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Via Email Transmission and Certified Mail, Return Receipt Requested

May 15, 2019

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Amy Wilson
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The Dow Chemical Company
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Re: Notice of Intent to Sue for RCRA Violations at the Dow Pittsburg Operations facility

Dear Mr. Echeverria, Mr. Rhode, and Ms. Wilson:

The Environmental Integrity Project (EIP) and Environmental Advocates, on behalf of Communities for a Better Environment (CBE), serve this letter as notice of intent to sue The Dow Chemical Company (Dow), regarding serious and ongoing violations of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6901 *et seq.* at the manufacturing facility known as the Dow Pittsburg Operations, located 901 Loveridge Road, Pittsburg, CA. Upon providing this notice of intent to sue, CBE is entitled to file suit in the United States District Court for the Northern District of California pursuant to 42 U.S.C. §§ 6972(a)(1)(A) and (b)(1) of RCRA to remedy the violations identified in this letter at any time hereafter.

In 1992, the California Department of Toxic Substances Control (DTSC) received authorization from the United States Environmental Protection Agency (EPA) to implement Subtitle C of RCRA—the hazardous

waste management program—and the regulations promulgated thereunder.¹ RCRA Subtitle C establishes standards for the generation, transportation, treatment, storage, and disposal of hazardous waste in the United States.²

Dow is a chemical plant that conducts chemical research and development and manufactures products for agricultural operations, pest control services, pulp and paper manufacturing, carpet and flooring mills, biocides, and personal care. The facility operates as a state-permitted RCRA treatment, storage, and disposal facility and operates under two DTSC-issued hazardous waste permits, a permit for hazardous waste drum storage and a permit for two boiler and industrial furnaces.

As explained more fully below, Dow has violated RCRA and its hazardous waste permits issued pursuant to RCRA since at least May 2014. Dow is operating a wastewater treatment system without a permit, it has failed to make proper hazardous waste determinations, and it is violating several health-based limits of its RCRA permit that control when and how much hazardous waste can be burned in two furnaces. Last, Dow is failing to keep records necessary to demonstrate compliance, including the amount and concentration of hazardous waste emitted into the atmosphere.

Dow's operation of its furnaces outside of permit limits – and there are thousands of documented violations - potentially exposes nearby residents and communities to harmful hazardous wastes. The permit limits imposed by DTSC are based on cancer risk and when permit limits are adhered to, assume the furnaces destroy 99.99% of all hazardous constituents.³ When Dow burns hazardous waste under conditions where the permit would require the furnaces be shutoff, however, residents are exposed to elevated levels of pollution and risk of harm necessarily rises.

On information and belief, the violations described in this letter are continuing, have not been resolved, and will continue to harm CBE and present risks to health and the environment unless abated immediately.

RCRA Section 7002(a)(1)(A) authorizes CBE to enforce violations of the Subtitle C hazardous waste program in federal court. 42 U.S.C. § 6972(a)(1)(A). Section 7002(a) further authorizes CBE to seek the assessment of civil penalties up to the maximum amount set forth in Sections 3008(a) and (g). 42 U.S.C. § 6928(a), (g). For violations that occurred after November 2, 2015, Dow is subject to a maximum civil penalty of up to \$74,552 for each day that each separate violation occurred, and for violations that occurred before November 2, 2015, Dow is subject to a maximum civil penalty of up to \$37,500, as per the Federal Civil Penalties Inflation Adjustment Act Improvement Act of 2015. *See* 42 U.S.C. 6928(a), (g), 40 C.F.R. § 19.4 tpls.1-2, 84 Fed. Reg. 2,056, 2,059.

Pursuant to section 7002(b)(1) of RCRA, CBE hereby gives notice of its intent to sue Dow for violations of RCRA at its Dow Pittsburgh Operations facility unless Dow enters into a binding agreement to cease and remediate promptly all violations identified herein. 42 U.S.C. § 6972(b)(1).

¹ DTSC, Resource Conservation and Recovery Act, <https://dtsc.ca.gov/resource-conservation-recovery-act-rcra/> (last visited May 7, 2019).

² Resources Conservation and Recovery Act, Subtitle C 42 U.S.C. §§ 6921-6939g.

³ *See* DTSC, *Draft Hazardous Waste Facility Boiler and Industrial Furnace Permit Fact Sheet*, 3-4 (Sept. 2002) available at https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/01/Dow_FS_CEQA_Neg_Dec_English.pdf.

Founded in California in 1978, CBE is one of the preeminent environmental justice organizations in the nation. CBE's mission is to build people's power in California's communities of color and low-income communities to achieve environmental health and justice by preventing and reducing pollution and building green, healthy and sustainable communities and environments. CBE provides residents in blighted and heavily polluted urban communities in California with organizing skills, leadership training and legal, scientific and technical assistance, so that they can successfully confront threats to their health and well-being.

CBE's members have been and will continue to be injured by the violations set forth in this letter. CBE has members who live near the facility and are concerned about the impacts that improperly managed hazardous wastes will have on their health and their family's health and the surrounding environment. These and other injuries will continue unabated unless and until Dow comes into compliance with RCRA.

I. RCRA Overview

RCRA sections 3001 through 3024, 42 U.S.C. §§ 6921-6939, known as RCRA Subtitle C, establish standards for the generation, transportation, treatment, storage, and disposal of hazardous waste in the United States. Subtitle C of RCRA authorizes "cradle-to-grave regulation of hazardous waste," and RCRA section 3002 requires the EPA Administrator to promulgate regulations establishing standards applicable to generators of hazardous waste that may be necessary to protect human health and the environment. 42 U.S.C. § 6922.

Section 3005 of RCRA establishes permit requirements for owners or operators of hazardous waste treatment, storage, and disposal facilities (known as TSDFs). 42 U.S.C. § 6925.

Under RCRA sections 3005 and 3010, any person who generates or transports hazardous waste, or who owns or operates a facility where hazardous waste is treated, stored, or disposed, must notify EPA or the authorized state agency—in this case DTSC—of the location of the facility as well as the types of hazardous wastes handled onsite. Thereafter, depending on the types and quantities of waste generated onsite, as well as the way in which such waste is handled, the owner or operator may be required to apply for a RCRA permit, which when granted, allows it to operate the facility as a TSDF. 42 U.S.C. §§ 6925, 6930. The permitting program is important to the cradle-to-grave management system for hazardous wastes, which is intended to prevent dangerous releases and avoid costly Superfund cleanups.

