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Response to Comments
Dow Chemical Company, Pittsburg
Hazardous Waste Facility Boiler and Industrial Furnace Permit and CEQA Negative Declaration

BACKGROUND

Past Public Participation Activities:

The United States Environmental Protection Agency (EPA) public noticed the receipt of the permit application for storage and processing of hazardous waste in two Halogen Acid Furnaces (HAF units) from The Dow Chemical Company in May 1995. A fact sheet was mailed to the facility mailing list.

DTSC public noticed the receipt of the proposed Trial Burn Plan for the HAF units on March 12, 1998. A display advertisement was placed in the Antioch Ledger. A copy of the notice was mailed to the facility mailing list.

DTSC public noticed the draft Boiler and Industrial Furnace (BIF) Permit and draft CEQA Initial Study and Negative Declaration on October 26, 2001. A display advertisement was placed in Contra Costa Times. Copies of the notice and fact sheet were mailed to the facility mailing list (1166 persons).

DTSC held a public workshop and public hearing on the draft BIF Permit and CEQA Initial Study and Negative Declaration on November 28, 2001. A Spanish interpreter provided by DTSC was available during public workshop and public hearing.

DTSC received oral and written comments during the public comment period including the public hearing. A detailed response to all comments received during the public comment period is provided later in this document.

In response to public comments, DTSC conducted a community assessment of the City of Pittsburg in May 2002. The community assessment consisted of interviews with public officials and members of community groups. It was found that 29% of the community is Hispanic, 20% is African-American, 3% Asian or other, and 48% white. Some members of the community requested that Spanish translation should be provided.

To ensure that all members of the community have full opportunity to participate in Dow BIF permit decision, DTSC has decided to issue another public notice of the Draft Permit, Draft CEQA Initial Study, and Draft Negative Declaration. The public notice, and fact sheet will be printed in Spanish. A public

workshop and a public hearing will be held and a Spanish interpreter will be present at both the public workshop and public hearing.

DTSC believes that the Draft Permit and the CEQA documents previously public noticed from October 26, 2001 through December 17, 2001 are appropriate and adequate. Therefore, even though DTSC is providing a second public comment period with expanded public outreach activities, the Draft Permit and CEQA documents remain unchanged.

Trial Burn:

To estimate actual emissions of constituents of concern for input into a Health Risk Assessment (HRA) and to establish operating conditions for the HAF units, a Trial Burn Plan was prepared by The Dow Chemical Company and approved by DTSC in March 1999. The Trial Burn Plan was designed to demonstrate that the HAF units meet applicable air emission standards, and gather actual emission data for various constituents of concern for input into the HRA. Trial burns were conducted between October 1999 and March 2000 under DTSC supervision. The HAF units were operated under three different operating conditions and samples were collected for each condition. The trial burn defined worst-case operating conditions for the HAF units and demonstrated that the units can meet air emission standards for this wide range of operating conditions. These operating conditions have been used to establish permit conditions for the draft BIF permit.

Health Risk Assessment:

The Dow Chemical Company has prepared a Health Risk Assessment (HRA) to support the BIF Permit application and CEQA Initial Study. This HRA was prepared in accordance with procedures approved by DTSC. Emissions from the HAF units were determined by the trial burn program. The emissions calculated from trial burns were entered into a DTSC/EPA approved health risk assessment model with specified exposure assumptions to estimate potential risk to human receptors.

The results of the HRA conclude that the estimated upper limit of additional cancer risk at the nearest residences is approximately one in a million (1.49×10^{-6}). The risk number of 1.49 per million is based on using risk guidance protocols for a Bay Area Air Quality Management District (BAAQMD) permit. The risk number is reduced to 0.83 per million using USEPA/DTSC risk assessment guidance. The excess additional cancer risk using BAAQMD guidance assumes that an individual is continuously exposed (24 hrs/day; 350 days/yr) at the same location for 70 years. The value shown in the comment (1.43×10^{-6}) is the upper bound cancer risk assuming 70 years of continuous exposure at the location of the maximum estimated annual average ground level concentration. To be consistent with USEPA risk assessment guidance, DTSC conservatively assumes that a person lives at the same residence for 30 years (six years as a child + 24 years as an adult) which is reported to as a Reasonable Maximum Exposure (RME) residential exposure scenario. Under these risk assessment assumptions, the upper bound estimated cancer risk at the nearest actual residence is 0.83×10^{-6} which is below the generally accepted *de minimis* risk level of one in a million. The local agency BAAQMD has the authority to require a more conservative estimate of risk as they see fit in enforcing their regulations. As long as the Dow BIF units are in compliance with the BAAQMD air quality regulations, no significant cancer risks from the Dow BIF units are expected to occur.

California Environmental Quality Act (CEQA):

DTSC has prepared an Initial Study in accordance with the provisions of the California Environmental Quality Act. The results of the Initial Study are that there are no significant adverse effects on human health and the environment associated with the operations of these furnaces.

COMMENTS RECEIVED AND RESPONSES TO COMMENTS

Oral comments were received at the public hearing held on November 27, 2001. A court reporter prepared a transcript of those comments. Written comments were also received during the comment period.

COMMENTS 1 THROUGH 8 WERE RECEIVED FROM MR. JAMES MACDONALD DIRECTOR, CARE (CALIFORNIA FOR RENEWABLE ENERGY) AT THE NOVEMBER 28, 2001 PUBLIC HEARING.

MR. MacDONALD: Thank you. I'll try to keep this short. My name is James MacDonald. I'm a trustee of the Pittsburg Unified School District. I'm also a director of CARE which is Californians for Renewable Energy Incorporated.

I'm here tonight representing myself and CARE, not representing the school district. I do reserve the right and CARE does reserve the right to have any other individuals or group participate on our behalf at any other future litigation or activities that may come about.

Some of what we want to get on the record is --and some of this I'll have to apologize, is a bit outdated. I think I've beat my head against the bricks, another cause comes up.

COMMENT 1:

But nevertheless, this comes from the California American Medical Association, and they're basically talking about nitrous oxide causing asthma in children. Nationally, there has been a 75 percent increase since 1980 in asthma among young children.

