Inside VW’s Campaign of Trickery

New details emerge in Volkswagen’s broad conspiracy to cover up a campaign aimed at deceiving pollution regulators.

By JACK EWING  MAY 6, 2017

This article is adapted from “Faster, Higher, Farther: The Volkswagen Scandal” by Jack Ewing, the European economics correspondent for The New York Times based in Frankfurt. The book, to be published May 23 by W. W. Norton, reveals new details of a broad conspiracy within Volkswagen to cover up the fact that its cars were designed to deceive pollution regulators.

FRANKFURT — Volkswagen was a little more than a month away from the biggest crisis in its history when Oliver Schmidt, a high-ranking engineer for the carmaker who dealt with regulators in the United States, wrote a reassuring email to his superiors.

Mr. Schmidt had just met with Alberto Ayala, a deputy executive officer of the California Air Resources Board, the state’s air quality enforcer. For well over a year, Mr. Ayala had been pushing Volkswagen to explain why its diesel passenger cars polluted so much more in ordinary driving than they did in California testing labs.

Mr. Schmidt’s email, which has not been previously reported, was dated Aug. 5, 2015. Hours earlier, on the sidelines of an industry conference in Michigan, Mr. Schmidt had presented Mr. Ayala with a binder full of detailed technical information which purported to offer a solution to the emissions problem.
The meeting “went very well,” Mr. Schmidt wrote. He cautioned, however, that the information he presented might encounter “headwind” when it was examined by experts at the Air Resources Board lab in El Monte, near Los Angeles.

That was an understatement.

The experts soon concluded that the technical information Mr. Schmidt presented was yet another smoke screen — the latest in a series of maneuvers by the automaker to hide its misdeeds. A few weeks later, having run out of excuses, Volkswagen was forced to admit that the diesels it had sold in the United States since late 2008 had contained software designed to camouflage emissions that vastly exceeded legal limits.

Media reports on the scandal have usually focused on Volkswagen’s original sin: the company’s decision in 2006 to equip its diesels with illegal software.

But the most costly aspect of the wrongdoing for Volkswagen may have been the cover-up that the company orchestrated after regulators first became suspicious.

The following reconstruction, based on interviews with dozens of participants and a review of internal Volkswagen documents and communications, shows that the cover-up spanned years and lasted until days before the company’s lies were exposed. Volkswagen employees manipulated not only the engine software, but also generated reams of false or misleading data to hide the fact that millions of vehicles had been purposely engineered to deceive regulators and spew deadly gases into the air.

Documents and interviews also shed new light on the role of Mr. Schmidt, the Volkswagen compliance official who is so far the only company executive to be put behind bars. Arrested when he visited the United States for the 2016 Christmas holidays, Mr. Schmidt is being held without bail awaiting trial for fraud and conspiracy in Detroit.

Mr. Schmidt maintains that he was misled by other Volkswagen engineers and in-house lawyers. Other suspects, including five individuals indicted on federal
charges, are believed to be in Germany, which does not usually extradite its citizens to states outside the European Union.

**The Alarm Bells Ring**

They were a curious sight, the graduate students from West Virginia University, barreling down California freeways in spring 2013.

The back end of their car, a Volkswagen Jetta station wagon, sprouted a tangle of pipes and hoses. Flexible tubes sucked exhaust from the tailpipes and fed the gas into a mysterious gray box sitting on a slab of plywood in the car’s cargo area. Bolted to the plywood was the portable generator needed to power the whole mess. It stank and made an infernal racket.

The students, Hemanth Kappanna and Marc Besch, were testing the Jetta’s emissions for nitrogen oxides, a family of gases that cause asthma, bronchitis and heart attacks while contributing to global warming and the creation of urban smog. Working with a meager $70,000 research grant, Mr. Kappanna, Mr. Besch and other members of a West Virginia University team set off a chain of events that exposed VW’s massive emissions cheating conspiracy.

In early 2014, the grad students and their professors, all from the university’s Center for Alternative Fuels, Engines and Emissions, published a troubling report that exposed strange behavior by Volkswagen diesels. At Volkswagen headquarters in Wolfsburg, Germany, alarm bells sounded.

In May 2014, after examining the study, Bernd Gottweis, Volkswagen’s head of product safety, wrote a one-page report. It was included in the packet that aides gave to Martin Winterkorn, the Volkswagen chief executive, to read over a weekend.

Mr. Gottweis reported that a Volkswagen Jetta tested by the team from West Virginia had emitted 15 to 35 times the permitted amounts of nitrogen oxides during road tests. A Volkswagen Passat also tested by West Virginia researchers was five to 18 times over the limit. The same cars were able, however, to pass tests conducted on rollers in a laboratory.
“A thorough explanation for the dramatic increase in NOx emissions cannot be given to the authorities,” Mr. Gottweis wrote, using the technical term for nitrogen oxides. “It can be assumed that the authorities will then investigate the VW systems to determine whether Volkswagen implemented a test detection system in the engine control unit software (so-called defeat device).”