Regardless of permitting status, any owner or operator of a facility who generates or handles hazardous waste must adhere to the regulations governing hazardous waste management, either found in 40 C.F.R. Part 265 (for those without an operating permit) or 40 C.F.R. Part 264 (for TSDF-permitted facilities). The mirror image requirements applicable to both unpermitted and permitted facilities exist because the purpose of RCRA is to prevent contamination to land, groundwater, surface water and air, and in so doing protect human health and the environment and prevent the need for costly cleanup in the future, often at public expense.

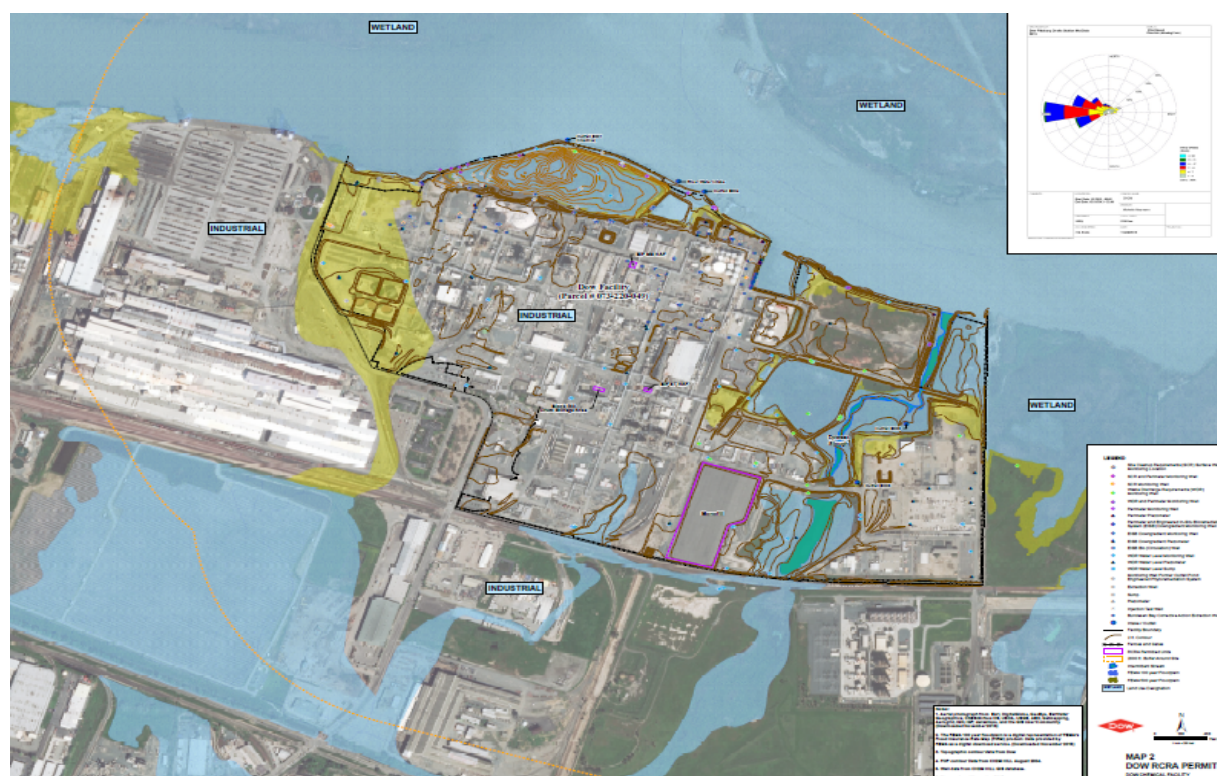
II. Background, Site History, and Permitting History

The Great Western Electro Chemical Company operated a chemical manufacturing facility on the property from 1916 until 1938, when Dow purchased the property. Operating 24 hours a day, seven days a week, the roughly 1,000-acre facility has approximately 300 employees and 200 contractors. The

facility is bounded on the north by the New York Slough and on the east by wetlands and the Contra Costa Canal. Dow manufactures agricultural and intermediate products including fertilizers and insecticides and personal care products at this facility. According to Dow's website, Dow Pittsburg Operations "has both manufacturing and research facilities supporting two of six global Dow businesses, including Dow AgroSciences and Performance Chemicals. Pittsburg Operations is one of 156 manufacturing sites located in 37 countries around the world."⁴

Dow is considered a large quantity generator of hazardous waste, which means that the facility generates at least 1,000 kilograms per month of hazardous waste or 1 kilogram per month of acutely hazardous waste. See, 40 C.F.R. § 262.13. RCRA is a "cradle to grave" statutory framework designed to prevent the release of hazardous waste into the environment by identifying hazardous waste handlers (through assignment of an EPA ID number) and tracking the waste generated by each handler from the point of origin to final disposal. This facility has been assigned EPA ID number CAD 076528678 and operates as a RCRA-permitted TSDF.

Figure 1: Map of Dow Pittsburg Operations⁵



⁴ Dow Pittsburg Operations, <https://corporate.dow.com/en-us/about/locations/pittsburg> (last visited May 7, 2019).

⁵ Dow Chemical Co., RCRA Hazardous Waste Facility Permit Application, Block 560 Drum Storage Area, app. B, map 2 (Mar. 2018), available at https://www.hwmpenvirostor.dtsc.ca.gov/public/site_documents/1340406119/Dow%20Block%20560_final%20Part%20B%20Application_20180618%20%28March%202018%29%20-%20corrected%20June%202018.pdf.

At Dow, different liquid and gaseous by-products are produced as a result of Dow's manufacture of chemical products and those by-products. Those by-products, along with various process wastes, are thermally oxidized in one of two halogen acid furnaces. The furnaces thermally destroy many waste streams, such as tank and process vented gases, waste heavies (tars), and spent ferric chloride catalysts. The process of thermal destruction produces hydrochloric acid (HCl), which Dow sells to industrial customers and also uses in-house to control pH as part of its Wastewater Treatment System.

Dow is authorized to use the two halogen acid furnaces pursuant to its DTSC Hazardous Waste Facility Boiler and Industrial Furnace Permit Number 01-NC-08 (2003 BIF Permit), issued by DTSC on April 28, 2003.⁶ Although the permit expired on April 27, 2013, it has been administratively extended for more than five years. During this time, DTSC has issued numerous deficiency notices regarding the sufficiency of Dow's permit materials.