This affects their ability to learn in schools, which something I'm definitely interested in. Children miss over ten million school days annually. California is estimated to have one of the -- let's see the State is estimated to be -- the number of people estimated in the State of California is over two million to have asthma, the ninth leading cause of hospitalization nationally.

And one of the reasons, I want to bring this up is one of the byproducts from this plant is nitrogen oxides. And it definitely has been shown to be a health problem in children and deteriorates. Also, the ability of people with respiratory disease -- I'll submit this particular document to you, so you can take a look at it.

RESPONSE TO COMMENT 1:

We agree that common atmospheric pollutants, including nitrogen dioxide, have been associated with increases in a variety of respiratory diseases including asthma. Nitrogen dioxide is regulated as a Priority Pollutant by the federal Clean Air Act. The California Air Resources Board (CARB) and the local Air Quality Management Districts are required by law to enforce the provisions of the federal Clean Air Act. Emissions of nitrogen dioxide from the Dow BIF units are therefore regulated by the CARB and the Bay Area Air Quality Management District (BAAQMD) so as to be protective of human health. A key part of the DTSC permit is compliance with all applicable regulations enforced by the air districts. As long as the Dow BIF units are in compliance with all State and Federal air quality regulations, the emissions of nitrogen dioxide from the BIF units are not expected to produce adverse health effects.

COMMENT 2:

Also, on this document is a -- refers to a web site, Pittsburg Unified School Districts' complaint. Originally, this document came from complaints against the California Energy Commission. The California Energy Commission also received federal funds, but failed to recognize their responsibility to do environmental justice impact reports on the people of Pittsburg. Pittsburg is over 60 percent minority and low income. The Pittsburg Unified School District also has the same representation, 60 percent minority and low income.

Environmental justice regulations require any agency in the United States receiving federal funds to do an environmental justice analysis. This is part of their permitting process. To date, I don't see any documentation that, in fact, that analysis has been done.

RESPONSE TO COMMENT 2:

For the purpose of defining an environmental justice community, there is no official guidance. However, at this time, USEPA is recommending that the community be considered an EJ community. USEPA analyzed demographic data, within three miles of the site, and has determined that the community can be considered an EJ Community based on a 58.6 % minority population. DTSC's community assessment process identifies the percentage of non-white residents, languages spoken within a community, and other cultural issues. It also makes recommendations on how DTSC should proceed with its community outreach activities based upon this information.

As noted in the Background section of this document, DTSC conducted this assessment, and took steps to address the needs of the community.

COMMENT 3:

Under environmental justice, 1.49 per million would be a significant finding of health effects to this community. And under the provisions of environmental justice, significant mitigation would need to be implemented before this project can go forward. One of the implementations would require that the best possible technology be incorporated.

And from the workshop we had earlier today, it came out that these furnaces are over 20 years old. And I don't believe that, in fact, that these furnaces are the best possible technology or can achieve LAER, which is the Lowest Achievable Emission Rates. Both of which are required for any processes -- any industries to be located in Pittsburg since we are a minority community and we are in a non-attainment, as far as air pollution, this area does not meet State and federal standards.

CARE has also put in the record for the California Energy Commission and will put in the record for this hearing a document showing that Contra Costa has some of the highest air pollution in the bay area. There already exists a significantly high amount of pollution, and adverse health effects to the population of Pittsburg.

RESPONSE TO COMMENT 3:

The incremental cancer risk number of 1.49 per million is based on using risk guidance protocols for a Bay Area Air Quality Management District (BAAQMD) permit. The incremental cancer risk number is reduced to 0.83 per million using USEPA/DTSC risk assessment guidance. Incremental cancer risk is the risk

associated with this project in addition to the other risks from other causes of a person developing cancer over their lifetime. There is no legal requirement that incremental risk to the community has to be below one in a million. There are no EJ regulations or guidance that specify a level of significant finding of health effects, or are mitigation measures specified.

The incremental cancer risk numbers were calculated based on the assumptions of a lifetime exposure to emissions from the HAF units (stack and fugitives emissions.

The incremental risk of adverse health effects was evaluated under three exposure scenarios. These are:

> A maximum exposed individual (MEI) for residential receptors assuming an exposure period of 24 hours per day, 350 days per year, for 70 years and occupational receptors assuming an exposure period of 8 hours per day, 240 days per year for 46 years. The location of the residential cancer MEI occurred about 500 meters to the east of the facility boundary.
>
> A reasonable maximum exposure (RME) for residential receptors assuming an exposure period of 24 hours per day with 24 years of exposure, and occupational receptors using an exposure period of 8 hours per day, 250 days per year for 25 years; and
>
> A 6-year-old child in a residential setting, assuming an exposure period of 24 hours per day, 350 days per year for 6 years.

The requirements of Best Available Control Technology (BACT) and Lowest Achievable Emission Rates apply to new sources under Air District regulations. The BAAQMD has issued its permit and is satisfied with the air pollution devices selected for the halogen acid furnaces.

USEPA guidance recommends treatment of chlorinated waste liquids and gases by incineration. Chlorinated organics are burned in halogen acid furnaces as recommended in federal and State regulations. Title 22 regulations do not specify treatment technologies but rather is performance based. Dow's halogen acid furnaces meet the performance standards of the Title 22 regulations.

The BAAQMD reviews permit applications for new and modified equipment to determine if the proposal will comply with regulations. Some of the most important regulations that apply to new and modified sources are our New Source Review rules in Regulation 2, Rule 2. This regulation requires that all new and modified equipment that emit more than a certain trigger level of a pollutant must have the Best Available Control Technology (BACT) for that pollutant. The pollutants subject to BACT are nitrogen oxides (NOx), carbon monoxide (CO), precursor organic compounds (POC), non-precursor organic compounds (NPOC), fine particulate matter (PM10), and sulfur dioxide (SO_2). The BAAQMD's BACT trigger levels have been modified numerous times since the BAAQMD's permitting requirements began in the 1970s. Under the current requirements, BACT is required for a pollutant (NO_x, CO, POC, NPOC, PM_{10}, or SO_2) if a proposed new/modified source emits 10 pounds per highest day or more of that pollutant.