A Clear Warning

Mr. Gottweis's memo delivered a clear warning to the very highest level of management of the risk that Volkswagen had been caught using an illegal defeat device. Although Volkswagen does not dispute that Mr. Winterkorn received the Gottweis report, the company has argued that there was no proof that Mr. Winterkorn read the memo, which was included in a stack of other documents.

If Volkswagen had been honest with American officials at that point, the damage to the company’s reputation and finances would very likely have been serious but not devastating. Similar cases suggest that Volkswagen would have paid a fine in the hundreds of millions of dollars.

But Volkswagen did not exploit the chance to be transparent.

An internal Volkswagen presentation, prepared soon after executives learned of the West Virginia tests, discussed various strategies the company could adopt to allay suspicions. One option was for Volkswagen to simply refuse to acknowledge a problem. Another option was to offer to update the engine software. But the update would not bring emissions down to the required levels, the presentation said. In the worst case, Volkswagen could admit there was a problem and buy back diesel cars sold in the United States.

“It should first be decided whether we are honest,” Mr. Schmidt wrote a colleague, according to the criminal complaint against him. The comment was cited as evidence that Mr. Schmidt was aware Volkswagen had something to hide.

The university report, conducted with a grant from the nonprofit International Council on Clean Transportation, came at an awkward time for Volkswagen. The company was in the midst of applying for regulatory certification of a new
generation of diesels for the 2015 model year. New cars were already piling up at American ports. Delays would be costly.

The West Virginia report did not accuse Volkswagen of wrongdoing. But Mr. Ayala of the California Air Resources Board, or CARB, was sufficiently bothered by the results to initiate a more intense inquiry, taking advantage of CARB’s clout as a regulator. Ayala collected a small fleet of Volkswagens to test, borrowing the cars from VW owners, who were paid a fee and received temporary replacement vehicles.

The tests performed by CARB’s team confirmed that something was wrong but did not explain why. At that point, CARB officials say, they were not trying to expose wrongdoing by Volkswagen. They were just trying to figure out what the problem was, so that it could be fixed.

It became a slow process.

CARB would present the results of its testing. Volkswagen, which has a technical facility in suburban Los Angeles, would perform its own tests. Then engineers from CARB and Volkswagen would meet to compare notes. The meetings were highly technical and lasted hours, sometimes all day.

‘A Couple More Questions’

“For every answer we got, we generated a couple more questions,” Mr. Ayala said.

As the back-and-forth dragged on without a solution, Mr. Ayala grew impatient. Volkswagen representatives gave answers that the regulators regarded as evasive, nonsensical or dismissive. CARB’s testing was wrong, Volkswagen complained. The outside air pressure threw off the results. The routes followed were inconsistent.

Efforts to figure out what was amiss with the Volkswagens began consuming so much of CARB technicians’ time, as well as space in the agency’s test bays, that other essential work was crowded out. Mr. Ayala also grew concerned that some 70,000 Volkswagen diesels were on California roads, polluting more than allowed.
To try to resolve the engineering stalemate, officials from both sides held a conference call on Oct. 1, 2014. The Volkswagen representatives included Mr. Schmidt and Stuart Johnson, an American who was his second in command. The Volkswagen executives unveiled a plan for a recall to update the engine software for diesels starting with the 2009 model year.

The planned recall seemed as if it were a concession by Volkswagen, but had the effect of a delaying tactic. The company still did not provide an honest explanation for the excess emissions. Instead, Volkswagen told CARB officials, “The new software incorporates the latest engineering experiences to enhance the efficiency” of pollution control equipment.

Accepting Volkswagen’s assurances that the recall would fix excess emissions, officials from CARB and the Environmental Protection Agency allowed the 2015 diesels to go on sale.

**Enhancing the ‘Defeat Device’**

Volkswagen eventually updated the software in 280,000 vehicles. Afterward, the cars polluted less than they had, but the upgrade did not remove the illegal software code or bring emissions to within legal limits. In fact, Volkswagen brazenly used the recall to enhance the ability of the software to recognize when a car was being tested.

In June 2015, CARB’s tests showed that the recall and software update had not solved the problem of excess pollution. Output of nitrogen oxides rose after about 23 minutes of driving, CARB said, one minute after the end of the standard test cycle.

CARB demanded that Volkswagen show it the software code that governed the emissions control system in the new 2016 models, which were already rolling off assembly lines. CARB also wanted to see the code in older models, so it could do a before-and-after comparison. If Volkswagen failed to comply with its request, CARB said, the agency would refuse to approve the 2016 models for sale in California.

That was a serious threat. If a company cannot get approval to sell its cars in California, for all intents and purposes it can’t sell them anywhere in the United
States. A dozen other states, including New York, Pennsylvania, Maryland and most of New England follow California’s clean air standards. No vehicle can be a success in America if it is banned from so many states.

In Wolfsburg, a Volkswagen committee concerned with safety and regulatory matters discussed the growing crisis in the United States at a meeting on July 21, 2015. The committee decided to create a task force to achieve “fast and effective de-escalation of the issue with officials,” an internal memo said. Volkswagen should approach the regulators “offensively.”