In addition to the furnaces, which treat and destroy hazardous wastes, Dow generates many hazardous wastes that are stored onsite for greater than 90 days prior to being sent off-site for thermal destruction, proper disposal, or recycling. Dow is permitted to store these hazardous wastes on-site up to 90-days pursuant to RCRA regulations governing temporary (less than 90 day) storage and for greater than 90 days pursuant to its Hazardous Waste Facility Permit No. 06-BRK-02 (Drum Storage Permit) issued by DTSC on July 31, 2006 and reissued on October 31, 2018.⁷

The Drum Storage area is permitted to store 25, 55, and 80-gallon drums with a total maximum permitted capacity of 6000 gallons of stored hazardous waste. Each hazardous waste can be stored for no more than one year. The drums are stored in two uncovered bays that have sumps and secondary containment. Accumulated rain water is pumped from the sumps and used in various Dow processes.⁸

The 2003 BIF Permit also permits Dow to treat, store, and dispose of dozens of hazardous waste streams in its two halogen acid furnaces, referenced above. These hazardous wastes primarily consist of discarded commercial products (such as methylene chloride and trichloroethylene), spent solvents, reactive hazardous wastes such as chlorinated pyridines, metals such as arsenic, chromium, mercury, lead, and organics such as carbon tetrachloride. The hazardous wastes permitted to be treated in the first furnace, known as the Syntet Halogen Acid Furnace (ST HAF) carry RCRA hazardous waste codes: D004, D005, D006, D007, D008, D009, D010, D019, D032, D033, D034, D039, and California Hazardous

⁶ DTSC, Hazardous Waste Facility Boiler and Industrial Furnace Permit, No. 01-NC-08 (issued Apr. 28, 2003) [hereinafter 2003 BIF Permit] *available at* https://www.hwmpenvirostor.dtsc.ca.gov/public/site_documents/5969358146/Dow_TSDF_Final_BIF_Permitt.pdf. As stated in the permit, Dow's December 2000 Part A and Part B Permit Application (Part B) is incorporated therein and made an enforceable part thereof. Dow Chemical Company, *RCRA Hazardous Waste Facility Permit Application* (Mar. 2018) [hereinafter 2003 BIF Permit Part B] https://www.hwmpenvirostor.dtsc.ca.gov/public/site_documents/1834751725/BIF%20Part%20A%20and%20Part%20B%20Permit%20App%20for%20Dow%20Chemical%20Co%20HAFs%20-%20Vol%201%20-%20Dec%202000.pdf.

⁷ DTSC, Hazardous Waste Facility Permit, No. 06-BRK-02 (reissued Oct. 31, 2018) [hereinafter Drum Storage Permit] *available at* [https://www.hwmpenvirostor.dtsc.ca.gov/public/site_documents/1834241569/Final%20Permit%20Dow%20Block%20560_October%2031,%202018%20\(signature%20covered\).pdf](https://www.hwmpenvirostor.dtsc.ca.gov/public/site_documents/1834241569/Final%20Permit%20Dow%20Block%20560_October%2031,%202018%20(signature%20covered).pdf).

⁸ *Id.*

Waste Codes: CA 741, CA 751. According to the permit, the maximum rate of hazardous waste fed to this furnace is 548 pounds per hour.⁹

The hazardous wastes permitted to be treated in the second furnace, known as the Manufacturing Services Halogen Acid Furnace (MS HAF) carry RCRA hazardous waste codes: D004, D006-D010, D019, D022, D028, D032-D034, D039, D040, F002, U080, U084, U210, U211, U226, U228, and California Hazardous Waste Codes: CA 741. According to the permit, the maximum rate of hazardous waste fed to this furnace is 461 pounds per hour.¹⁰

Liquid wastes from several different process areas in the plant are either sent directly to one of the two furnaces or to Dow's onsite Wastewater Treatment System, which consists of four parts: the Chlorinolysis Plant, the Process Stormwater Treatment Plant, the Brine Plant, and the Condensate Plant. Dow does not have a permit to treat, store, or otherwise manage hazardous waste in its Wastewater Treatment System. See EPA National Enforcement Investigations Center (NEIC), *RCRA Compliance Investigation Report*, NEIC Project No. VP1186, at 8-11 (Dec. 2016) attached hereto as Attachment 1.

Dow's Wastewater Treatment System consists of a series of tanks and pipes that store, convey, and feed wastewater from one area to the other. The treatment process produces vapor steam which Dow uses to produce boiler feed water for the Calpine Los Medanos Energy Center power plant as well as some onsite processes. Treatment also produces a concentrated salt stream, or "brine" that is sent to tanks for pH adjustment and eventually to the Delta Diablo Sanitation District. See Attachment 1, at 8-11. Dow manages the wastewater stored and treated in the Wastewater Treatment System as Excluded Recyclable Materials, or ERM, which is an exclusion from hazardous waste regulation under California law. Cal. Health & Safety § 25143.2. The exclusion only applies under narrow circumstances, however, and only if the material would not be considered hazardous waste under federal law.

III. The 2016 Inspection

On April 4 through April 8, 2016, inspectors from EPA's National Enforcement Investigations Center (NEIC), accompanied by staff from EPA Region 9 and DTSC, undertook a comprehensive process-based inspection of the Dow Pittsburg Operations facility. NEIC is the environmental forensics center for EPA's enforcement program and its inspectors have highly specialized experience inspecting, evaluating evidence, and performing analytical services to support compliance reviews at large, complex facilities such as Dow's. Violations and other findings from this inspection are documented in a December 2016 NEIC Inspection Report prepared on behalf of EPA Region 9, a copy of which is attached as Attachment 1.

According to the December 2016 NEIC Inspection Report, Dow is in violation of multiple provisions of its hazardous waste permits as well as the regulations applicable to the management of hazardous waste. The violations identified relate primarily to: 1) Dow's operation of the Wastewater Treatment System without a RCRA permit; and 2) Dow's failure to adhere to its 2003 BIF Permit with regard to operation of its ST HAF furnace and the recordkeeping and monitoring required to demonstrate compliance with permit conditions regarding both furnaces. The limits imposed by the 2003 BIF Permit during times when hazardous wastes are being burned are risk-based limits established by DTSC based on trial burns conducted by Dow. The December 2016 Inspection Report specifically identifies the following:

⁹ 2003 BIF Permit, *supra* n. 7, at 18-19.

¹⁰ *Id.* at 19-20.