LAER stands for Lowest Achievable Emission Rate and is essentially the Federal term for BACT, except that the emission rate trigger levels for LAER are higher than our BAAQMD's BACT trigger levels and LAER does not apply to NPOCs.

The two Dow halogen acid furnaces were installed in the late 1970s and early 1980s. At that time, BACT was only required if emissions from a source, group of sources, cumulative emission increases exceeded

150 pounds per day. At that time, Dow's emissions were below the 150 pounds per day trigger level. Therefore, BACT was not required. The operation of each of these incinerators has been modified several times since they were first permitted. However, the emissions and emission increases due to these modifications were all below the BACT trigger levels in effect at the time of the modification. Therefore, these units have never been subject to BACT (or LAER) for any pollutant.

The proposed issuance of the BIF permits does not result in any emission increases and no BAAQMD permits are required. Therefore, this process does not trigger a new review for compliance with BACT. The trial burn data showed that the maximum daily emission rates for CO, POC, NPOC, and PM were all less than 10 pounds per day for each unit. SO_2 and NO_x were not tested for. Based on BAAQMD calculations, SO_2 emissions are also expected to be less than 10 pounds/day. The maximum permitted emission rates for NO_x are 8.6 pounds per day for the MS HAF and 6194 pounds/year (average of 16.97 pounds per day) from the ST HAF. If these units were new sources emitting at the rates determined above, the MS HAF would not trigger BACT for any pollutants and the ST HAF would only trigger BACT for NO_x. To meet BACT for NO_x emissions from a Hazardous Waste Incinerator, the BAAQMD's BACT Handbook requires the use of natural gas only as the supplemental fuel and the use of an approved add-on control technology like selective non-catalytic reduction. The ST HAF uses natural gas as the only supplemental fuel and is equipped with non-selective catalytic reduction as their add-on control technology. This NO_x control scheme would likely be approved as BACT for the ST HAF if this unit was being permitted by the BAAQMD today.

COMMENT 4:

Currently CARE is only asking that these environmental justice concerns be incorporated into the process, that the analysis be done, that you prove us wrong. If you can scientifically show us that we're not suffering from adverse pollution effects, that would be great. That would make us be quiet. To date, no one has come forward with that justification for the continuing of putting pollution sources in the city of Pittsburg, especially when the benefits are basically the people who do not live in Pittsburgh or the corporations and the management people, frankly, many of which don't live in Pittsburg, a few do.

RESPONSE TO COMMENT 4:

DTSC has determined that the incremental cancer risk associated with the continued operation of the existing halogen acid furnaces is not significant. Please see Response to Comment #3 concerning adverse health effects associated with Dow Chemical Company's two halogen acid furnaces. As stated in Response to Comment #3, there are no environmental justice regulations or guidance that specify a significant level of health effects nor are mitigation measures specified.

COMMENT 5:

CARE requests to have the opportunity to inspect the site and to have our own inspectors look at the equipment that is currently located and is of question.

RESPONSE TO COMMENT 5:

DTSC does not have the authority to provide access to non-DTSC personnel. It is up to Dow to grant access authorization. Please contact Mr. Marv Louie of Dow at (925) 432-5525 regarding this matter.

COMMENT 6:

We also request the ability to submit documentation through electronic means to the Internet, if that's possible, and receive the same from you through the Internet. We find that just, you know, trying to get 700 volumes gets expensive.

We do intend to try to get back to you before September 17th with something a little bit more in writing. I'm basically shooting off the hip. I just kind of heard about this in the last few days and wasn't really prepared.

I hope you don't judge CARE by my attitude. We do have some very scholarly people working for CARE.

RESPONSE TO COMMENT 6:

DTSC has the capability of accepting comments through e-mail, regular mail, and voice mail. However, these comments must be submitted during the public comment period. DTSC has posted the fact sheet, CEQA initial study, negative declaration, and draft BIF permit on the DTSC's internet web page. DTSC is planning to have the complete BIF permit application posted on its web page. It is not available at this time. Please note that the commentor provided his comments via e-mail.

COMMENT 7:

I'm just trying to go over my notes here quickly. We also notice that there wasn't any water impact analysis. Again, under environmental justice, there should be an analysis of the impact on the water and minority groups who may use water resources to supplement food, such as fishing. It's pretty much accepted that 20 percent of air pollution ends up in the water supply, so that analysis needs to be made.

RESPONSE TO COMMENT 7:

The statement that "20% of air pollution ends up in the water supply" is unclear. We are not aware of any scientific studies that conclusively demonstrate that 20% of the measured concentrations of chemicals in the atmosphere over the Sacramento - San Joaquin Delta will be transferred to and measured in adjoining subsurface waters. We agree that chemicals such as dioxins, PCBs and mercury can accumulate in aquatic organisms at concentrations greater than the water concentrations. However, the water concentrations of these types of persistent chemicals will also include the contributions from a wide variety of point and non-point sources, including storm water runoff, in addition to any potential releases from the Dow BIF units. Based on the trial burn emissions estimates and the off-site air dispersion modeling results, the maximum predicted ground level concentrations (GLCs) over the near shore water body just to the northeast of the facility of dioxins are predicted to be less than 4×10^{-12} µg/m^3. At the same location, the maximum annual GLC of PCBs is estimated to be 3×10^{-9} µg/m^3 and 1×10^{-3} µg/m^3 for mercury. These concentrations are orders of magnitudes below typical ambient air levels of dioxins, PCBs and mercury in rural / suburban air. As such DTSC does not believe that a water quality impact, as potentially measured in water or biota, from air emissions from the Dow BIF units can be quantified or differentiated from other point or nonpoint sources including Central Valley regional storm water runoff into the Delta.

COMMENT 8:

Also, under environmental justice a worst case scenario needs to be done. And that would, in our estimation, include all the on-site materials being dumped into the waterways, either by accident or

sabotage. Also, that all the on-site materials involved in this process being exploded, vaporized and released into the atmosphere, we would consider that to be an acceptable worst case scenario.

