United States Environmental Protection Agency

Region 6 - Enforcement & Compliance Assurance Division

INSPECTION REPORT

Inspection Date(s):	June 28 to July 1, 2021	
Media Program:	Air	
Regulatory Program(s)	RMP	
Company Name:	**Texas Instruments Inc.**	
Facility Name:	**RFAB Facility**	
Facility Physical Location:	300 W. Renner Road	
(city, state, zip code)	Richardson, TX 75080	
Mailing address:	13570 N. Central Expressway MS 3960	
(city, state, zip code)	Dallas, TX 75243	
County/Parish:	Collin	
Facility Phone Number	(214) 479-2222	Emergency Contact 24-Hour Phone
Facility Contact:	Weston Belcher	EHS Coordinator
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FRS Number:	110022435836	
Identification/Permit Number:	Texas Commission on Environmental Quality RN103941910	
Media Identifier Number:	RMP 100000219747	
NAICS Code:	334413 Semiconductor and Related Device Manufacturing	
SIC:	3674 Semiconductor and Related Device Manufacturing	
Personnel participating in inspection:		
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EPA Lead Inspector Signature/Date	Diana L. Lundelius 9516	07/27/2021
	Diana Lundelius, CHMM	Date
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	Samuel Tates	Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

I, Diana Lundelius, U.S. Environmental Protection Agency (EPA) Region 6 inspector, arrived at the Texas Instruments RFAB Facility (TI RFAB) at 8:30AM on June 28, 2021, for an announced inspection. I met with Wes Belcher, additional EPA inspectors, and other TI RFAB personnel listed on Page 1 of this report. I presented my stationary source inspector credentials to Brian Dunlap, the RFAB Plant Manager, and other TI RFAB personnel in an opening conference, and informed them that the purpose of the site visit was an EPA inspection to determine compliance with the Risk Management Program (RMP) requirements of the Clean Air Act (CAA). The scope of the inspection was to evaluate and determine compliance with the CAA Sections 112(r)(1) and (7), and the Chemical Accident Prevention Provisions in 40 Code of Federal Regulations (CFR) Part 68. EPA inspector Tony Robledo also presented his RMP inspector credentials.

FACILITY DESCRIPTION

The TI RFAB semiconductor manufacturing facility started operation in 2009. The site is located on 92 acres of property, of which the facility occupies 870,000 square feet, including a planned expansion. The facility employs 750 employees, in addition to contractors. The TI RFAB has four RMP-covered processes using trichlorosilane, anhydrous ammonia, bulk hydrogen, and anhydrous hydrogen chloride. Air Liquide, a contractor for Texas Instruments, operates the bulk hydrogen RMP covered process. The TI RFAB facility is non-union, and operates 24 hours a day, 7 days a week.

Section II - OBSERVATIONS

40 C.F.R. Part 68 – CHEMICAL ACCIDENT PREVENTION PROVISIONS

Subpart A – General

40 C.F.R. § 68.10 Applicability – I observed that TI RFAB is a stationary source that has an Air Operating Permit and more than threshold quantities of regulated substances in four processes; therefore, the regulations under 40 CFR Part 68 are applicable. TI RFAB submitted an RMP registration that describes the process containing toxic and flammable chemicals held at more than threshold quantities. All four of the processes are Program Level 3, because the facility is subject to Occupational Safety and Health Administration's (OSHA) Process Safety Management Standard (PSM), 29 CFR 1910.119. TI RFAB is a semiconductor manufacturing plant with an NAICS Code of 334413.

40 C.F.R. § 68.12 General requirements – I reviewed the RMP registration submitted by TI RFAB on September 2, 2019, which lists four processes – two flammables, and two toxics. All four processes were determined by TI RFAB to meet the requirements of Program Level 3. For the five years prior to the current RMP registration, the facility has not had an accidental release of a regulated substance that resulted in death, injury, or off-site response at an environmental receptor, per 68.10(g)(1). Since the distance to a toxic or flammable endpoint for worst-case release assessments conducted under subpart B and §68.25 includes public receptors, the facility does not meet the criteria to be Program Level 1.