1. Dow is treating and storing hazardous waste without a permit in the Chlorinolysis Plant and all subsequent, associated stages of treatment within the Wastewater Treatment System. Dow has been and continues to claim that wastewaters generated from multiple sources and sent for storage and treatment in the Wastewater Treatment System are exempt from regulation as California hazardous waste because they qualify as Excluded Recyclable Materials, or ERM. This exemption is only available to California wastes that meet certain criteria and are *not* federally regulated as hazardous wastes. According to samples taken from 20 tanks that provide the feed stream to the Chlorinolysis Plant (part of the Wastewater Treatment System), the pH renders the wastewater characteristically hazardous due to corrosivity. Further sampling by NEIC indicated that some of these wastewaters also contain levels of carbon tetrachloride and tetrachloroethylene above the hazardous waste toxicity characteristic limit (D019, D039), and are thus hazardous waste for this reason as well. In fact, NEIC notes that Dow in the past has acknowledged to off-site vendors receiving tank cleaning wastes that at least some of these tanks contained wastewaters that exhibited the corrosivity or toxicity characteristic (D002, D019, D034, D039) and/or contained spent solvents (F002).¹¹ NEIC's notation of this fact suggests that Dow is aware that the contents of these tanks meet the regulatory definition of hazardous waste. Attachment 1, at 15.
2. Dow is storing and treating methylene chloride, a spent solvent that is a listed hazardous waste (F002) in Tank 706 in the Chlorinolysis Plant without a permit. Dow has been managing this waste as ERM waste.¹² Attachment 1, at 20-21.
3. Dow failed to determine whether multiple wastes stored and treated in the Wastewater Treatment System, which it claimed were ERM-exempt, are hazardous wastes due to toxicity limits for organics and/or whether they are listed hazardous wastes as per 40 C.F.R. Part 261, Subpart D. NEIC identified seven separate wastestreams that are sent via tanks and piping for treatment for which Dow failed to conduct a proper hazardous waste determination. Potential hazardous wastes identified by NEIC through sampling of these liquid wastes include scrubber water containing tetrachloroethylene greater than 0.7 mg/L (D039), listed hazardous wastes due to methylene chloride and 1,3-dichloropropene in sump water, rain water, and process wastewater (F002, U084), Syntet high TOC water containing tetrachloroethylene greater than 0.7 mg/L (D039), carbon tetrachloride greater than 0.5 mg/L (D019), hexachlorobenzene greater than 0.13 mg/L (D032), and/or hexachlorobutadiene greater than 0.5 mg/L (D033). Attachment 1, at 19-20.
4. Table 6 of the 2003 BIF Permit contains compliance limits within which the ST HAF furnace must operate when hazardous waste is being burned. Despite incomplete and inadequate recordkeeping and monitoring data management on Dow's part, NEIC identified thousands of compliance limit violations: Carbon monoxide – both high and low range exceedances (6,368 violations total); Minimum Particulate Matter (PM) Scrubber Blowdown (1 violation); Minimum

¹¹ The fact that the wastewater is primarily being reclaimed as boiler feed water does not render the waste ERM under California law because until reclaimed and fit for reuse, such wastewater remains a solid waste under federal law and thus potentially a hazardous waste under RCRA. NEIC further determined that Dow could not claim a separate wastewater treatment unit exemption under RCRA because Dow's wastewater treatment system is not subject to Clean Water Act permitting requirements. Attachment 1, at 15.

¹² NEIC noted in the inspection report that the contents of this tank were not eligible for the "de minimus" exclusion under RCRA and that Dow had provided no information to indicate or assert that such exclusion might apply. Attachment 1, at 20.

PM Scrubber liquid to gas (L/G) Ratio (44 violations); Minimum Combustion Temperature (45 violations). These violations occurred between December 1, 2014 and February 28, 2016. Attachment 1, at 21-22.

5. Table 5 of the 2003 BIF Permit contains the values at which the automatic feed of hazardous waste to the ST HAF furnace must be cutoff. Automatic cutoff of the hazardous waste feed based upon deviation of a parameter set forth in Table 5 is determined on a one-hour rolling average basis. Despite incomplete and inadequate recordkeeping and monitoring data management on Dow's part – particularly egregious with regard to these violations because as NEIC determined, Dow only keeps records necessary to demonstrate compliance with this vital aspect of its permit going back approximately two weeks – NEIC identified hundreds of instances where Dow continued to burn hazardous waste when the feed to the ST HAF furnace should have been automatically shut-off. The parameter values which should have caused shutoff include: PM Scrubber Blowdown (29 violations); Maximum Stack Gas Flow Rate (6 violations); CO Concentration (313 violations). Because of wholly inadequate records, these violations are in all likelihood a small fraction of the actual number of times in which Dow continued to burn hazardous waste without permit authorization. Attachment 1, at 22-23.
6. Dow failed to accurately monitor the chloride feed rate to the ST HAF furnace as demonstrated by the fact that the flowmeter sometimes reported negative numbers when the valve was closed and the flow was zero. The 2003 BIF Permit and 40 C.F.R. S 266.102(e)(8)(i) require accurate monitoring and recording of feed rates while burning hazardous waste. Attachment 1, at 24-25.
7. Dow failed to accurately and continuously monitor other parameters, including the hazardous waste feed rate (795 times), the L/G PM Scrubber (61 times), atomizing air pressure (8,082 times), and stack gas flow rate (15,887 times) because review of data by NEIC indicated the presence of negative values, which are false. Attachment 1, at 25. Both the 2003 BIF Permit¹³ and applicable RCRA regulations¹⁴ require accurate monitoring and reporting.
8. RCRA hazardous waste regulations require Dow to maintain operating records sufficient to demonstrate compliance for five years. 40 C.F.R. § 266.102(e)(10). Dow's reliance on microfiche converted to PDFs to demonstrate compliance with the operating limits of its 2003 BIF Permit is grossly inadequate. In addition, Dow is failing to keep monitoring records, however inadequate, for the required five-year timeframe. For this reason, the 2003 BIF Permit violations identified in this notice letter represent—in all likelihood—a very small subset of the total number of violations that have occurred and that continue to occur. NEIC stated in its December 2016 Inspection Report, "Microfiche and Fortran are antiquated technologies and do not allow for the sorting of data to easily determine if permit limits are being met. Keeping records this way inhibits regulatory agencies from determining compliance. Records should be kept using current recordkeeping technologies (Microsoft Excel, Microsoft Access, etc.) to facilitate regulatory agency review." Attachment 1, at 23-24. NEIC further stated that "Many data points were lost in converting the PDFs of microfiche into a text file that was then transferred to a Microsoft Excel spreadsheet so that the data could be sorted to make compliance determinations. The exceedances are based on the useable data NEIC was able to review and do not constitute a complete compliance determination for the date ranges reviewed." Attachment 1, at 24.

¹³ See Self-Monitoring Program attached to 2003 BIF Permit Part B, *supra* n. 7.

¹⁴ 40 C.F.R. 264.102.