We don't believe that simply running the operation at what is assumed to be the highest possible load is a significant worst case scenario. There is real threat of terrorism as we all know. And these types of facilities would be an idea source of -- is a source of great concern for many people as being targets of terrorists.

RESPONSE TO COMMENT 8:

As stated in the Background section of this Response to Comments document, a Health Risk Assessment was prepared to evaluate short and long term impacts of the BIF Permit project on human health and environment. The HRA considered all on-site materials and activities that are involved in the BIF Permit project In addition to estimating the potential risk to human receptors from continuous emissions over a long time period, e.g., 30 years, the potential risk from a short term exposure resulting from an accidental release was also estimated. The Health Risk Assessment considered "plausible scenarios" that could result in accidental releases of hazardous constituents. Dow selected the scenarios that would result in maximum off-site consequence. The plausible scenarios considered were:

1. A rupture of the incoming gaseous feed pipeline to the HAF units
2. A rupture of the incoming liquid feed pipeline to the HAF units
3. A rupture of the pyridine storage tank
4. A rupture of the tank T-12
5. External fire with associated release of tank contents

Under normal conditions, these storage tank contents are not ignitable. However, there may be a situation where T-12 could have a higher percentage of one of waste stream (dichloropropene) which if exposed to enough external heat could be ignitable. These tanks do not have any heat or ignition sources in their vicinity. If there is an external fire, the fire would heat the external surface of the tank, thus raising the temperature of the tank contents which would vaporize. These vapors would increase the pressure inside the tanks. These tanks are equipped with pressure safety valves. These safety valves would release tank contents into the vent lines that are piped to HAF units in such an event.

If a tank ruptures, then its contents will be spilled into the secondary containment area. These tanks are placed in tank farms that are equipped with the secondary containment (berm). There will be some volatilization of these contents. Pyridine tars are quite viscous at the temperature at which they are stored in the storage tanks. Pyridine tars would not flow to a greater distance, but rather be captured by secondary containment (wall).

The failure of the incoming gaseous feed pipeline was identified as a worst-case plausible accident scenario for either of the HAF units. This failure could be caused by seismic activity or other mechanical means (e.g. heavy equipment accident). The most significant vent feed line (in terms of concentration and composition) that could fail would be the distillation vent stream into the MS HAF unit, which has an average feed rate of 200 lb/hr and has a maximum feed rate of 600 lb/hr. The composition of the vent stream is ~70% chlorine (Cl_2) by weight (wt %), 20 wt % carbon tetrachloride, and ~10 wt % hydrogen chloride (HCl). For this accident analysis, the composition of the vent stream was assumed to be 100% Cl_2 at a 600 lb/hr feed rate and the release duration was 10 minutes.

The MS HAF also treats process vent streams consisting of other chlorinated compounds generated by various facility process. However, these vents are fed to the HAFs sporadically and are not continuous feed streams. These other vent streams were not considered in this analysis.

The U.S.EPA has developed “look-up-tables” for determining the downwind distance to a specific toxic endpoint depending upon the release conditions. These look-up tables are extremely conservative and tend to greatly overestimate distances. The RMP program does not require the use of look-up tables; however, their use is simple, quick, and easily defensible. In order to be consistent with other Dow accident release planning efforts, the look-up tables were used instead of the INPUF program (which was specified in the HRA protocol). The USEPA has also developed a simple spreadsheet-based computer program, RMPComp, which is equivalent to the look-up tables provided in the RMP program guidance documents. This program was used to determine the distance to the nearest residence.

The nearest receptor to the HAF units is greater than 1.5 kilometers away. The direction toward this nearest receptor is in the direction opposite of the prevailing winds (upwind). The results of the accident analysis indicate that the downward distance to the chlorine emergency response planning guideline level 2 toxic endpoint is less than the distance to the nearest receptor. Therefore, exposure at the nearest receptor to emissions form an accident are unlikely to result in adverse health effects.

COMMENTS 9 THROUGH 16 WERE RECEIVED IN WRITING FROM MR. CHARLES D. SMITH.

I attended the public workshop for the above-mentioned action. Being a downwind resident of the plant’s emissions, I am concerned with the environmental steps, Dow takes to protect the nearby residents. Although plant’s trial burns show compliance with the four 9's (99.99 %) DRE rules, there are still some questions. For example:

COMMENT 9:

Age and condition of boilers- The Dow representative mentioned that they (Dow) knew they were to be monitored. In preparation, they removed, replaced - all of the lower third bricks for one boiler. This seems a proactive bandage approach. What has been going on before?

RESPONSE TO COMMENT 9:

The MS HAF and ST HAF were originally permitted by the BAAQMD in 1978 and 1981, respectively. Dow has submitted several applications for permit modifications since then. These modifications included increases in capacity, eliminating obsolete equipment, relocating a stack, installation of new air emission abatement equipment, and some condition changes that required no physical changes. Dow is not required to apply for permits to replace components of a permitted source.

COMMENT 10:

Are these BIFs using the current best available technology for emission control?

RESPONSE TO COMMENT 10:

See Response to Comment 3.

COMMENT 11:

The samples for the trial burns do not seem fully representative of waste loads to be burned for resource recovery.

RESPONSE TO COMMENT 11:

The performance of the Symtet (ST) and Manufacturing Services (MS) Halogen Acid Furnaces was demonstrated under three operating conditions during the trial burn as follows:

Condition 1:

The objectives of this test condition were to:

Maximize combustion temperature, pumpable feed, ash, and total Cl feed rates while minimizing scrubber pH, L/G ratios, and blowdown;

Confirm the proposed limits for the Tier III metal feed rates;

Demonstrate compliance with the requirement for 99.99% DRE for the POHC. (1,2-dichlorobenzene for the STHAF, and monochlorobenzene, and tetrachloroethylene for MSHAF);

Demonstrate compliance with the emission limits for particulate matter, HCl/Cl_2, and CO;

Set limits for maximum operating temperature, pumpable feed, ash, and total Cl feed rates, along with NaOH scrubber minimum pH, NaOH and particulate scrubber L/G ratios, and scrubber blowdowns; and

Identify and quantify PIC emissions.