40 C.F.R. § 68.15 Management – TI RFAB has developed a document showing the organization chart and PSM Element Ownership. TI personnel indicated that the TI RFAB Facilities Manager is the person with

overall responsibility for overseeing the implementation of the RMP program elements. Additionally, the organization chart lists different positions as persons responsible for implementing individual requirements. Texas Instruments also has corporate level personnel who have designated assigned responsibilities for RMP elements, and a corporate (world-wide) procurement and logistics group (WPL) who oversees contractor selection and equipment/resource procurement. TI RFAB's documentation systems are all electronic. The document control systems include several interconnected and stand-alone databases, and dedicated SharePoint sites where employees may access facility documents. These document systems were demonstrated by TI RFAB personnel during the inspection.

Subpart B – Hazard Assessment

40 C.F.R. § 68.20 Applicability – TI RFAB prepared worst-case release scenario analyses and completed the five-year accident history review. Since TI RFAB has two Program Level 3 toxic processes and two Program Level 3 flammable processes, they must comply with both the flammable and toxic sections in this subpart.

40 C.F.R. § 68.22 Off-site consequence analysis parameters – I observed that TI RFAB used parameters required in this part to calculate toxic worst-case and alternative release scenarios and flammable worst-case and alternate scenarios. TI RFAB used parameters specified by EPA in the rule, and used RMP*Comp™ to determine the scenario specific input values, including appropriate wind speeds, stability classes, ambient temperature and humidity values, height values, and surface roughness values. Additionally, TI RFAB conducted additional modeling using ALOHA and MARPLOT to supplement and validate the RMP*Comp™ information.

40 C.F.R. § 68.25 Worst-case release scenario analysis – During the inspection, I reviewed documentation from TI RFAB regarding the worst-case release scenario analyses for the two flammable and two toxics processes. These analyses used both the RMP*Comp™ Model, and additional modeling with ALOHA and MARPLOT.

40 C.F.R. § 68.28 Alternative release scenario analysis – TI RFAB identified and documented alternative release scenarios for the four RMP covered flammable and toxic substance processes in their RMP. These analyses used both the RMP*Comp™ Model, and additional modeling with ALOHA and MARPLOT.

40 C.F.R. § 68.30 Defining off-site impacts – Population – TI RFAB used the most current (2010) Census Bureau population data and the distance to endpoints to calculate the population numbers reported in their RMP. TI RFAB also used Google Maps and populations associated to related zip codes to define the population surrounding the facility.

40 C.F.R. § 68.33 Defining off-site impacts – Environment – TI RFAB identified environmental receptors in the distance to the endpoint or in the vicinity of the facility, as appropriate, in the area maps used for the modeling.

40 C.F.R. § 68.36 Review and update – I reviewed the documentation that illustrated reviews and updates regarding the off-site consequences are completed at least every five years. The most recent reviews were completed in 2018 and 2019, when the facility first exceeded the regulatory thresholds for trichlorosilane, ammonia and hydrogen chloride, and when the bulk hydrogen system was installed, respectively.

40 C.F.R. § 68.39 Documentation – TI RFAB provided documentation of the off-site consequence analyses for all four covered flammable and toxic processes. Included in the documentation of the worst-case and alternative release scenarios were descriptions of the vessel or pipeline, parameters used and input into the RMP*Comp™ and ALOHA models, and the use of any administrative controls and/or passive mitigation that were assumed to limit the quantities that could be released. The documentation also included the estimated quantities released, release rates, duration of releases, release estimation methodology used, and data used to estimate population and environmental receptors potentially affected. Although TI RFAB personnel verbally explained the basis for selection of the single-tank worst-case release scenarios for hydrogen and ammonia, the rationale and associated assumptions were not adequately described in the written documentation. **[Area of Concern (AOC) 1]**

40 C.F.R. § 68.42 Five-year accident history - TI RFAB reported no accidental releases of regulated chemicals in their RMP registration. I reviewed the OSHA 300 logs for 2017 to 2020, which confirmed that any recordable events were not associated with the covered RMP processes. TI RFAB personnel also verbally confirmed that they have had no RMP recordable release events during the past five years. I also reviewed selected additional incident records on site to confirm the process TI RFAB uses for conducting incident investigations. As required by the rule, TI RFAB conducts investigations for near-miss incidents, as well as actual release events. The facility had one near-miss incident in the ammonia covered process in September 2019, which was fully documented with all necessary corrective action completed prior to this inspection.