IV. Impacts to Human Health and the Environment

Particularly concerning among the myriad of violations outlined above is the fact that Dow failed to operate the ST HAF furnace in a manner that ensures automatic cutoff of the hazardous waste feed when cutoff conditions are triggered, as per Table 5 of the 2003 BIF Permit, at least 348 times in only a two-week period.¹⁵ Given NEIC could only review two weeks' worth of records, the true number of times this occurred is likely much higher.¹⁶ Moreover, the inspection findings suggest this practice is still ongoing.

Dow's lack of appropriate and legally mandated record-keeping makes identifying additional instances of violation difficult and leaves workers and communities in the dark about potential exposure to hazardous waste and associated health risk. Essentially, the extent, scope, and duration of Dow's operation of these furnaces, especially the ST HAF—beyond the strict risk-based operating conditions and parameters of the 2003 BIF Permit—are unknown.

It is unclear at this juncture what caused hazardous waste to continue to be fed to the ST HAF furnace even though Dow uses a computerized, automated system that should and is legally required to cutoff the feed automatically. NEIC observed, however, in the December 2016 NEIC Inspection Report, that the hazardous waste feed cutoff valve to the furnace had been "open" and that hazardous waste "was flowing" to the ST HAF furnace from December 1, 2014 to February 28, 2016. Attachment 1, at 21. The circumstances regarding NEIC's statement in this regard merit further investigation.

Given the number of violations uncovered, and given the clear implication in the inspection report that those violations are a mere drop in the bucket of the total number of violations, this is concerning. The limits established in the permit are meant to limit cancer risk and assume that 99.99 percent of harmful constituents are destroyed when the hazardous waste is burned in the furnaces. This assumption depends on operation of the burners in compliance with all parameters, including the minimum combustion temperature, the CO limit, and gas flow rate.¹⁷

When Dow feeds hazardous waste to the furnaces despite the fact that conditions of operation (such as minimum combustion temperature and CO, which ensure proper destruction of harmful constituents) are not within the limits set to ensure 99.99 percent destruction of toxic pollutants – such as toxic organic compounds and metals – EPA estimates that the risk of cancer from ambient air emissions increases by an order of 10^4 (10,000 times). In Dow's case, the situation is further compounded by the fact that Dow's feed rates were inaccurate (presence of negative numbers). Essentially, all of the built-in safeguards in the permit are being ignored.

In EPA's announcement in the Federal Register of its Burning of Hazardous Waste In Boilers and Industrial Furnaces Rule (the BIF Rule), the agency states:

¹⁵ 2003 BIF Permit, *supra* n. 7, at 23-24.

¹⁶ NEIC noted that Dow only keeps minute data, required to calculate hourly rolling averages, for approximately two weeks at a time. Attachment 1, at 22-23.

¹⁷ See *Draft Hazardous Waste Facility Boiler and Industrial Furnace Permit Fact Sheet*, *supra* n. 3. See also, EPA's Burning of Hazardous Waste In Boilers and Industrial Furnaces Rule (the BIF Rule), 56 Fed. Reg. 7,134 (Feb. 21, 1991) (internal citations omitted).

Burning hazardous waste that contains toxic organic compounds (i.e., organic compounds listed in appendix VIII of 40 C.F.R. part 2611) under poor combustion conditions can result in substantial emissions of the toxic compounds originally present in the waste as well as other compounds, due to partial but incomplete combustion of the constituents in the waste. The quantity of toxic organic compounds emitted depends on the concentrations of the toxic compounds in the waste, the waste firing rate (i.e., the percentage of total fuel provided by the hazardous waste to the boiler or industrial furnace), and the combustion conditions under which the waste is burned. The risk posed by the emissions depends on the quantity and toxicity of the compounds emitted and on the ambient levels to which persons are exposed. Hypothetical risk assessments show that under poor combustion conditions that achieve only 99 percent or 99.9 percent destruction and removal efficiency (DRE) of organic compounds, risks to the maximum exposed individual (MEI) from unburned carcinogenic organics found in hazardous waste can result in increased lifetime cancer risks of 10^4 .

The Agency is controlling the emissions of toxic organic compounds from boilers and industrial furnaces that burn hazardous waste with two performance standards. First, a 99.99 percent destruction and removal efficiency (DRE) standard for principal organic hazardous constituents (POHCs) in waste feeds will ensure that constituents in the waste are not emitted at levels that could pose significant risk in virtually all scenarios of which the Agency is aware. Second, limits on flue gas concentrations of carbon monoxide (CO) and, where specified, hydrocarbons (HC) will ensure that combustion devices operate continuously at high combustion efficiency and emit products of incomplete combustion (PIC) at levels that will not pose adverse effects on public health and the environment.

56 Fed. Reg. 7,134, 7,146 (Feb. 21, 1991) (internal citations omitted). In the BIF Rule, EPA also explains that prescribed limits of carbon monoxide are necessary to ensure BIF units (such as Dow's furnaces) are operated under good combustion conditions. *Id.* at 7135. The rule further requires that the hazardous waste feed from a furnace should be shut off automatically if the CO limit is exceeded. *Id.* at 7150. As mentioned previously, in this case, it appears that a host of problems were occurring: the CO limit was exceeded, the feed was not automatically cutoff, due to malfunction or some other reason, and the hazardous feed rate itself was inaccurate, for unstated reasons, due to presence of negative readings.

Some of the hazardous wastes fed to the furnaces include methylene chloride (toxic to the central nervous system and potentially carcinogenic to humans)¹⁸, trichloroethylene (a known human carcinogen)¹⁹, spent solvents, reactive hazardous wastes such as chlorinated pyridines,²⁰ metals such as arsenic (a carcinogen),²¹ chromium (a carcinogen),²² mercury (potentially carcinogenic and toxic to the

¹⁸ Centers for Disease Control & Prevention (CDC), *Methylene Chloride* (May 1994) <https://www.cdc.gov/niosh/idlh/75092.HTML>.

¹⁹ EPA, *Risk Management for Trichloroethylene*, <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/risk-management-trichloroethylene-tce> (last visited May 8, 2019).

²⁰ N.J. Dep't Health & Senior Services, *Hazardous Substance Fact Sheet—Pyridine* (Mar. 2002) available at <https://nj.gov/health/eoh/rtkweb/documents/fs/1624.pdf>.

²¹ CDC, *Arsenic*, <https://www.cdc.gov/niosh/topics/arsenic/default.html> (last visited May 8, 2019).