ST HAF:

The feed was 90% by weight chlorinated pyridine waste and 5% 1,2-dichlorobenzene (the POHC). The feed was spiked with POHC to demonstrate compliance with the DRE performance standard under maximum feed conditions. The ash and metal spiking mixtures, along with the anhydrous HCl vent stream, were also fed to the unit.

MS HAF:

The concentration of 1,3-dichloropropene mixed with Dowicil solvent was increased because the higher input was needed to achieve the maximum combustion chamber temperature. This feed was spiked with 0.5% of the total liquid feed rate by weight monochlorobenzene and 0.5% by weight tetrachloroethylene (the selected POHCs). The ethylene glycol and butanol used as spike carriers totaled approximately 100 pounds per hour.

Condition 2:

The objectives of Condition 2 were to:

Minimize the combustion chamber temperature to the lowest values required to maintain adequate DRE.

Create a worst-case combustion scenario intended to maximize the generation of PICs using typical waste constituents;

Identify and quantify PIC emissions;

Demonstrate compliance with the requirement for 99.99% DRE for the POHC (1-2-dichlorobenzene for the STHAF, and monochlorobenzene, and tetrachloroethylene for MSHAF) at the proposed minimum temperature condition; and

Demonstrate compliance with the CO emission limit.

The feed rate was reduced in order to lower the heat input to the system to reach the desired minimum combustion chamber temperature while the quench steam and combustion air was maximized. Typical feed was treated under operating conditions that were intended to minimize combustion efficiency (e.g., run at minimum combustion chamber temperature). Stack gas samples were collected and analyzed for the POHC (1,2-dichlorobenzene for the STHAF, and monochlorobenzene, and tetrachloroethylene for MSHAF), PICs (including VOCs, SVOCs, dioxins/furans, PCBs, PAHs, and aldehydes), THC, CO, O_2, and CO_2 during Condition 2.

ST HAF:

The chlorinated pyridine feed was spiked with approximately 15% by weight 1,2-dichlorobenzene. A lower feed rate combined with higher combustion air and steam injection rates were used to suppress the temperature in the combustion chamber. Stack gas samples were collected and analyzed for the POHC (1,2-dichlorobenzene), PICs (including VOCs, SVOCs, dioxins/furans, PCBs, PAHs, and aldehydes), THC, CO, O_2, and CO_2.

MS HAF:

The 1,3-dichloropropene fraction of the feed was reduced while the carbon tetrachloride fraction of the feed was increased. This feed was spiked with monochlorobenzene and tetrachloroethylene in order to demonstrate compliance with the DRE performance standard. The POHC was each fed at 0.7% by weight of the total liquid feed. This resulted in a POHC feed to stack gas flow rate relationship. Stack gas samples were collected and analyzed for the POHC (monochlorobenzene, and tetrachloroethylene), PICs (including VOCs, SVOCs, dioxins/furans, PCBs, PAHs, and aldehydes), THC, CO, O_2, and CO_2.

The anhydrous HCl vent stream was also fed to the units.

Condition 3:

The objectives of this condition were to:

Simulate typical operating conditions including typical waste and vent feed compositions and feed rates, operating temperature, and scrubber parameters;

Determine emissions under typical normal operating conditions;

Identify and quantify PIC emissions; and

Demonstrate compliance with the CO emission limit.

Feed rates, operating temperature, and scrubber parameters were set at typical or normal operating values. Stack gas samples were collected and analyzed for particulate matter, HCl/Cl_2, metals, hexavalent chromium, PICs (including VOCs, SVOCs, dioxins/furans, PCBs, PAHs, and aldehydes), THC, CO, O_2, and CO_2 during Conditions 3.

Because the total Cl feed is not required to be maintained at a specified level during Condition 3, the vent streams treated in the ST and MS HAF during Condition 3 were the vent streams fed during typical unit operation.

ST HAF:

The feed consisted of only the chlorinated pyridine waste stream. The total Cl fed to the ST HAF during the trial burn was supplemented by a vent stream of anhydrous HCl.

MS HAF:

The feed was Dowicil solvent. There were no POHC, metals, or ash spiked during this condition and normal process vent streams were treated in the unit.

COMMENT 12:

Dow plans to incorporate a newer Latex production into the BIF system.

RESPONSE TO COMMENT 12:

The Latex Plant Reactor is a BAAQMD permitted source. In Year 2000, the BAAQMD evaluated and approved a permit application from Dow to include a new Latex formulation. The HAF has adequate capacity to handle the very minor increases in process vent emissions from this project. This application required a risk screening analysis, but the increased cancer risk was found to be less than 1 in a million. Therefore, TBACT was not required.

COMMENT 13:

I understand that Dow intends to use a 10% offset in its emission control program, or more simply, 90% total emissions will be handled. Although legal, for a company that is still required to file quarterly AB 2588 reports, is not this under reporting?

RESPONSE TO COMMENT 13:

We do not understand this comment. This is a BAAQMD decision, not within the regulatory jurisdiction of DTSC.

COMMENT 14:

I question also the logic that since the quality of life is one in 100,000 for this area, Dow's compliance with the one in a million safe level is inconsequential. Each little bit contributes.

RESPONSE TO COMMENT 14:

DTSC does not understand what is meant by "quality of life is 1 in 100,000". DTSC and USEPA both consider an additional risk of one in a million to be less than significant.

COMMENT 15:

Until Dow is removed from the "Air Toxics" hot list, it should undertake real level of commitment to the safety of adjacent communities. Studies and risk assessments are heavy readings for understanding but plumes speak volume.

RESPONSE TO COMMENT 15:

This "Air Toxics" hot list is prepared by BAAQMD and this issue would need to be addressed by that agency. AB2588 or the Toxic Hot Spots Act apply to the entire Dow Pittsburg facility and not to a specific unit within that facility. The entire facility is subject to AB2588. Dow must report all emissions from all equipment if the emission of a pollutant is over a reporting threshold. The reporting thresholds vary, depending on the pollutant. Dow reports throughput data each year on the BAAQMD's annual update forms. The BAAQMD uses this data to calculate the criteria and toxic pollutant emissions for each source. These emission rates are then forwarded to CARB in an annual toxics report. Dow is required to report the emission of any new toxics that are not described by the BAAQMD emission calculations. According to the BAAQMD, Dow is complying with all reporting requirements.