Subpart D – Program 3 Prevention Program

40 C.F.R. § 68.65 Process safety information – TI RFAB provided written process safety information (PSI) for each of the covered RMP processes. I reviewed the PSI documents for each of the covered process area. The PSI I reviewed included information pertaining to the hazards of the regulated substances used or produced by the processes, information pertaining to the technology of the processes, and information pertaining to the equipment in the processes. The process safety information included Safety Data Sheets (SDSs), which had information on toxicity, permissible exposure limits, physical data, reactivity data, corrosivity data, thermal and chemical stability data, and the hazardous effects of inadvertent mixing of materials that could foreseeably occur. The facility documented information pertaining to the technology of the processes with block flow diagrams, process chemistries, maximum intended inventories, safe upper and lower operating limits, and evaluations of the consequences of deviation. The PSI is supplemented by, and includes reference to, Piping and instrument Diagrams (P&IDs), electrical classifications, relief system designs, ventilation system designs, design codes and standards used for equipment, material and energy balances, safety/mitigation systems, and alarm/automatic shut off systems.

40 C.F.R. § 68.67 Process hazard analysis (PHA) – TI RFAB completed original PHAs for the trichlorosilane and hydrochloric acid covered processes in March 2012. These PHAs were revalidated in July 2017. The ammonia system PHA was first completed in July 2019, after the system was initially installed, and prior to its start up in August 2020. The hydrogen process PHA was completed in June 2019, prior to start up. While on site, I requested to review the PHA documentation for each covered process, and the respective recommendations. The PHAs included the hazards of the process, engineering and administrative controls applicable to the hazards, consequences of failure of engineering and administrative controls, stationary siting, human factors, and an evaluation of a range of the possible safety and health effects of failure of controls. TI RFAB and its engineering consultant used the Failure Mode Effects Analysis (FMEA) technique for the original 2012 PHAs. FMEA was also the

technique used for the revalidations conducted in 2017. For PHAs conducted in 2019, the Hazard and Operability Study (HAZOP) technique was used. All PHAs were conducted by teams that included appropriate personnel from TI RFAB, Texas Instruments corporate groups, and an engineering consultant with knowledge of the facility. The findings and recommendations for each PHA were documented. In reviewing the corrective action resolutions from each PHA, I noted that all recommended corrective actions were implemented and completed within scheduled deadlines. There were no open action items at the time of this inspection.

40 C.F.R. § 68.69 Operating procedures – TI RFAB developed and implemented written operating procedures that provide instructions or steps for conducting activities associated with the covered processes, consistent with the documented safety information. I reviewed the operating procedures to identify steps for each operating phase (initial and normal startup, normal operations, emergency operation and shutdown, normal shutdown, and startup following a turnaround or after emergency shutdown). The RFAB facility does not generally allow temporary operations, but they are not prohibited. Prior to initiating any temporary operation for a covered process, TI first performs a Facilities Change Control Board review, after which implementation of temporary operations may occur. The emergency shutdown procedures include conditions under which emergency shutdown is required, and the assignment of shutdown responsibilities to qualified operators to ensure that emergency shutdown is executed in a safe and timely manner. Additionally, TI RFAB provided annual certifications for 2019 and 2020 that the operating procedures are current and accurate. Air Liquide provided copies of its operating procedures and certification for the bulk hydrogen covered process. These included similar elements to those procedures developed and implemented by TI RFAB.

40 C.F.R. § 68.71 Training – The training records for TI RFAB employees who operate the covered processes are documented electronically, except for the hydrogen covered process operated by Air Liquide. TI RFAB employs an in-house database system called *MyLearning* to track and document initial and refresher training for all affected employees and operators of the covered processes. Qualification criteria for the covered processes are embedded in Personal Identity Verification (PIV) cards issued to each operator and contractor. An online approval system in *MyLearning* is used to document knowledge and understanding of a process, and there are several levels of review and signature required. PIV cards are suspended if an operator's, contractor's, or affected employee's training becomes overdue. I reviewed a list of employee training records in MyLearning that included initial and refresher training for affected employees. At the time of this inspection, no training for current TI RFAB employees was overdue, and no training records were missing. Training records for the hydrogen covered process contract operators were separately furnished by Air Liquide and showed that initial and refresher training have been completed in accordance with rule requirements. No training is overdue for the Air Liquide operators of the bulk hydrogen covered process.

