might arise during the development process.

If needed, the EEO will interact with the appropriate regulatory agency to seek guidance or clarification on regulatory interpretations. This department communicates interpretations broadly to both Group and Brand level counterparts within the Volkswagen Group.

The Regulatory Affairs group has implemented formal procedures for tracking regulatory questions that come from within the company, regulatory interpretations and for maintaining a legal register. All of these procedures help enhance consistency and communication of regulatory requirements.

6.3 Emission Certification

The primary functions of the Emission Certification group are outlined below:

- Administer the Volkswagen, Audi, Bentley, Lamborghini, and Bugatti vehicle certification program for U.S. Federal, California, Section 177 states and Canada
- Submit U.S. emission and fuel economy compliance reports (e.g., Greenhouse Gas, CAFE, exhaust emission compliance).
- Generate fuel economy label content.

These compliance reports and submittals are required by various regulatory agencies including:

- US Environmental Protection Agency (EPA)
- California Air Resources Board (CARB)
- Environment and Climate Change Canada (ECCC)
- Other State and Provincial Environmental Agencies
- National Highway Traffic Safety Administration (NHTSA)

The group is the primary contact for the regulatory agencies and prepares the submittals required for vehicle certification and compliance prior to it being available for sale in the US. This process starts with the receipt of a product's "Vehicle Book" from the ET departments in Germany. The Vehicle Book is a compilation of all of the technical data and test results that are required by regulation in the US for vehicle certification. Upon receipt of a Vehicle Book, a series of quality checks are conducted on the data to confirm completeness and rationality.

This information is then compiled in the appropriate format and submitted to the agency. EPA's process only allows designated individuals within a company to submit information. This procedure is aligned with the multi-eye principles within Volkswagen.

7.0 TEST CENTER CALIFORNIA

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 emissions testing, climatic testing, and electric vehicle testing and on-road testing.

TCC is not directly involved in the PDP but does have an indirect connection because they are providing vehicle emissions testing services and vehicle workshop services for other entities within VWGoA and as well as for external customers.

The TCC facility in Oxnard, California consists of:

- Emissions Test Laboratory
- Technical Center
- Business Management and Strategy

7.2 Emissions Test Laboratory

For each test conducted by TCC, the process is initiated by a test request which outlines the technical specifications for each test. 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.

The TCC did complete emission testing for the Volkswagen Atlas model that is currently produced at the Chattanooga Operations, LLC facility. As with any test performed by TCC, at the time of the test, they did not know the intention of the test data. The test data was ultimately

used for emissions certification for this vehicle. With that being said, the BV Audit Team did evaluate the emission test benches at TCC.

7.2.1 Emission Test Benches

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

- Technical equipment of the test benches are well adapted to the requirements of the exhaust gas measurement
- The calibration of the measuring equipment was verified
- Pre-conditioning of the vehicles is completed as required
- Test criteria are defined by the test requestor and are unknown to the test laboratory
- Test results are uploaded to a server and cannot be edited
- There is clear organizational independence from other organizational units
- Operation in accordance with ISO / IEC 17025

7.3 Technical Center

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 operation of TCC and are not part of the PDP.

7.4 Business Management and Strategy

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
- Legal and Compliance Liaison for the Consent Decree

- Audit and Reporting
- Human Resource Support
- Risk Management
- TCC Strategy

Each of these functions are in support of the TCC Operation and do not have any direct interface with the PDP.

8.0 AUDIT RESULTS

Deviations against the applicable ISO 14001:2015 Standard were identified for VWGoA. Deviations include a ranking (Major or Minor) for each finding indicating the potential level of severity. As explained below, only two deviations were identified, both minor. A corrective action plan was developed by VWGoA for each identified deviation.

Bureau Veritas has reviewed and approved the proposed corrective actions for each deviation to ensure that they are appropriate. Deviations and corrective actions are outlined in detail in the Deviation and Corrective Action section of this report.

In addition, as part of the audit, Bureau Veritas identified processes in place that could be considered strengths or Best Practices and also provided high level recommendations as Opportunities for Improvement (OFIs).

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 deviations identified during the audit.