²² EPA, *Chromium Compounds* (Jan. 2000) available at <https://www.epa.gov/sites/production/files/2016-09/documents/chromium-compounds.pdf>.

central nervous system),²³ lead (potentially carcinogenic and toxic to the central nervous system),²⁴ and organics such as carbon tetrachloride (a possible carcinogen).²⁵

DTSC's Envirostor website indicates that 6,620 people live near the Dow Pittsburg Operations facility. Ninety-three percent are unemployed and seventy-four percent live below the federal poverty level. More than 75 percent are people of color. Moreover, the pollution burden and related health indices associated with living in this area are extremely high. According to Envirostor, this is a population that is extremely vulnerable to both the health and socioeconomic impacts of pollution.²⁶

In a letter written to EPA Region 9 and DTSC on June 4, 2018, EIP raised concern on behalf of CBE and Environment California regarding the identified violations at Dow (and at another facility) and requested that the regulatory agencies charged with enforcing RCRA take immediate action. Letter from Mary E. Greene, Deputy Director EIP to Mike Stoker, EPA Region 9 Regional Administrator (June 4, 2018), attached hereto as Attachment 2 (attachments omitted). In response, EPA Region 9 stated in an undated letter that the agency, in general, "continues to evaluate compliance with federal environmental regulations at our most significant facilities." Letter from Michael Stoker, EPA Region 9 Regional Administrator to Mary E. Greene, Deputy Director EIP (undated), attached hereto as Attachment 3. DTSC also responded to EIP's letter on August 16, 2018. Letter from Matthew Rodriguez, Secretary for Environmental Protection, DTSC to Mary E. Greene, Deputy Director EIP (Aug. 16, 2018), attached hereto as Attachment 4. According to Secretary Rodriguez' letter, and upon current information and belief, EPA has not referred this matter to DTSC for enforcement. *Id.* To date, neither EPA nor DTSC has brought an enforcement action to address the continuing and serious violations alleged in this notice letter.

V. Claims

Dow is a "person" and the "owner" and "operator" of Dow Pittsburg Operations, a "facility" as those terms are defined in 40 C.F.R. § 260.10. In addition, Dow manages and handles "solid waste" as that term is defined in 40 C.F.R. § 261.2. Last, Dow is a person and "generator" who also engages in "storage" and "treatment" as those terms are defined in 40 C.F.R. § 260.10.

For purposes of the claims described below, all of the information contained in the December 2016 NEIC Inspection Report, Attachment 1, is incorporated herein as if restated in full. In addition, all of the allegations set forth above are incorporated herein by reference.

²³ EPA, *Health Effects of Exposures to Mercury*, <https://www.epa.gov/mercury/health-effects-exposures-mercury> (last visited May 8, 2019).

²⁴ CDC, *Health Problems Caused by Lead*, <https://www.cdc.gov/niosh/topics/lead/health.html> (last visited May 8, 2019).

²⁵ EPA, *Carbon Tetrachloride* (Jan. 2000) available at <https://www.epa.gov/sites/production/files/2016-09/documents/carbon-tetrachloride.pdf>.

²⁶ DTSC, *Envirostor* for The Dow Chemical Co (CAD076528678), https://www.envirostor.dtsc.ca.gov/public/hwmp_profile_report?global_id=CAD076528678 (under the "CalEnviroScreen" tab) (last visited May 7, 2019).

Claim 1. Treatment and Storage of Hazardous Waste without a Permit

40 C.F.R. § 270.1(c) prohibits the treatment, storage, and disposal of any hazardous waste as identified or listed in 40 C.F.R. part 261 without a permit.

Dow is treating and storing hazardous waste without a permit in the Chlorinolysis Plant and all subsequent, associated stages of treatment within the Wastewater Treatment System. Dow has been and continues to claim that wastewaters generated from multiple sources and sent for treatment the Wastewater Treatment Plant are exempt from regulation as California hazardous waste because they qualify as Excluded Recyclable Materials, or ERM.

California regulations state that recyclable materials are subject to regulation as waste unless they meet a handful of exemption criteria, including Cal. Health & Safety 25143.2(d)(1), which states that recyclable materials are excluded from classification as a waste under California law if the material can be shown to be recycled and used at the site where the material was generated and meets the definition of a non-RCRA hazardous waste. Cal. Health & Safety 25143.2(a), (d)(1).

Dow cannot demonstrate and has not demonstrated that the materials claimed as ERM-exempt do not meet the definition of hazardous waste under RCRA.

According to samples taken from 20 different tanks that provide the feed stream to the Chlorinolysis Plant, the pH renders the wastewater characteristically hazardous due to corrosivity because the values obtained through sampling indicated a pH of less than 2 or greater than or equal to 12.5. 40 C.F.R. § 261.22(a)(1). The specific tanks at issue and the sampling results from those tanks are set forth in Table 1 and Appendix C, respectively, of the December 2016 NEIC Inspection Report. Attachment 1.

Further sampling by NEIC indicated that some of these wastewaters also contain levels of carbon tetrachloride and tetrachloroethylene above the hazardous waste toxicity characteristic limit, and thus are hazardous waste that carry RCRA hazardous waste codes D019 and D039 for this reason as well. See Attachment 1, at Table 3, Appendix C.

Pursuant to 40 C.F.R. § 261.24(a), a solid waste exhibits the characteristic of toxicity if the extract from a representative sample of the waste contains any of the contaminants listed in Table 1 at concentrations equal to or greater than the respective value given in that table (0.5 mg/L for carbon tetrachloride (D019) and 0.7 mg/L for tetrachloroethylene (D039)).

In fact, NEIC notes that Dow in the past has acknowledged in documentation to off-site vendors who receive tank cleaning wastes that at least some of these tanks contained wastewaters that exhibited the corrosivity or toxicity characteristic (D002, D019, D034, D039) and/or contained spent solvents, which are listed hazardous wastes (F002). Attachment 1, at 18-19

Because these wastes meet the definition of hazardous waste under RCRA due to the characteristic of both toxicity and corrosivity, they are not ERM-exempt materials under California law and must be managed as hazardous waste.

In addition to the materials that meet the definition of hazardous waste due to the characteristic of toxicity and corrosivity, Dow also is storing and treating methylene chloride, a spent solvent that is a listed hazardous waste, 40 C.F.R. § 261.31(a) (listing methylene chloride as hazardous waste No. F002),

in Tank 706 in the Chlorinolysis Plant without a permit. Dow has been improperly managing this waste as ERM waste and failed to provide NEIC with any information to indicate any other exclusion from hazardous waste regulation is relevant to its operations. Therefore, Dow is treating and storing F002 listed hazardous waste in Tank 706 without a RCRA permit. Attachment 1, at Table 4.

