

**BUREAU VERITAS**  
Certification



# Environmental Management System – Audit Report

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**Volkswagen Group of America  
Engineering and Environmental Office  
Auburn Hills, Michigan**

**Visit Date: October 30-31, 2018  
Date of report: December, 2018**

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*This Audit Report and any related assessments were issued solely in accordance with the agreed scope described in Section 2. This Audit Report, and any other reports issued in connection with this subject matter, do not constitute a guarantee of continued or absolute compliance with US laws and/or regulations related to vehicle emissions. They are solely intended to provide non-exhaustive information to assist the Client's effort in evaluating its adherence with US emissions laws and regulations.*

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## **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 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 Volkswagen Group of America, Auburn Hills, MI, 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 Start of Production (SOP). The PDP process 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), in Auburn Hills, Michigan.
  - Test Center California (TCC), Oxnard, California will be audited in March 2019 due to their emissions testing responsibilities.

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 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. For the 2018 audits, audit team consisted of Engelbert (Auditor), Anne (Auditor, Expert for US environmental law), and Philippe (Lead Auditor, Senior Vice President



Technical, Quality and Risk, Bureau Veritas). 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 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 of Volkswagen's PDP using an industry-recognized EMS standard as a guideline and to evaluate the maturity and effectiveness of the system to fulfill compliance obligations 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
<b>4</b>	<b>Context of the Organization</b>	
4.1	Understanding the organization and its context	X
4.2	Understanding the needs and expectations of interested parties	X
4.3	Determining Scope of Environmental Management System	
4.4	Environmental Management System	
<b>5</b>	<b>Leadership</b>	
5.1	Leadership and Commitment	X
5.2	Environmental Policy	X
5.3	Organizational Roles, Responsibilities and Authorities	X
<b>6</b>	<b>Planning</b>	
6.1.1	Actions to Address Risks and Opportunities	X
6.1.2	Environmental Aspects	
6.1.3	Compliance Obligations	X
6.1.4	Planning Action	X
<b>6.2</b>	<b>Environmental Objectives and Planning</b>	
6.2.1	Environmental Objectives	
6.2.2	Planning Action to Achieve Environmental Objectives	
<b>7</b>	<b>Support</b>	
7.1	Resources	
7.2	Competence	X
7.3	Awareness	X
<b>7.4</b>	<b>Communication</b>	
7.4.1	General	X
7.4.2	Internal Communication	X
7.4.3	External Communication	X
<b>7.5</b>	<b>Documented Information</b>	
7.5.1	General	
7.5.2	Creating and Updating	
7.5.3	Control of Documented Information	X
<b>8</b>	<b>Operation</b>	
8.1	Operational Control and Planning	X
8.2	Emergency Preparedness and Control	
<b>9</b>	<b>Performance Evaluation</b>	
9.1	Monitoring, Measurement, Analysis and Evaluation	X
9.1.1	General	X
9.1.2	Evaluation of Compliance	X
<b>9.2</b>	<b>Internal Audit</b>	
9.2.1	General	X
9.2.2	Internal Audit Program	X
9.3	Management Review	X
<b>10</b>	<b>Improvement</b>	
10.1	General	X
10.2	Nonconformity and Corrective Action	X
10.3	Continual Improvement	X



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 Minor or Major, depending on its seriousness or occurrence. In addition, Opportunities For Improvement (OFI) and Best Practices are identified and reported.

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

**Table 2: Audit Finding Descriptions**

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

## 5.0 AUDIT PLANNING

In advance of the audit, a comprehensive audit plan was developed by Bureau Veritas and then presented and accepted by VWGoA. 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 VWGoA 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 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, and a review of corresponding documentation for verification/confirmation of management system implementation. Bureau Veritas reviewed many of the management system elements that have recently been implemented in response to the Third Partial Consent Decree.

Since many of the actions have been implemented and some are in different stages of implementation with defined targets for completion, development and implementation of some management system elements and applicable ISO 14001:2015 clauses will require a more detailed review in the 2019 Bureau Veritas audit to further evaluate effectiveness. 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 has not been fully implemented or there was not yet evidence of its effectiveness, Bureau Veritas is recommending that this area be an area of focus for the 2019 audit (See Section 11).

## **7.0 ENGINEERING AND ENVIRONMENTAL OFFICE**

### **7.1 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.

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

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

Since 2017, the EEO has restructured the staffing and has completed the following organizational changes to enhance the effectiveness of the department:

- EEO increased headcount in order to:
  - Enhance organizational oversight (optimized Manager to Staff ratio)
  - Expansion on IUVP tasks (based on Monitor recommendation)
  - Expansion Materials Management support
  - Coordinate Consent Decree related activities with increased focus
- EEO hired 10 new people
- Trained new hires on key processes, EMS, VW Group Environmental Policy
- Training and communication on additional integrity topics, such as “Ethics Hotline and Whistleblower Protection”, “Ethics and Integrity” and “eDiscovery and Legal Holds”
- Set up cross-departmental training between EEO and TCC
- Expansion of EEO’s “Tech Talk” series
- Training on Risk Management received

The EEO is not involved in calibration, design, or development 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. Majority of the OBD and Compliance Reporting functions are also after SOP. The primary functions of EEO evaluated as



part of the EMS audit were the Regulatory Affairs, Emissions Certification and the Compliance Reporting groups. The Compliance Reporting function used to be part of the Emission Certification Group but was separated out in September 2018 to focus on all of the regulatory reporting concerning emissions and fuel economy.