8.1 Deviations and Corrective Actions

A summary of the deviations in the EMS specific to the Product Development Process at VWGoA locations is provided below. Included is a subjective ranking, the ISO 14001:2015 category, a summary of the observed deviation and a summary of the proposed corrective

action. The identified deviations noted for the VWGoA EEO location were classified as “minor deviations”. There were no deficiencies identified for TCC.

Table 3: Environmental Management System Deviations and Corrective Actions

Finding #	Rank	Clause	Description	Corrective Action/Recommendation
EEO-EMS-01	Minor	4.3 Scope of EMS	An Environmental Management Manual at EEO has been developed but had not been finalized or approved yet at the time of the audit.	The EMS Manual was finalized and approved by EEO’s management on February 5, 2018.
EEO-EMS-02	Minor	9.2 Internal Audit	An internal audit at EEO specific to the elements of the newly developed EMS had not yet occurred at the time of the audit but was scheduled for Q1 of 2018.	The internal audit was conducted March 27-28, 2018. Audit plans will be developed for all future internal audits at VWGoA.

8.2 Suggested Opportunities for Improvement

The auditors identified potential Opportunities for Improvement including:

- Consider finalizing the VWGoA specific Environmental Policy.
- The following two recommendations are specific to TCC only:
  - Consider adding the date to the Test Request Document that is received from the test requestor
  - Consider adding the date to the Employee Skill Matrix to show date verification for operators

8.3 Best Practices

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

- An EMS manual for both EEO and TCC has been developed

- At EEO the Regulatory Affairs Department has processes in place for interpretation, input and communication of regulations

- Both the TCC and EEO have a new organizational structure with detailed job descriptions explicitly outlying Tasks, Authorities, and Responsibilities (TARs)

- There are Process Descriptions available for each of the primary functions within EEO and TCC

9.0 CONCLUSIONS

Overall, the EMS for the PDP at VWGoA conforms to the ISO 14001:2015 standard as defined in the agreed upon Audit Criteria. Bureau Veritas would like to note that many of the departments, functions, and responsibilities that were reviewed during the audit have been recently changed and their implementation is progressing.

Taking into consideration the timeline of the PDP (several years) and the recent implementation of the revised version, which was reviewed as part of the EMS audit, some vehicles approved for sale in the USA could have been partly developed under a former version of the PDP, which was not required to be assessed under the Third Partial Consent Decree. Nevertheless, within Bureau Veritas' scope the emission test benches underwent random auditing and assessment. No deviations from the specifications were observed. The vehicles that were approved for sale in the USA (after the new version of the PDP was implemented) were tested on these test benches in compliance with the homologation-specific specifications for exhaust emission measuring equipment; and should therefore meet the US emissions requirements. However, Bureau Veritas makes no warranty or guarantee that all Volkswagen vehicles meet all applicable US emissions laws or regulations.

In 2018 Bureau Veritas will focus on the effective implementation of the EMS and related processes associated with U.S. environmental laws and regulations.

Bureau Veritas is confident that VWGoA's EMS meets the intended outcomes of an effective system including:

- enhancement of environmental performance
- fulfilment of compliance obligations for US environmental laws and regulations for vehicle certified for sale in the US
- achievement of performance improvement goals specific to the EMS

10.0 RECOMMENDED FUTURE AUDIT ACTIVITIES

As contractually agreed, Bureau Veritas will continue to assess the implementation and development of VWGoA's EMS through the follow-up audits scheduled in 2018 and 2019. This should allow the Audit Team to evaluate the continuous improvement of the management system.

Bureau Veritas recommends that the following items be considered in the audit planning for 2018:

- Presentation of the status of changes from the 2017 audit until the next scheduled audit in 2018
- Release of newly implemented processes and their evaluation in terms of goals and effectiveness
- Discrepancies found during the internal audit 2017-2018
- Increase in on-site interviews with employees
- TCC is not intended to be audited unless they implement certification testing for VW vehicles intended for sale in the US market
- For audits scheduled to be performed in 2018 and 2019, Bureau Veritas recommends not including EPC-E or Chattanooga Operations, LLC.