40 C.F.R. § 68.73 Mechanical integrity – I reviewed the documentation of TI RFAB's mechanical integrity process and procedures, and selected records for RMP covered equipment. Written procedures for maintaining the integrity of the equipment in the covered processes were provided. These procedures, along with a schedule and records of completed and future inspection and maintenance tasks, are housed in TI RFAB's online *Facility Maintenance System (FMS)*. The TI RFAB facility manager explained that the facility does not have a separate dedicated maintenance group, but instead includes mechanical integrity in operator training, or includes requirements in third party contractor selection criteria. Training records for TI RFAB operators and third-party maintenance contractors that were reviewed confirmed this. Mechanical integrity inspections and non-routine maintenance (e.g., equipment replacement) are conducted by third party contractors. The most recent inspections and integrity testing for the ammonia and hydrogen covered processes were completed in 2019 and 2020, by TI RFAB and Air Liquide, respectively. Mechanical integrity future inspections for the trichlorosilane and

hydrogen chloride equipment systems will not be due until 2022 of after, as these processes did not become subject to RMP requirements until after 2017. TI RFAB also furnished a copy of the original mechanical integrity inspections, design evaluation, and initial commissioning of the bulk hydrogen system tanks and equipment that was completed by Air Liquide in 2019.

40 C.F.R. § 68.75 Management of Change (MOC) – I requested and reviewed TI RFAB's MOC procedures for the RMP covered processes. MOC is documented and tracked by the internal TI RFAB *Facility Information System*. The MOC portion of the database system is called *Change Approval*. A board of change collaborators meets on an as needed basis, and prior to instituting any critical system changes, temporary changes, changes to emergency operational systems, or RMP/PSM changes. An engineering change notification in the *Change Approval* system may be triggered by an incident, a pending mechanical integrity or maintenance task, changes to process safety information, or procedure document revisions. I reviewed the list of MOCs for the most recent two-year period online, and then reviewed electronic MOC records for selected MOC actions. All of the MOC records reviewed were signed off and completed in accordance with TI RFAB MOC procedures for the types of MOCs initiated.

40 C.F.R. § 68.77 Pre-startup safety review (PSSR) – TI RFAB's protocols for PSSR are not summarized in a separate document, but are incorporated into the facility's employee participation plan. I reviewed the PSSRs for all four RMP covered processes. The PSSRs for trichlorosilane and hydrogen chloride were originally completed in 2012, prior to the facility becoming subject to RMP Part 68. The PSSRs reviewed included employee notification and required operator training, except for the hydrochloric acid system PSSR completed in 2012, which was operated by Air Liquide at that time. The PSSRs for the bulk ammonia and bulk hydrogen processes were completed 2019.

40 C.F.R. § 68.79 Compliance audits – TI RFAB conducted their most recent RMP compliance audits in June 2017 for trichlorosilane and hydrogen chloride, and in December 2020 for all four covered processes. The June 2017 compliance audit was the first audit conducted after the facility became subject to RMP requirements. The December 2020 audit included the bulk hydrogen and bulk ammonia covered processes installed in 2019, as well as the previously existing trichlorosilane and hydrogen chloride processes. EPA noted that the December 2020 audit should have been completed within three years of the previous audit, in June 2020. However, the three-year audit due date came during the worst period of the COVID-19 pandemic, and because of lock down mandates issued by local county and municipal governments, the facility was unable to schedule and complete the audit prior to the due date. TI RFAB made good faith attempt to schedule and complete the audit as soon as reasonably possible to ensure safe conditions for an audit team to convene on site. Both compliance audits included TI RFAB employees knowledgeable of the processes, Texas Instruments corporate personnel, third party audit contractor personnel, summaries of the audit team meetings, reports of the findings, and the recommended action items in response to the findings. Lists of the corrective action items, the schedules for completion, and the personnel assigned were provided for each audit. At the time of this inspection, no recommendations from either audit remained unaddressed, and all corrective items had been completed. However, the compliance audits did not include certification statements **[AOC 2].**

40 C.F.R. § 68.81 Incident investigation – During the inspection, I requested and reviewed incident investigations for all incidents which resulted in, or could reasonably have resulted in, a catastrophic release of a regulated substance over the past three years. Incidents are tracked and reported through TI's *Event Manager System*, which is integrated with other database systems for tracking work requests and approvals associated with mechanical integrity and management of change. TI RFAB's internal requirements are for incident/event investigations to be initiated within 48 hours, and follow up

recommendations and corrective action to be completed within six months. I reviewed one near miss incident investigation for the covered ammonia process that occurred in September 2019. Follow up actions and recommendations from the incident investigation were completed in a timely manner.