## **7.2 Regulatory Affairs**

The EEO Regulatory Affairs group's primary function is to monitor and evaluate future or changing 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 or changing 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.

## **7.3 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



- Assemble and contribute required certification information for achieving timely approvals of EO/COC from the Agency
- Administration of exemption labeling requirements
- Interact with government agencies regarding emission certification relevant topics

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 agencies. EPA's process only allows designated individuals within a company to submit information. This procedure is aligned with the multi-eye principles within Volkswagen.

#### **7.4 Compliance Reporting**

The primary functions of the recently developed Compliance Reporting group are outlined below:

- Provide strategic guidance and interpretation to the Volkswagen organization worldwide of US fuel economy/consumption related labeling requirements
- Generate fuel economy label content
- Prepare and submit U.S. emission and fuel economy compliance reports (e.g., Greenhouse Gas, CAFE, exhaust emission compliance) for pre, mid and final MY
- Maintain credit account balances based on final report submissions/revisions and supports short term projection activities for CAFE, GHG, and NMOG+NOx
- Interaction with Group Steering Committees and appropriate departments (e.g. K-GEAG/GEGC, ET) on fuel economy and compliance reporting

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)

## **8.0 TEST CENTER CALIFORNIA**

### **8.1 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 Volkswagen Group and as well as for external customers. For the 2018 audit cycle, the Test Center California (TCC), Oxnard, California was stated as not in scope during 2018 audit preparation phase further to the absence of testing performance in 2018. An audit will be conducted in early 2019 in anticipation of their emissions certification responsibilities next year.

## **9.0 AUDIT RESULTS**

There were no Major or Minor deviations identified against the applicable audit criteria and ISO 14001:2015 Standard clauses during the 2018 audit.

Bureau Veritas did review the deviations and corrective actions identified in the 2017 audit and have noted progress or current status below in Table 3.

**Table 3: Status Update of 2017 Identified System Deviations and Corrective Actions**

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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. The manual was updated and approved on 10/29/2018.  <b>2018 Status Update:</b> <i>Corrective Action effective and complete.</i>
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.  <b>2018 Status Update:</b> <i>Corrective Action effective and complete.</i>

In addition, as part of the audit, Bureau Veritas identified processes in place that could be considered strengths or Best Practices (Section 9.2) and have also provided detailed recommendations as Opportunities for Improvement (OFIs) shown in Table 5 under Section 9.1 below.

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

### **9.1 Suggested Opportunities For Improvement (OFI):**

As part of the 2017 EMS audit some opportunities for improvement were raised that VWGoA is voluntarily implementing. Table 4 below presents the implementation status of OFIs raised in 2017.

**Table 4: Implementation Status of OFI Identified in 2017**

Opportunity for Improvement Recommendation	Implementation Status
Consider developing a VWGoA specific Environmental Policy.	The VWGoA policy had not been finalized at the time of the Bureau Veritas audit but was being coordinated for consistency with VW Group.

During the 2018 audit, additional opportunities for improvement recommendations were raised and shared with VWGoA for consideration (see Table 5).

**Table 5: Opportunities For Improvement Recommendations**

Current Process/Procedure	Opportunity for Improvement Recommendation
<b>Governance/Structure</b>	
EEO has two projects running in parallel – Process mapping and documentation still in development for the EMS and now are in process of developing and implementing Quality Management System (QMS).	EEO should consider, where practicable, integrating related elements of the EMS with the QMS.
EEO currently has 12 open positions based on the current staffing needs and identified projects but the 2019 budget is still under review.	Continue to fill the open positions to assure that adequate staffing is provided to complete the projects.
Clear statement of adequacy and effectiveness of EMS in the Management Review meeting minutes specifically at the Executive Level	Modify the statement in the Management Review meeting minutes to specifically address the adequacy and the effectiveness of the EMS.
<b>Environmental Policy</b>	
The Environmental Group Policy (VW Group) referred to in the EEO EMS Manual is from 2014, and does not specifically address top management commitment to achieve compliance obligations. (Clause 5.2 (d) as outlined in the Audit Criteria)	Develop and approve a VWGoA specific Environmental Policy or alternatively work with VW Group to ensure the VW Group policy meets the requirements for ISO and adopt accordingly for VWGoA.