When AB2588 was first adopted, each facility was given a priority score based on the site emissions, and sites with priority scores of the threshold were required to perform risk assessments. Dow was required to perform a risk assessment and was initially found to have a risk of 14 in a million. At this risk level, Dow is categorized as a Level 1 facility (risk between 10 in a million and 100 in a million). Level 1 facilities are required to perform public notification about the risk from the facility's emissions. Mandatory risk reduction measures are not required unless the facility is categorized as Level 2 or higher. Therefore, AB2588 does not currently require Dow to reduce their risk.

Dow has submitted a revised risk assessment showing that their facility risk is less than 10 in a million. If approved, this would change Dow to a Level 0 facility and no further public notification would be required. The BAAQMD is currently reviewing Dow's risk assessment and expects to have a final decision on the matter before the end of the year.

COMMENTS 16 THROUGH 24 WERE RECEIVED IN WRITING FROM MR. MICHAEL E. BOYD, PRESIDENT, CARE, CAlifornians for Renewable Energy, Inc. (CARE)

CARE wishes to formally object to and protest the proposed Draft Hazardous Waste Facility Boiler and Industrial Furnace Permit and Draft CEQA Negative Declaration for Dow Chemical Company (Dow) at its facility located on Loveridge Road in Pittsburg, California.

The permit would authorize the continued storage of hazardous waste generated on-site and its processing in boiler & industrial furnaces, without the required Environmental Justice analysis[1] and environmental review required under CEQA[2]. The treatment units consist of the two boiler & industrial furnaces (also known as Halogen Acid Furnaces) and associated hydrochloric acid recovery and air pollution control systems. The relief CARE is seeking is to require the completion of an Environmental Impact Report (EIR) by the lead agency DTSC that identifies all environmental and socioeconomic impacts and their mitigation as required by CEQA. Additionally the associated federally required Environmental Justice analysis needs to be completed by DTSC [3] prior to approval of the permit.

COMMENT 16:

Who is bearing the burden of environmental hazards? When it comes to environmental quality and issues of public health, not all communities are treated equally. Evidence clearly shows that communities of color suffer from a disproportionate number of environmental hazards. A recent study in Southern California showed that there are persistent racial differences in estimated cancer risks associated with ambient hazardous air pollutant exposures, even after controlling for well-known causes of pollution such as population density, income, land use, and a proxy for political power and assets (home ownership). [4] Other studies indicate that 89% of all toxic air releases are located within 1 mile of disproportionately "minority" census tracts in metropolitan Los Angeles[4] and that being a person of color in Los Angeles is the best predictor of living next to a hazardous waste treatment, storage and disposal facility.[5] Making the situation worse by adding to the cumulative impacts of these environmental hazards are power plants like the 880 MW Delta Energy Center under construction adjacent to the proposed project site.

Title VI regulations require project applicants to use the most recent demographic data available, by census tract, to determine the number and percentage of people of color and low-income[6] populations living within a

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[1] Title VI of the Civil Rights Act of 1964 requires the California Environmental Protection Agency (Cal/EPA), Department of Toxic Substances Control (DTSC) to identify and address any disproportionately high and/or adverse human health, socioeconomic, or environmental impacts of their programs, policies, and actions on minority and/or low-income populations.

[2] CEQA is the law that allows Californians to be informed and voice their opinion about projects that may affect their environment. CEQA requires a review of the environmental impacts of projects. CEQA has a broad, strong right of public participation, which has a political component and the violation or deprivation of which has constitutional consequences.

[3] DTSC is required to comply with the requirements of Title VI of the Civil Rights Act of 1964 as this agency is a recipient of Federal funding.

Morello-Frosch, Rachel, et. al. "Environmental Justice and Southern California's 'Riskscape': The Distribution of Air Toxics Exposures and Health Risks among Diverse Communities," in Urban Affairs Review, Vol. 36, No. 4, March 2001, pps.551-578.

[4] Sadd, James L., et. al. "Every Breath You Take...": The Demographics of Toxic Air Releases in Southern California," in Economic Development Quarterly, May 1999, pps. 107-123.

[5] Boer, J. T., et. al.. "Is there Environmental Racism? The Demographics of Hazardous Waste in Los Angeles County," in Social Science Quarterly, Volume 78, Number 4, 1997, pps. 793-810.

[6] "Low-income" is defined as income values that are below the federal poverty level. The 2001 federal poverty level for a family of four within the 48 contiguous states and DC is $17,650.00. SOURCE: Federal Register, Vol. 66, No. 33, February 16, 2001, pp. 10695-10697. See also, http://aspe.hhs.gov/poverty/01poverty.htm

six-mile radius of the proposed facility. The regulations also call for maps at a 1:24,000 ratio, showing the distribution of people of color and low-income population, and significant pollution sources. Significant pollution sources include sites on the Environmental Protection Agency's (EPA) Toxic Release Inventory list, or those that are permitted by the California Department of Toxic Substances Control or the local air quality management district.[7] Applicants are also required to identify and report available studies of the health status of populations within the six-mile boundary of the given plant. In this case no demographic data has been considered or provided. As the demographics of the City of Pittsburg identify the community as 64% peoples-of-color and no demographics information has been provided for public review in the draft report petitioner assumes the requisite EJ analysis has not been performed.

With all due respect, our understanding is that it is you as the administrative agency, and not CARE or other members of the public, that are responsible to conduct a full and fair investigation of matters as to which you have been put on notice by the submission of objectively-based, reasonably credible information, such as the information we are providing you.

We also understand that in order to preserve our legal rights to challenge your decision in regards to the issues of discrimination we have to notify you in advance of your decision of the alleged discriminatory practices, in this case involving a permit to authorize the continued storage of hazardous waste generated on-site and its processing in boiler & industrial furnaces, without the required Environmental Justice analysis of disparate impacts on this community-of-color. It is also our understanding that your failure to act on our notification of such discrimination may be used to establish your intention to discriminate in any ensuing judicial review. This is to formally notify you that your continued participation with the applicant in these discriminatory and illegal practices will be interpreted by CARE as admission that you also have such "intent to discriminate" in this regard.