The storage and treatment of these materials constitutes a violation of 40 C.F.R. § 270.1(c) because Dow has not obtained a RCRA permit to treat, store, or dispose of hazardous waste in the Wastewater Treatment System. These violations have occurred daily for at least the last five years and will continue until Dow ceases unpermitted storage and treatment at its Wastewater Treatment System or obtains permit authorization to store, treat, and otherwise manage these hazardous wastes appropriately.

Each day Dow engaged or engages in storage or treatment of hazardous waste without a permit constitutes a violation of RCRA for which the statutory maximum civil penalty per day per violation can be assessed. This violation has existed for at last five years and upon information and belief, continues to date. In addition to civil penalties, CBE is entitled to seek all necessary injunctive relief to resolve the violations, recover costs and attorneys and expert witness fees, and seek any other relief the court deems appropriate.

Claim 2. Failure to Make a Hazardous Waste Determination

All of the allegations set forth above are incorporated herein by reference, including the discussion regarding why materials stored in tanks and treated in the Wastewater Treatment System are not ERM under California or federal law.

RCRA requires a person who generates a solid waste, as defined in 40 C.F.R. § 261.2, to make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed according to applicable RCRA regulations. 40 C.F.R. 262.11.

Dow failed to determine whether multiple wastes stored and treated in the Wastewater Treatment System are listed hazardous wastes as per 40 C.F.R. Part 261, Subpart D, or whether they are hazardous wastes due to toxicity limits for organics as per 40 C.F.R. Part 261, Subpart C.

NEIC identified seven separate wastestreams that are sent via tanks and piping for treatment for which DOW failed to conduct a proper hazardous waste determination. Potential hazardous wastes identified by NEIC through sampling of these wastestreams include: 1) scrubber water containing tetrachloroethylene greater than 0.7 mg/L (D039); 2) listed hazardous wastes due to methylene chloride and 1,3-dichloropropene in sump water, rain water, and process wastewater (F002, U084); and 3) Symtet high TOC water containing tetrachloroethylene greater than 0.7 mg/L (D039), carbon tetrachloride greater than 0.5 mg/L (D019), hexachlorobenzene greater than 0.13 mg/L (D032), and/or hexachlorobutadiene greater than 0.5 mg/L (D033). Attachment 1, at 19-20.

Because these materials were stored and treated as nonhazardous waste when in fact the waste was hazardous, Dow is a person and generator who failed and continues to fail to make a proper hazardous waste determination pursuant to 40 C.F.R. § 262.11. This violation has occurred daily for at least the last five years and will continue until Dow conducts a proper hazardous waste determination.

Each day Dow failed or fails to make a proper hazardous waste determination constitutes a violation of RCRA for which the statutory maximum civil penalty per day per violation can be assessed. This violation

has existed for at least the last five years and upon information and belief, continues to date. In addition to civil penalties, CBE is entitled to seek all necessary injunctive relief to resolve the violations, recover costs and attorneys and expert witness fees, and seek any other relief the court deems appropriate.

Claim 3. Failure to Operate the ST HAF Furnace in Compliance with the 2003 BIF Permit

The allegations included above are incorporated herein by reference.

The 2003 BIF Permit authorizes the operation of Dow's two halogen acid furnaces to treat and store certain, identified hazardous wastes pursuant to compliance limits and monitoring conditions contained therein. 2003 BIF Permit, at 10.

Table 6 of the 2003 BIF Permit contains compliance limits within which the ST HAF furnace must operate whenever hazardous waste is being burned (i.e., a hazardous feed rate greater than or equal to 1 lb/hr). The following are the compliance exceedances NEIC identified despite incomplete and inadequate recordkeeping and monitoring data management on Dow's part:

Parameter	Compliance Limit	Range of Exceeded Values	Number of Exceedances	Dates
Carbon Monoxide	100 ppmv	101.1 to 2861.9 ppmv	6,368	12/1/14 – 2/28/16
Min. PM Scrubber Blowdown	≥ 196 lb/hr	193.5 lb/hr	1	12/1/14 – 2/28/16
Min. PM Scrubber L/G Ratio	≥ 20.5 gpm/1,000 scfm	0.8 to 19.9 gpm/1,000 scfm	44	12/1/14- 2/28/16
Min. Combustion Temp	≥ 1021 degrees C	930.3 to 1019.2 degrees C	45	3/23/16- 4/6/16

Throughout the discussion of the discovery of these violations, NEIC repeated numerous times that the way in which Dow records and stores monitoring and other compliance data is so antiquated as to render a full compliance review impossible. With regard to each of the violations identified in the above table, NEIC stated that "The exceedances are based on useable data NEIC was able to review and do not constitute a complete compliance determination for the date ranges reviewed." Attachment 1, at 21-22.

Table 5 of the 2003 BIF Permit contains the values at which the automatic feed of hazardous waste to the ST HAF furnace must be cutoff. Automatic cutoff of the hazardous waste feed based upon an exceedance of a parameter set forth in Table 5 is determined based upon a one hour rolling average. The following are the parameters for which NEIC was able to determine, based upon incomplete and inadequate recordkeeping and monitoring data management, as described above and elsewhere in this notice letter, that Dow continued to burn hazardous waste even though the feed should have been cutoff based upon operating parameter limits:

Parameter	Cutoff Limit	Range of Exceeded Values	Number of Exceedances	Dates
PM Scrubber Blowdown	≥ 196 lb/hr	69.2 to 188.6 lb/hr	29	3/25/16 – 4/08/16
Max. Stack Gas Flow Rate	≤ 511 scfm	512.1 to 512.7 scfm	6	3/25/16 – 4/08/16
CO Concentration	100 ppmv	101.1 to 1798.3 ppmv	313	3/25/16 – 4/08/16

Though highly likely, additional instances of noncompliance regarding the automatic cutoff of the hazardous feed to the furnace could not be determined because, according to NEIC, Dow only keeps the minute data needed to compute the hourly rolling average records for approximately two weeks at a time. Attachment 1, at 22-23.

Dow is in violation of its 2003 BIF Permit for exceedances of compliance limits and for continuing to burn hazardous waste when the automatic feed to the ST HAF furnace should have been cutoff as per the cutoff limits in Table 5 of the permit. Due to inadequate records and grossly antiquated methods of recording and storing monitoring data, NEIC could only make limited determinations regarding the number of days of violation. The actual number of days is likely much in excess of the days identified in the above two tables.

The statutory maximum civil penalty per day per violation can be assessed against Dow for each day it failed to adhere to the compliance limits in Tables 5 and 6 of the 2003 BIF Permit. Upon information and belief, these violations continue to date. In addition to civil penalties, CBE is entitled to seek all necessary injunctive relief to resolve the violations, recover costs and attorneys and expert witness fees, and seek any other relief the court deems appropriate.