ATTACHMENT 1: Resume of audit team - Peter

Job history

Since 1980 various Positions in the Automotive Sector (latest)

- Automotive Technical Expert Europe Operating Group
- Managing Director (Certification Belgium)
- Global Technical Expert Automotive
- Global Product Manager Automotive – Aeronautics & Railways
- Global Product Manager Automotive

Since 1999 experience as lead auditor

- Lead auditor ISO/TS 16949
- Lead auditor VDA 6.1
- Lead auditor ISO 9001

PROFESSIONAL QUALIFICATIONS and TRAINING

Wide range of qualifications and trainings for certification and automotive sector

- Lead auditor ISO 9001
- VDA 6.3:2016 Process Auditor – Certified by VDA
- First & second part lead auditor IATF 16949:2016
- Product safety representative (PSB)
- ISO 9001:2015 – 3rd Party Lead Auditor
- VDA 6.3:2010 Process Auditor – Certified by VDA
- ISO/TS 16949 Auditor Certificate by IATF - Certificate number: 2US-03-1033
- ISO/TS 16949:2002 Trainer Coach Training
- Certified Quality Auditor VDA 6.1
- ISO 9001: 2000 Auditor
- ISO/TS 16949 Auditor Certificate by IATF - Certificate number: P/VTS//0013-008
- ISO 9000 Auditor/Lead Auditor

EDUCATION

- BEL Diploma secundair onderwijs (Diploma SO)

LANGUAGES

- Dutch (mother language)
- German (C-level)
- English (C-level)
- French (A-level)

ATTACHMENT 1: Resume of audit team - David

Job history

Various Positions in the Environment Sector for more than 30 years

- HSE Director, Pacific Northwest
- Area Compliance Manager/Environmental Manager
- Compliance Manager
- Senior Environmental Engineer
- Manager, Environmental Projects
- Environmental Specialist
- Supervising Engineering Inspector

PROFESSIONAL QUALIFICATIONS and TRAINING

Wide range of qualifications

- Certified Hazardous Materials Manager (CHMM-16258)
- Certified Environmental and Safety Compliance Officer (CESCO-773325)
- Registered Environmental Property Assessor (REPA-192899)
- OSHA 40-Hour Hazardous Materials Management and Emergency Response Training and annual refreshers
- DOT HMF 126(a) and 181 trained: Preparation of Uniform Hazardous Waste Manifests
- Certificates, University of California at Davis
    - Hazardous Materials Management
    - Environmental Auditing
    - Advanced Environmental Auditing
    - Workplace Health and Safety

Wide range of Project experience

- ISO 14001 EMS Assistance and Evaluations for Clients (California & Texas)
- Air Permits at multiple facilities
- Environmental Compliance Audits at multiple facilities, California
- Storm Water Pollution Prevention Plans (SWPPPs) and Storm Water Monitoring Programs (SWMPs), Northern California
- Spill Prevention Control and Countermeasure (SPCC) Plans, Northern California
- Hazardous Waste Treatment Tank and Secondary Containment Certifications
- Natural Gas Transmission Systems Compliance Services, California
- Corporate and Operation Compliance Support for a waste management company, Northern California
- Corporate and Operations Compliance Support, California and Oregon
- Power Generation Compliance Services, Northern and Central California

EDUCATION

- B.A., Biological Sciences - University of California at Santa Barbara

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, 1991Minor: 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 2: Audit Criteria

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
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?

1

AUDIT CRITERIA

Remarks: Stakeholder (DoJ, EPA, CARB ...) 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 product development process?

    a) Has the organization determined the roles and responsibilities within the EMS and its scope to ensure compliance?
    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, physical and functional boundaries, 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?

    Remarks: project organization, performance specification, identification of compliance obligations

3. Clause 5.1 (Leadership) – is the top management of the VW Defendants (those responsible for the product development process) demonstrating leadership and commitment for compliance with US environmental laws and regulations?

    How is it evident 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 evident?
    d) Does top management ensure that the EMS requirements are integrated into the organization's business processes?
    e) Does top management ensure the availability of resources 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 (means: ensuring that the resources needed for the environmental management system are available;
    j) Does top management support other relevant management roles to demonstrate their leadership in their areas of responsibility, when applicable?