40 C.F.R. § 68.83 Employee participation – I reviewed a written employee participation plan during this inspection, which was developed by TI RFAB. The plan included a description of how employees and their representatives have access to process hazard analyses and all other information required under the RMP rule, and examples of the types of projects and activities employees may participate in. The plan includes participation in pre-startup safety review. The employee participants listed in the PSSRs I reviewed confirmed that TI RFAB follows this protocol. Additional information related to employee participation was included in a section of the RMP program overview document. Employees can access information and documents through several SharePoint sites, which were shown and demonstrated by TI RFAB personnel during the inspection.

40 C.F.R. § 68.85 Hot work permit – While on site, I reviewed the current online *Permits* database for TI-issued cut/weld hot work permits, and other types of permits. The hot work permits included the dates authorized for cut/weld hot work, identified the objects on which hot work was performed, and the requirements for fire watch. Cut/weld hot work permit records are kept in accordance with rule requirements and TI RFAB records retention policies, which is for one year past the expiration date. There has been only one cut/weld hot work permit in the past three years, which was issued in October 2019, and was associated with corrective action taken after the September 2019 near-miss incident in the covered ammonia process. I requested documentation associated with this cut/weld hot work permit. TI RFAB provided a copy of the work permit that was issued by the database system in place at the time, which included reference to the cut/weld hot work that was authorized, and the date it was performed. TI RFAB indicated that the original permit documentation was retained for one year, in accordance with RMP and TI internal requirements. TI RFAB also provided an example of the current cut/weld hot work permit template that is used, which is separate from other work permits the facility issues through the *Permits* database system.

40 C.F.R. § 68.87 Contractors – I observed that contractors are vetted internally by the TI corporate WPL system. The WPL contractor selection system is electronically driven, and includes prequalification forms that include information covering background screenings, insurance coverage, training requirements, industry experience, safety history, environmental stewardship, and other TI internal requirements. TI RFAB also has input into the contractor selection process. PIV badges are issued to individual contractor employees. Contractors are required to complete initial four-hour general site safety and environmental training, which includes RMP and PSM as appropriate. Additional training specific to equipment and procedures in the covered processes is also required. Each year, contractors must renew their active status and complete refresher training prior to the expiration date of their PIV badges. TI RFAB's security group maintains the PIV badge access system, and each TI RFAB assigned project manager conducts periodic meetings with contractor representatives. TI RFAB teams periodically audit contractor work and performance. Because the bulk hydrogen system is operated and maintained by Air Liquide, TI RFAB has special contract conditions that require Air Liquide to be in compliance with applicable environmental and safety regulations, including PSM and RMP. Air Liquide must also provide compliance documents upon request by TI RFAB personnel. TI RFAB has a goal of auditing Air Liquide's operation once annually. TI RFAB and provided for my review during this inspection the findings and recommendations of the audit that was conducted after the 2019 commissioning of the bulk hydrogen system.

Subpart E – Emergency Response

40 C.F.R. § 68.90 Applicability – TI RFAB personnel include designated employees that respond to fires and releases on site. I reviewed the TI RFAB Emergency Response Plan, and discussed implementation of the response plan elements with Tony Sok, the TI RFAB Emergency Services Manager. I observed that the emergency response plan included appropriate detail and information on proper first aid and emergency medical treatment necessary to treat accidental human exposures. This information also could be found in other documentation from TI RFAB. Additionally, I reviewed training records and training curricula for designated emergency responders, and P&IDs for the locations of response equipment, alarms, and safety equipment. I also reviewed the 2020 and 2021 inspection records for fire extinguishers and safety showers, and observed the actual equipment tags with dates of inspection for one fire extinguisher and one safety shower, which were consistent with other response resources database information maintained by TI security, who conduct the inspections.