Claim 4. Failure to Accurately Calibrate the Monitors to Cutoff Hazardous Waste Feed to the ST HAF furnace

The allegations included above are incorporated herein by reference.

The 2003 BIF Permit and RCRA regulations require that Dow operate monitors that are accurately calibrated to automatically shut-off the feed of hazardous waste to the furnaces when parameters listed in Table 5 of the permit reach certain values. 2003 BIF Permit, at 21, 23, 40 C.F.R. § 266.102(e)(7)(ii).

As per Claim 3, above, Dow continued to burn hazardous waste on numerous occasions—at least 348 times in a single two-week period—despite the fact that the monitors should have cutoff the feed to the ST HAF furnace automatically. Attachment 1, at 22-23.

40 C.F.R. § 266.102(e)(7)(iii) states that a boiler or industrial furnace must be operated with a functioning system that automatically cuts off the hazardous waste feed when operating conditions deviate from those established under this section.

Furthermore, as stated in Dow's Part B Permit Application (section 4.1.7: Process Control System Description), which is incorporated by reference and made a part of the 2003 BIF Permit, Dow states:

“[t]he ST HAF system is controlled by computers, which provide direct process control and data logging and recording. Process monitors, which supply data to the computer, include field instruments that measure readings such as flows, temperatures and pressures . . . Operations personnel monitor and can adjust parameters as necessary to keep the process within a stable operating window, which is defined by the automatic waste feed cut off system parameters The ST HAF process control computer program monitors and controls the unit’s operation, alerts the operator to potentially undesirable operating conditions via audible and visible alarms, and initiates automatic shutdown if necessary.” 2003 BIF Permit, Part B, § 4.1.7.

Finally, section 4.1.7.1: Automatic Waste Feed Cut Off (AWFCO) System of the Part B Permit Application states that “The ST HAF unit is operated with a system that automatically cuts off the hazardous waste feed to the unit when operating parameters approach compliance limits established during the 1998 compliance test . . . The AWFCO system is controlled by the process control computer, which cuts off hazardous waste feed to the HAF by closing computer-actuated valves in the feed line when a cuff off condition is triggered.”

The statutory maximum civil penalty per day per violation can be assessed against Dow each day it failed to accurately operate its automatic hazardous waste feed cutoff system so as to prevent hazardous waste from flowing to the furnace as required by the permit. In addition to civil penalties, CBE is entitled to seek all necessary injunctive relief to resolve the violations, recover costs and attorneys and expert witness fees, and seek any other relief the court deems appropriate.

Claim 5: Failure to Accurately Monitor Hazardous Waste Feed Rates

The allegations included above are incorporated herein by reference.

The December 2016 NEIC Inspection reported documented numerous instances in which Dow’s monitors of various feed rates were inaccurate due to the presence of negative numbers, which are not possible.

The 2003 BIF Permit and 40 C.F.R. § 266.102(e)(8)(i) require accurate monitoring and recording of feed rates while burning hazardous waste.

Dow failed to accurately monitor the chloride feed rate to the ST HAF furnace as demonstrated by the fact that the flowmeter sometimes reported negative numbers when the valve was closed and the flow was zero. Attachment 1, at 24-25.

Dow failed to accurately and continuously monitor other parameters, including the hazardous waste feed rate (795 times), the L/G PM Scrubber (61 times), atomizing air pressure (8,082 times), and stack gas flow rate (15,887 times) because review of data by NEIC indicated the presence of negative values, which are false. Attachment 1, at 25.

The statutory maximum civil penalty per day per violation can be assessed against Dow each day it failed to accurately monitor permit parameters as evidenced by the presence of negative numbers. In addition to civil penalties, CBE is entitled to seek all necessary injunctive relief to resolve the violations, recover costs and attorneys and expert witness fees, and seek any other relief the court deems appropriate.

Claim 6. Failure to Accurately Maintain Records, Including the Operating Record

The allegations included above are incorporated herein by reference.

Deficiencies in recordkeeping and references to antiquated, outdated, and inadequate data management software pepper the December 2016 NEIC Inspection Report. Both the 2003 BIF Permit and 40 C.F.R. § 266.102(e)(10) require Dow to maintain the facility operating record and all information and data required to demonstrate and ensure compliance for five years. Dow has failed to adhere to this permit and regulatory requirement since at least December 1, 2014 with regard to certain compliance and operational data necessary to demonstrate compliance. Attachment 1, at 21-25. Upon information and belief, this method of recording compliance data has been used and is currently being used regarding both furnaces for at least the past five years. With regard to the minute data used to compute hourly rolling averages, which dictate when the hazardous waste feed to the furnaces must be cutoff, Dow acknowledged to NEIC that it keeps these records for only two weeks at a time. *See, e.g.* Attachment 1, at 22-23. Based on information and belief, this violation has occurred with regard to both furnaces for at least the last five years.

The statutory maximum civil penalty per day per violation can be assessed against Dow each day it failed to accurately maintain required records or sufficient record monitoring data necessary to demonstrate compliance and/or failed to retain records for the required five-year timeframe. In addition to civil penalties, CBE is entitled to seek all necessary injunctive relief to resolve the violations, recover costs and attorneys and expert witness fees, and seek any other relief the court deems appropriate.

VI. Persons Giving Notice

Communities for a Better Environment is the person giving notice. Its North California office is located at 120 Broadway, Suite 2, Richmond, CA 94804. The phone number is (323) 826-9771.

The Environmental Integrity Project's (EIP) offices are located at 1000 Vermont Avenue NW, Suite 1100, Washington, DC 20005. EIP's main phone number is (202) 296-8800. Environmental Advocates' offices are located at 5135 Anza Street, San Francisco, CA 94121. The main phone number is (415) 533-3376.

If you have any questions concerning this notice letter or the violations described herein, or if you believe the information contained herein is incorrect in any respect, please contact the undersigned counsel, Mary E. Greene, Deputy Director EIP, at (202) 263-4449. We welcome the opportunity to discuss resolution of these compliance issues as soon as possible. Please be advised that the failure of DTSC and/or the U.S. EPA to address these violations through assessment of a civil penalty in an enforceable order or settlement agreement could result in a federal court order enjoining further violations and imposing statutory maximum civil penalties per day for each violation of the RCRA. Upon the successful prosecution of this suit, CBE intends to seek compensation for attorneys' and expert witness fees and the costs of litigation under the citizen suit provisions of RCRA.

Thank you for your prompt attention to this matter.

Sincerely,

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