    Remarks: The understanding of environmental issues related to US compliance obligations has to promoted and realized in the organization.

4. Clause 5.2 (Environmental Policy) – does the Environmental Policy include a commitment to fulfil US compliance obligations?

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

AUDIT CRITERIA

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?
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 regulations?
e) Is the policy communicated within the organization, to all persons doing work (directly or indirectly) under the organization's control?
f) Is the policy made available to interested parties?

5. 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 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;
   b) EMS conforms to the requirements of the ISO14001:2015 standard?
   c) Performance of the EMS, including environmental performance including compliance with US environmental laws and regulations, is reported to top management?

6. 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 evident 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?

7. Clause 6.1.3 (Compliance Obligations) – what processes do the VW Defendants have to identify, assess and evaluate the applicability of US environmental laws and regulations for vehicles? These processes include communication with the authorities.

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

AUDIT CRITERIA

8. 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 business processes?
        - 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?

9. Clause 7.2 (Competence) – how do the VW Defendants ensure that those persons involved in complying 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 its compliance 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 it's 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 matrics)?

10. Clause 7.3 (Awareness) – 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?
    Remarks: training of involved project team members

11. 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?

AUDIT CRITERIA

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?

12. Clause 8.1 (Operational Planning and Control) – a) 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? b) 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 and control processes?
   - What criteria are established for 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?

c) Does the organization control planned changes and review the consequences of unintended changes, taking action to mitigate any adverse effects, as necessary?

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, delivery, use and end-of-life treatment of its products and services, as appropriate?
   - communicated relevant environmental requirement(s) to external providers, including 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?

13. 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?

AUDIT CRITERIA

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?

14. 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? Please provide the process descriptions.
b) Is the frequency of compliance evaluation determined by the organization?
c) Does the organization evaluate compliance and take action 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?

15. Clause 9.2 (Internal Audit) – do the VW Defendants have an internal audit process which evaluates the EMS?

a) Are internal auditors competent to check whether the EMS assures compliance 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 and the requirements of ISO 14001:2015?
   - 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?

16. 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?

AUDIT CRITERIA

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?

17. 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?

18. 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?

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

AUDIT CRITERIA

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.