RESPONSE TO COMMENT 16:

DTSC is unaware of any "requisite" or "required" environmental justice analysis to be performed in association with the issuance of the DOW permit. In addition, DTSC is unaware of any discriminatory and/or illegal practices alleged to have occurred in the decision-making process. Instead, DTSC has, to the extent feasible, ensured that its decisions and actions associated with the issuance of this permit avoid adding to disproportionate environmental and/or health impacts on any affected community. In addition, DTSC has, and will continue, to reduce disproportionate environmental and health-related impacts on such communities.

COMMENT 17:

In regard to the CEQA issues, in addition to all those previously raised, CARE provides a discussion of the nature and scope of the right of public participation provided by CEQA, and shows how foreclosing or hindering that right leads to constitutional as well as statutory violations.

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1 [7] **California Code of Regulations, Title 20, Section 2022, (b) (4) (A, B and C).**

It is CARE's position that the procedure followed in this case, where the permit is based on an ND issued by a CEQA lead agency in the absence of a CEQA and Title VI compliant environmental review process, precludes or contributes to the violation of the type of well-informed and meaningful public participation required by CEQA. Obviously, this process stands CEQA on its head. It constitutes and even goes beyond a post hoc rationalization of action previously committed to. It further confuses the public and cuts the public out of the project's approval process. This precludes and unduly interferes with that right, violating not only statutory, but also constitutional provisions.

We believe we have presented sufficient objective information and evidence to trigger a public agency's duty to further investigate and act on the matter of the persistent, ongoing inadequacy of public participation. The public must be given a full and fair opportunity to participate in all aspects of a project's administrative review proceedings. When it comes to CEQA, a lead agency doesn't have the discretion to merely rubber stamp approval of a project by issuing a permit based on a Negative Declaration when there is clear evidence of significant environmental and socioeconomic impacts of the project, which have not been properly identified or mitigated. A full and complete EIR must be required in order to meet CEQA's requirements for meaningful and informed public participation. This may reflect the reality of the situation (i.e., the public's participation is irrelevant), but it certainly does not comply with CEQA.

RESPONSE TO COMMENT 17:

Please refer to the "Background" section of this document which describes what public participation activities have been conducted for this project. DTSC believes that it has conducted meaningful public participation and involvement in the environmental review process established under CEQA, and has formalized this awareness through established policies and affected agencies. These policies and procedures were followed in this case as prescribed by CEQA, as evidenced by appropriate noticing of the proposed Negative Declaration and Initial Study for review and comment by the public. The comment provided does not provide evidence to suggest that this conclusion is inaccurate.

With respect to Title VI environmental review process, the CEQA process does not require such an examination, nor does it prescribe guidelines for evaluating such complaints. The imposition of any process initiated by a Lead Agency without legal mandate and regulatory requirements would be deemed arbitrary, and in violation of the due process provisions of the State Constitution. Consequently, while DTSC is aware of efforts by Cal/EPA and the U.S. EPA to establish such a legal and regulatory framework, such an examination cannot be legally undertaken under CEQA or permitting processes. The comment does not provide evidence to suggest that this conclusion is inaccurate.

With respect to preparation of a Negative Declaration as opposed to an Environmental Impact Report (EIR), it is DTSC's position that it followed the prescribed process for conduct of Initial Studies as contained in the State CEQA Guidelines. Under this process, DTSC was obligated to prepare a Negative Declaration based on the facts presented in the Initial Study that demonstrated potential impacts were either insignificant, less than significant, significant unless mitigated, or having no impacts. To conclude that an EIR was required is inappropriate, as well as technically and legally not consistent with CEQA or State CEQA Guidelines.

DTSC would also like to respond to the comment that “there is clear evidence of significant environmental and socioeconomic impacts of the project, which have not been properly identified or mitigated”. First, as discussed above, the conclusions of the Initial Study found that environmental impacts of the proposed project were not significant based on the facts presented. The comment does not provide evidence to suggest that this conclusion is inaccurate.

Second, the Initial Study process does not require an examination of socioeconomic impacts; this is only a requirement when a Lead Agency must prepare an EIR based on finding that one or more impacts were found to be significant. To conduct an analysis of socioeconomic impacts under these circumstances is also deemed inappropriate, and technically and legally not consistent with CEQA or State CEQA Guidelines.

Please refer to the Background section for Past Public Participation Activities. DTSC has decided to re-notice the Draft Permit and Draft CEQA Initial Study for another 45-day comment period. The public notice, and fact sheet have been translated in Spanish. A public workshop and a public hearing will be held and a Spanish interpreter will be present at both the public workshop and public hearing.

COMMENT 18:

California courts have made public participation one of the strongest CEQA policies because it does both, help maximize environmental protection, while improving and lending credibility to the accompanying decision making process. This court has held that the CEQA review process "protects not only the environment but also informed self-government ... [P]ublic participation is an essential part of the CEQA process." (Stanislaus Natural Heritage Project v. County of Stanislaus (1996) 48 Cal.App.4th 182, 190 (internal quotation marks and citations omitted); see also Guidelines, § 15201 (holding codified).)

The state Supreme Court stressed the "privileged position" the public holds in the CEQA statutory scheme, which requires that the CEQA process "be open ... [and] premised upon a full and meaningful disclosure of the scope, purposes, and effect of a consistently described project." (Concerned Citizens of Costa Mesa, Inc. v. 32nd District Agricultural Association (1986) 42 Cal.3d 929, 936.)