On July 27, 2015, engineers briefed Mr. Winterkorn, the Volkswagen chief executive, on the diesel problem. In court documents, Volkswagen lawyers maintained that Mr. Winterkorn at that time still did not understand the gravity of the problem.

**What Mr. Winterkorn Knew**

But even according to Volkswagen’s version of events, Mr. Winterkorn was in all likelihood informed that the underlying problem related to “software altered to influence emissions performance during testing.” According to Volkswagen, Mr. Winterkorn was not informed at the meeting that the software violated United States law. Mr. Winterkorn has said he did not learn of a defeat device until September 2015.

Volkswagen began to belatedly face up to the likelihood that the emissions problem would have legal consequences. In late July 2015, Volkswagen asked the Washington office of Kirkland & Ellis, a law firm with expertise in regulatory issues, for an opinion on the potential penalties.

In early August, the firm issued a five-page, single-spaced analysis which stated that Volkswagen would probably not be able to avoid paying civil penalties to the government. But the opinion also noted that the largest fine to date was $100 million imposed the previous November on Hyundai-Kia, the Korean carmaker. Hyundai-Kia had admitted overstating the fuel economy of 1.1 million cars and light trucks.
But there was an important distinction between Volkswagen’s behavior and that of other companies caught cheating. In the past, carmakers had almost always acquiesced immediately when confronted with evidence of emissions violations and cooperated with regulators.

Volkswagen had taken a far different approach. By August 2015, the company had spent more than a year procrastinating, providing regulators with false, misleading or incomplete information. It had carried out a recall that did not deliver the promised improvements. The company had continued to sell cars with illegal software, including 2015 models.

And Volkswagen continued to obfuscate. On Aug. 5, Mr. Schmidt, who the previous March had moved to a job in engine development in Wolfsburg, and Mr. Johnson, who had replaced him as head of emissions compliance in the United States, asked to meet with Mr. Ayala of CARB after learning he was scheduled to speak at an industry conference in Traverse City, Mich.

According to Mr. Ayala, Volkswagen booked a meeting room at the conference, which took place at a resort on the shores of Lake Michigan. Mr. Schmidt and Mr. Johnson arrived with a thick binder of technical information and spent two hours going over it with him.

To Mr. Ayala, the information looked credible. Despite everything, he still trusted the Volkswagen executives.

Mr. Schmidt, in his email to superiors about the meeting, reported that Mr. Ayala “was pleased that Volkswagen is addressing the problem and taking it seriously.” But, Mr. Schmidt wrote, Mr. Ayala had also expressed dissatisfaction with Volkswagen’s slow response until then. And he had pushed the company to issue a news release explaining its efforts to fix excess emissions — advice the company did not follow.

‘It Explained It All’

After he returned to California, Mr. Ayala turned the binder with technical information over to his staff.
A week later, the compliance engineers came back to him with the results of their analysis. The information provided by Volkswagen was nonsense. Only one possible explanation was left, the engineers said.

“That was the first time I heard the words ‘defeat device,’” Mr. Ayala recalled. “It explained it all.”

CARB stepped up the pressure on Volkswagen, obtaining a 2016 model and making plans to test it, raising the risk of additional damaging discoveries.

Volkswagen executives realized they had run out of excuses. On Aug. 18, Mr. Johnson approached Mr. Ayala at an industry conference in Pacific Grove, Calif. The gathering took place at Asilomar, a conference center set amid dunes and pine forests adjacent to a broad sandy beach on the Monterey Peninsula.

Mr. Johnson admitted to Mr. Ayala that the Volkswagens contained a defeat device. Mr. Ayala was furious. Volkswagen had knowingly squandered California taxpayer dollars, and allowed polluting vehicles to stay on California highways.

“They wasted our time,” Mr. Ayala said. “It had a very significant, very real impact on us all.”

A lawyer for Mr. Johnson, who has not been charged, declined to comment. In a statement, David Massey, a lawyer for Mr. Schmidt, said: “At its core, the government’s case against Mr. Schmidt is based on a fundamental misunderstanding of what happened on two occasions when Mr. Schmidt spoke to regulators in August 2015.”

As word spread inside Volkswagen that the regulators knew about the illegal software, employees began trying to cover their tracks. At an Aug. 31 meeting, an in-house lawyer suggested that engineers in attendance should check their documents. Several of those present interpreted the comment as a signal that they should delete anything related to the emissions issue in the United States. In the weeks that followed 40 employees at Volkswagen and the company’s Audi division destroyed thousands of documents.
On Sept. 3, 2015, Volkswagen formally admitted to regulators that 500,000 diesel vehicles in the United States had two calibrations, one for tests and one for normal operation — in other words, a defeat device. Mr. Winterkorn resigned before the end of the month, while insisting he had no knowledge of the wrongdoing.

The research begun with a $70,000 grant eventually cost Volkswagen more than $22 billion in fines and legal settlements, far more than the cost of equipping the cars with adequate pollution control equipment in the first place.

No one was more surprised at the outcome than the team at West Virginia University. “We never set out to get crosswise with anyone,” said Dan Carder, who oversaw the Volkswagen research as director of the university’s Center for Alternative Fuels, Engines and Emissions. “We were just kind of doing our jobs.”