Update: 23.10.2017

10/11/2017

Signature

Signed version

Signed version

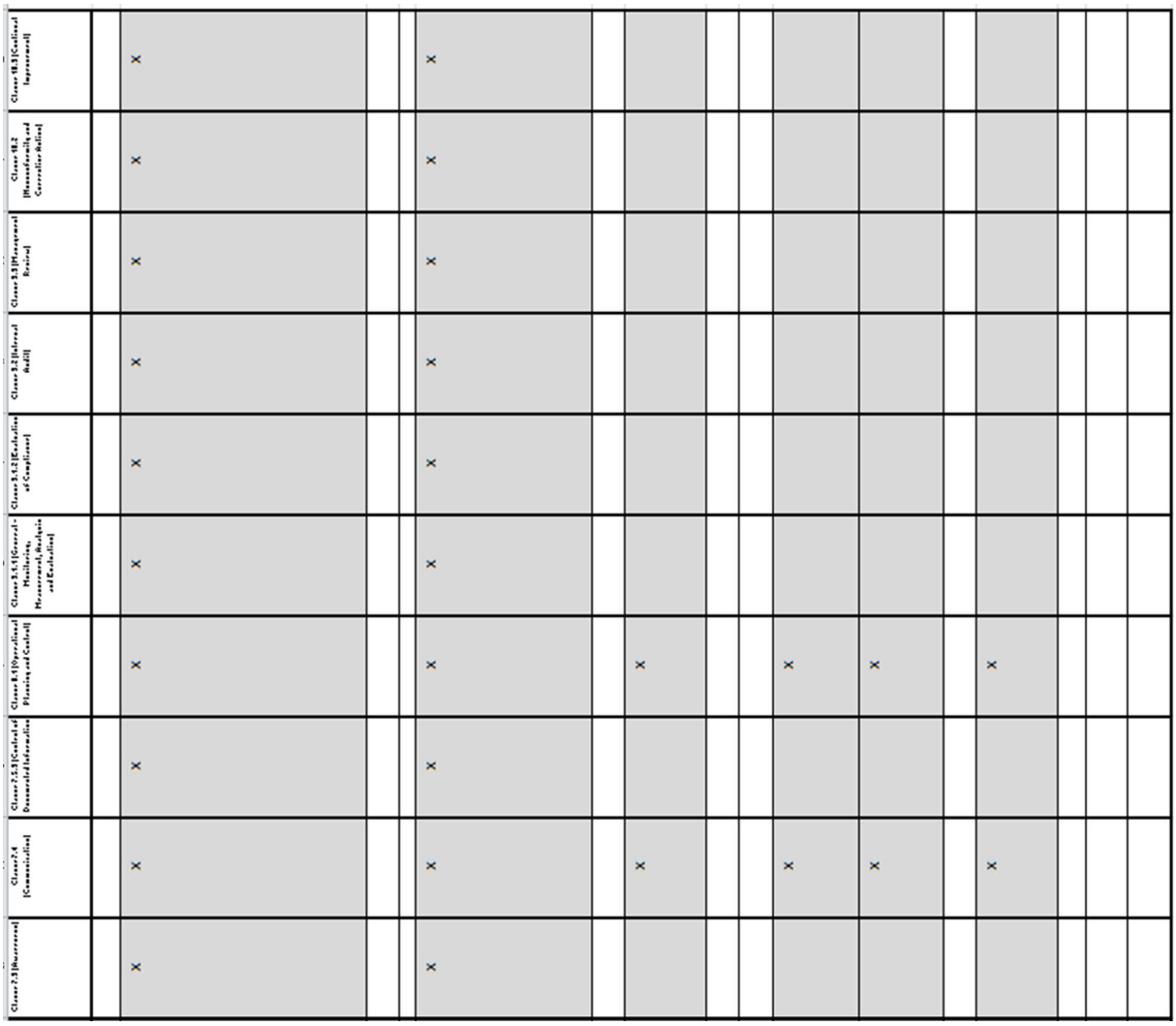
Date: 23.10.2017

ATTACHMENT 3: VWGoA Audit Plan Auburn Hills (1/2)

VW GoA Audit plan facility Auburn Hills

Day	Start	Stop	Issue / Topic	Subjects to be discussed	Department involved	Clause 4.1 [Understanding the organization and its context]	Clause 4.2 [Understanding the needs and expectations of interested parties]	Clause 5.1 [Leadership]	Clause 5.2 [Environmental Policy]	Clause 5.3 [Organizational Roles, Responsibilities and Authorities]	Clause 6.1.1 [General]	Clause 6.1.2- [Environmental aspects] NOT IN AUDIT CRITERIA	Clause 6.1.3 [Compliance Obligations]	Clause 6.1.4 [Planning Actions] Risks & Opportunities	Clause 7.2 [Competence]
06.Dec	09:00	10:00	Opening meeting												
	10:00	12:00	Overview and scope of EMS	Structure of the EMS system, management responsibilities, communication, internal audits; law/legal compliance; etc.	EED Director; Managers of Regulatory Strategy Department; Managers of Emission Certification Department; EED PMO Coordinator	X	X	X	X	X	X		X	X	X
	12:00	12:15	Intermediate auditor meeting	----------	Auditors										
	12:15	13:00	Break	----------											
	13:00	15:00	Overview and scope of EMS ...Continued	Structure of the EMS system, management responsibilities, communication, internal audits; law/legal compliance; etc.; process of certification	EED Director; Managers of Regulatory Strategy Department; Managers of Emission Certification Department; EED PMO Coordinator	X	X	X	X	X	X		X	X	X
	15:00	15:15	Intermediate auditor meeting	----------	Auditors										
	15:15	17:15	Emission Certification Processes	Compliance Obligations; processes; communication regulatory affairs	EED Director; Manager of Emission Certification Department; EED PMO Coordinator								X		
	17:15	17:45	Auditor preparation for feedback meeting	----------	Auditors										
	17:45		Feed back meeting 1st audit day	----------											
07.Dec	09:00	10:00	Emission Certification Processes...continued	Continued...Compliance Obligations; processes; communication regulatory affairs	EED Director; Manager of Emission Certification Department; EED PMO Coordinator								X		
	10:00	10:45	Regulatory Strategy Processes	Continued...Compliance Obligations; processes; communication	EED Director; Manager of Regulatory Strategy Department; EED PMO Coordinator								X		
	10:30	10:45	Intermediate auditor meeting	----------	Auditors										
	10:45	12:15	Regulatory Strategy Processes...Continued	Continued...Compliance Obligations; processes; communication	EED Director; Manager of Regulatory Strategy Department; EED PMO Coordinator								X		
	12:15	13:00	Break	----------											
	13:00	16:30	Auditor meeting for draft report preparation	----------	Auditors										
	16:30	17:00	Closing meeting	----------											