40 C.F.R. § 68.95 – 68.96 Requirements For Responding Stationary Sources – TI RFAB is a responding stationary source, and maintains an emergency response plan that includes and addresses the following elements required in this portion of the rule: procedures for informing the public and the appropriate Federal, state, and local emergency response agencies about accidental releases; documentation of proper first-aid and emergency medical treatment necessary to treat accidental human exposures; and, procedures and measures for emergency response after an accidental release. I reviewed the emergency response plan and observed that it contains procedures for the use of emergency response equipment and for its inspection, testing, and maintenance. The program includes training for all employees in relevant procedures. TI RFAB has a dedicated full time emergency response services manager, and employees apply to serve as volunteer emergency response team members on a rotational basis. The emergency response program includes a matrix of four levels of incidents, and the personnel and resources allocated for response. TI RFAB security assists with monthly inspections of fire alarms, fire extinguishers, safety shower and eye wash stations, and emergency response equipment stations. A third-party contractor conducts annual certification testing of fire extinguishers and safety showers. TI RFAB also provided copies of diagrams and P&IDs which show the locations of emergency alarms. During a site tour, the EPA inspection team observed that emergency exit and alarms signs are posted in the covered process areas. TI RFAB reviews and updates the emergency response plan annually to reflect changes at the facility and ensure that employees are informed of the changes.

TI RFAB coordinates its emergency response plan with the Richardson Fire Department and the local emergency response committee. The facility conducts tabletop and full emergency response exercises at least annually. The most recent emergency response exercise with alarm/communication testing and response equipment deployment was conducted in May and June 2019, and included other Texas Instrument facilities, the Richardson Fire Department, and other local emergency response committee participants. Because of the COVID pandemic, a remote tabletop exercise only was conducted with the Richardson Fire Department in 2020. Field exercises also include: tests of procedures to notify the public and the appropriate response agencies about an accidental release; tests of procedures and measures for emergency response actions, including evacuations and medical treatment; and tests of communications systems. TI RFAB provided documentation of the May/June 2019 response exercise for my review.

40 C.F.R. § 68.195 RMP Registration and Required Corrections – The RMP registration for this facility was most recently updated in September 2019 after the start-up of the bulk hydrogen system. At the

time of the inspection, the emergency contact 24-hour phone numbers were all active and responsive. TI RFAB continually reinforces to employees to contact the 4-digit emergency response internal phone extension whenever a release or other incident occurs. I reviewed the most recent RMP registration and found the elements to be consistent with other RMP program documentation the facility maintains and furnished for review.

Section III – AREAS OF CONCERN (AOCs)

On the last day of the inspection (July 1, 2021), I conducted a closing conference, during which I presented the following areas of concern identified during the inspection. EPA's findings from the inspection are also summarized in the completed RMP Program Level 3 checklist, found in Section V. Appendix 1.

1. 40 C.F.R. § 68.39 Hazard Assessment - Documentation
The owner or operator shall maintain the following records on the off-site consequence analyses:
(a) For worst-case scenarios, a description of the vessel or pipeline and substance selected as worst case, assumptions and parameters used, and the rationale for selection.

Although TI RFAB personnel verbally explained the basis for selection of single-tank worst-case release scenarios for hydrogen and ammonia, the rationale and associated assumptions were not adequately described in the written documentation. While EPA guidance contains additional information to assist an owner/operator in conducting assessments, the language of the rule itself requires the rationale for scenario selection to be included in the written hazard assessment documentation. Subsequent to the inspection, TI RFAB submitted to EPA updated copies of the hazard assessment documentation which contained explanations of the rationale for selection of single-tank worst-case scenarios for each chemical.

2. 40 C.F.R. § 68.79 Compliance audits
(a) The owner or operator shall certify that they have evaluated compliance with the provisions of this subpart at least every three years to verify that procedures and practices developed under this subpart are adequate and are being followed.

At the time of the inspection, the compliance audits completed in June 2017 and December 2020 did not include certification statements. Subsequent to the inspection, TI RFAB submitted to EPA signed certification statements in accordance with this section of the rule to attach to each of the audit reports.

Section IV – FOLLOW UP

Within two weeks after the inspection, EPA received additional documents from TI RFAB that were requested and reviewed during the inspection. These Confidential Business Information documents were transmitted and received electronically on July 19, 2021.

Section V – LIST OF APPENDICES
Appendix 1 - RMP Program Level 3 Checklist
Inspection Symbol Key: Y - Yes, N - No, N/A - Not Applicable
S - Satisfactory, M - Marginal, U – Unsatisfactory