## **9.2 Best Practices**

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

- Level of expertise of Staff



- Establishment of the Regulatory and Compliance Exchange Group NAR
- Cross training with EEO/TCC
- New EEO employee on-boarding training and 3 year refresher cycle
- EEO Tech Talks
- Tracking and dissemination of regulatory questions and interpretations
- Vehicle Book Change Log is maintained

## 10.0 CONCLUSIONS

Overall, the EMS for EEO 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 continue to mature and their implementation is progressing. As shown in Table 5 above, Bureau Veritas has identified opportunities for improvement where VWGoA can potentially improve the effectiveness of the EMS.

Taking into consideration the timeline of the PDP (several years) and the 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. Considering that no test bench audit (VWGoA) occurred in 2018 (due to no certification testing executed by VWGoA) as well as the positive audits of test benches at Volkswagen AG/AUDI AG in 2018 and at VWGoA in 2017 where no deviations were observed, the vehicles that were approved for sale in the US (after the new version of the PDP was implemented) 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.

Based on the audit, the EMS for VWGoA vehicles sold in the US should meet the intended outcomes of an effective environmental management 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.

## **11.0 RECOMMENDED FUTURE AUDIT ACTIVITIES**

As contractually agreed, Bureau Veritas will continue to assess the implementation and development of the EEO EMS through a follow-up audit scheduled in 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 2019:

- Presentation of the status of changes from the 2018 audit until the next scheduled audit in 2019
- Release of any newly implemented processes and their evaluation in terms of goals and effectiveness
- Update on any OFIs that were considered and implemented
- Increase in specific examples of certification and related compliance reporting processes related to vehicles developed for sale in the US
- Update on implementation of EMS Training for new hire
- Results of EMS internal audits and established corrective action timelines
- Review of staffing at EEO
- Review newly developed certification and related compliance reporting process documentation
- Evaluation of data exchange and verification for fleet compliance calculation.



## 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 - 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 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
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: 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 be 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.

- 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?

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 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 matrix)?

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 7.4 (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?

12. 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?

13. 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?

14. 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?

15. 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:

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- 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?

16. 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?

17. 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?

18. 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?
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- 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?

19. 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?

20. 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?

21. 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

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.

### ATTACHMENT 3: Auburn Hills Audit Plan

VW GoA Audit plan facility Auburn Hills				
Day	Start	Stop	Issue / Topic	Department involved
Day 1 30/10	08:30	09:00	Opening meeting: Objectives and scope of the audit, audit team presentation, confirmation of planning & logistics, reminder on NCR/OFI, presentation of audit process (daily debriefing, clarification meeting on last audit day ...)	
	09:00	10:00	Organisation and Processes (within the scope PDP/EMS) changes Implementation of EMS, Documentation of changes and related communication This topic will be covered for the different departments involved in EMS related to PDP	EEO Director; Managers of Regulatory Strategy Department; Managers of Emission Certification Department; EEO PMO Coordinator
	10:15	11:30	Organisation and Processes (within the scope PDP/EMS) changes Implementation of EMS, Documentation of changes and related communication This topic will be covered for the different departments involved in EMS related to PDP (continued)	EEO Director; Managers of Regulatory Strategy Department; Managers of Emission Certification Department; EEO PMO Coordinator
	11:30	12:00	Review of effective implementation of corrective actions related to findings from previous BV audit	EEO Director
	13:00	14:30	EMS Internal audit (PDP scope) Auditor independence and qualification Corrective action process	EEO Director; Managers of Regulatory Strategy Department; Managers of Emission Certification Department; EEO PMO Coordinator
	14:45	16:15	Management review and related communication Reporting structure, Information flow within VWGoA about compliance obligations and communication	EEO Director; Manager of Emission Certification Department; EEO PMO Coordinator
	16:45	17:15	Feed back meeting 1st audit day (including potential non conformity, clarification or documentation request ...)	Auditors + Representatives of departments interviewed during the audit
Day 2 31/10	08:30	08:45	Opening meeting (confirmation of planning, logistics ...)	
	08:45	09:30	Compliance obligations processes Interpretation of environmental laws and regulations	EEO Director; EEO PMO Coordinator, Manager of Regulatory Affairs
	09:30	10:30	Whistleblower process	VWGoA Compliance Officer
	10:45	12:00	Process for cascading environmental laws and regulations related to vehicle emissions into AG and Brands (one vehicle project to be selected)	EEO Director; Manager of Regulatory Affairs
	13:00	14:30	Verification of compliance of vehicle along certification process (one vehicle project to be selected)	Manager of Emission Certification Department
	15:30	17:00	Audit conclusion final preparation and sharing of messages/information disseminated during closing meeting	Auditors + EMS department
	17:00	17:30	Final closing meeting (presentation of audit results - Strength, weaknesses, OFI, Good practises, NCR - reminder on the process for corrective action and associated timeline)	Auditors + Representatives of departments interviewed during the audit