ATTACHMENT 3: VWGoA Audit Plan Auburn Hills (2/2)

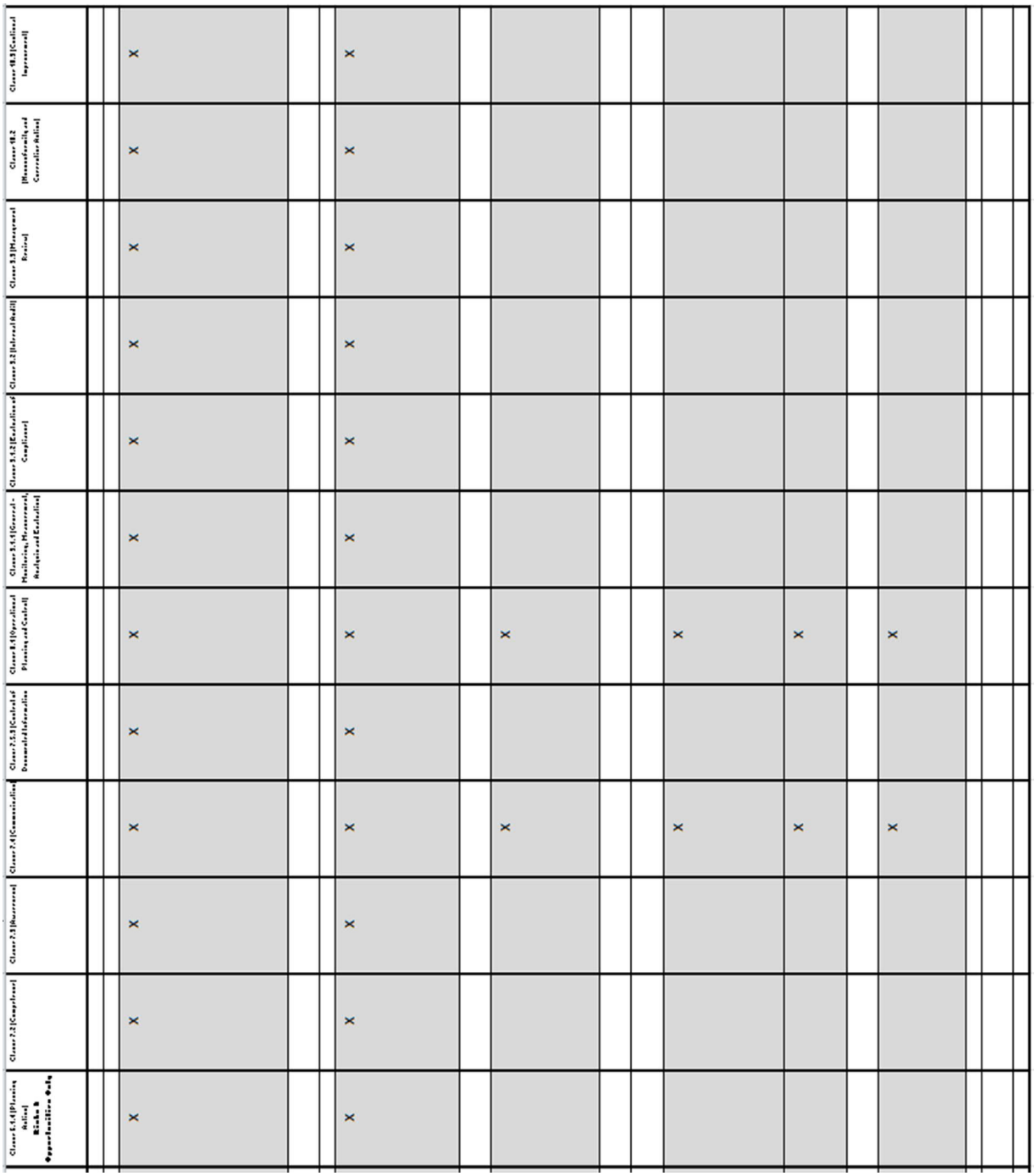


ATTACHMENT 3: VWGoA Audit Plan Oxnard (1/2)

VW GoA Audit plan facility Oxnard (TCC)

Day	Start	Stop	Issue / Topic	Subjects to be discussed	Department involved	Clause 4.3 [Understanding the needs and expectations of interested parties]	Clause 4.3 [Understanding the needs and expectations of interested parties]	Clause 5.1 [Leadership]	Clause 5.2 [Environmental Policy]	Clause 5.3 [Organizational Roles, Responsibilities and Authorities]	Clause 6.1.1 [General]	Clause 6.1.2 - [Environmental aspects] NOT IN SCOPE CRITERIA	Clause 6.1.3 [Compliance Obligations]
06/02/2018	09:00	09:30	Opening meeting										
	09:30	10:30	Laboratory Tour										
	10:30	12:00	Overview and scope of EMS	Structure of the EMS system, management responsibilities, communication, internal audits; lawfiegal compliance; etc.; operations management, strategic planning	Sr. Director, TCC; Managers of Emission Laboratory Department; Manger of Engineering & Facility Services Department	x	x	x	x	x	x		x
	12:00	12:15	Intermediate auditor meeting	----------	Auditors								
	12:15	13:00	Break	----------									
	13:00	15:00	Overview and scope of EMS ...Continued	Structure of the EMS system, management responsibilities, communication, internal audits; lawfiegal compliance; etc.;	Sr. Director, TCC; Managers of Emission Laboratory Department; Manger of Engineering & Facility Services Department	x	x	x	x	x	x		x
	15:00	15:15	Intermediate auditor meeting	----------	Auditors								
	15:15	17:15	Emission Laboratory Processes	Compliance Obligations; processes; communication TEST BENCHES, PROCEDURES AND CALIBRATION	Sr. Director, TCC; Manager of Emission Laboratory Department								x
	17:15	17:45	Auditor preparation for feedback meeting	----------	Auditors								
	17:45		Feed back meeting 1st audit day	----------									
07/02/2018	09:00	10:00	Emission Laboratory Processes...continued	Continued...Compliance Obligations; processes; communication Emissions Laboratory Skill Level Matrix, Emissions Laboratory development	Sr. Director, TCC; Manager of Emission Laboratory Department								x
	10:00	10:45	Engineering & Facility Services Processes	Compliance Obligations; processes; communication	Sr. Director, TCC; Manager of Engineering & Facility Services Department								x
	10:30	10:45	Intermediate auditor meeting	----------	Auditors								
	10:45	12:15	Engineering & Facility Services Processes...Continued	Continued...Compliance Obligations; processes; communication	Sr. Director, TCC; Manager of Engineering & Facility Services Department								x
	12:15	13:00	Break	----------									
	13:00	16:30	Auditor meeting for draft report preparation	----------	Auditors								
	16:30	17:00	Closing meeting	----------									

ATTACHMENT 3: VWGoA Audit Plan Oxnard (2/2)



ATTACHMENT 3: VWGoA Audit Plan Chatanooga

Agenda

VW GoA Agenda facility Chattanooga (EPC-E)

Day	Start	Stop	Issue / Topic	Subjects to be discussed (! Can be changed depending upon information gained during the audit)	Department involved
	09:00	09:30	Opening meeting	clarification about the statement of excluded Audit Scope	
14.12.2017	09:30	11:00	activities of EPC-E	organizational interfaces to EEO and TCC and Wolfsburg	
	11:00	12:00	Chattanooga Plant		