CEQA's right of public participation includes a political component expressed in a multitude of cases. Thus, it has been held that CEQA must be "scrupulously followed" so the basis for decision makers' environmentally significant action is disclosed. "[T]he public being duly informed, can [then] respond accordingly to action with which it disagrees..." (County of Amador v. El Dorado County Water Agency (1999) 76 Cal.App.4th 934, 941, quoting Laurel Heights Improvement Association v. Regents of the University of California (1988) 47 Cal.3d 376, 392 (the CEQA review "process protects not only the environment but also informed self-government"); see also Long Beach Savings & Loan Association v. Long Beach Redevelopment Agency (1986) 188 Cal.App.3d 249, 259 (courts look at whether the public has sufficient information to evaluate the performance of their elected officials); Laurel Heights Improvement Association v. Regents of the University of California (1993) 6 Cal.4th 1112, 1123 (informed

public may thus "respond accordingly to action with which it disagrees"); People v. County of Kern (1974) 39 Cal.App.3d 830, 842 (the public will be able to take appropriate action "come election day").)

These are expressions of a political function that is the basis for the private enforcement of CEQA. Private enforcement is vital because "there appear to be no provisions for public enforcement of CEQA or of its guidelines". (Rich v. City of Benicia (1979) 98 Cal.App.3d 428, 437.) The idea is that the documentation and disclosure required by CEQA provides a record the public may use to vote ecologically insensitive decision makers out of office, and exert influence on decision makers during the CEQA review process. (See Friends of the Old Trees v. Department of Forestry (1997) 52 Cal.App.4th 1383, 1402 (public must be given "the opportunity to influence the decisions before they are made").)

RESPONSE TO COMMENT 18:

DTSC agrees CEQA must be followed so that the basis for a decision makers' environmentally significant action is disclosed. DTSC also believes the administrative record in this permit decision provides the basis for which the public can respond to action with which it agrees or disagrees.

COMMENT 19:

"[W]here ... a statute expressly invites or allows interested persons to protest, or give their views or opinions concerning, proposed or requested governmental action, such persons singly or in combination have a lawful right to do so ..." (Matossian v. Fahme (1980) 101 Cal.App.3d 128, 136, 137.) This "right of petition is of parallel importance to the right of free speech and the other overlapping, cognate rights contained in the First Amendment and in equivalent provisions of the California Constitution ..." (City of Long Beach v. Bozek (1982) 31 Cal.3d 527, 535 ("Bozek"); see also 7 Witkin, SUMMARY OF CALIFORNIA LAW (9th ed. 1988), Constitutional Law, § 142 at pp. 199-200.)

In addition to being embodied in both federal and state constitutions (U.S. Const., First Amend.; Cal. Const., art. I, § 3), the right to petition and of access extends to administrative proceedings:

"In a variety of contexts, the right of access to the courts has been confirmed and strengthened throughout our 200-year history." ... This right of access extends to the constitutional right to petition administrative tribunals

(California Teachers Association v. State of California (1999) 20 Cal.4th 327, 335, quoting Payne v. Superior Court (1976) 17 Cal.3d 908, 911; see also Pacific Gas & Electric Company v. Bear Stearns & Company (1990) 50 Cal.3d 1118, 1135.)

Since Bozek, supra, was decided, the Supreme Court has continued to implement its strong concern for the "chilling" effect various actions may have on the right to petition. (Wolfgram v. Wells Fargo Bank (1997) 53 Cal.App.4th 43, 50-55 (comprehensive history of right).)

The freedom to associate with others for the purpose of taking political action is also a fundamental right:

"The freedom of the individual to participate in political activity is a fundamental principle of a democratic society and is the premise upon which our form of government is based."

(Fort v. Civil Service Commission (1964) 61 Cal.2d 331, 334 (unconstitutional to completely deny public employees from taking part in political campaigns and elections), quoted in 7 Witkin, SUMMARY OF CALIFORNIA LAW (9th ed. 1988), Constitutional Law, § 187 at p. 250,)

This constitutional authority applies when the public is not allowed to fully participate in the administrative review process at a point and in a manner affording a fair opportunity to influence the decision makers politically, including by convincing the decision makers to abandon or modify the project, or locate it elsewhere.

RESPONSE TO COMMENT 19:

DTSC's administrative and CEQA process allows the public to fully participate in the administrative decision-making process at a point and in a manner affording a fair opportunity to influence the decision-making. DTSC has conducted numerous public participation activities. Please refer to background section of this document.

COMMENT 20:

In addition to the requirements of Title VI and CEQA public participation rights CARE has identified some specific areas of concern with the proposed project as follows. This list is not meant to be exhaustive, and CARE reserves the right to raise additional concerns in the future.

The Cumulative analysis performed is inadequate as it fails to identify the cumulative impacts associated with the 880 MW Delta Energy Center and the 530 MW Los Medanos Energy Center which provide steam and electricity for the DOW facility in review. The cumulative impact analysis failed to identify cumulative impacts of the air emissions from these two projects and other EPA regulated sites in determining the total impacts to the surrounding community-of-color.

RESPONSE TO COMMENT 20:

The Initial Study concluded that potential impacts from DOW facility operations would be either avoided or reduced to less than significant levels. This conclusion was based, in part, on the conclusion that no direct pathway existed from human or environmental exposure to potential sources of emissions from facility operations, except for air emissions. In this latter situation, emissions were estimated to be well below threshold standards established by the Bay Area Air Quality Management District (BAAQMD).

As a potential exposure pathway, air emissions were then examined to assess if they could contribute to a cumulative situation if combined with air emissions from other facilities in the project area. During this examination, DTSC found that the DOW facility, as well as other US EPA permitted facilities, was already

included in the BAAQMD's current Air Basin Plan and, consequently, considered to be a part of the existing air quality setting. As such, the facility, as an existing operation, is already required to comply with the requirements of the Air Basin Plan that provides specific requirements that either avoid or substantially lessen the cumulative air quality problem within the San Francisco Bay Air Basin. Consequently, pursuant to the State CEQA Guidelines, DTSC made the determination that the incremental contribution of estimated emissions form DOW facility operations to a cumulative effect was not cumulatively considerable.

Further, prior to public noticing of the Initial Study, DTSC also conducted a review of both the Delta Energy and Los Medanos Power Plant (formerly named Pittsburg District Energy Facility Project) Applications for Certification (AFC) prepared as part of the California Energy Commission (CEC) power plant siting process. DTSC examined the analyses contained in the AFCs to assess potential hazardous waste related impacts from these proposed projects, from both an individual as well as cumulative standpoint. DTSC found that impacts from hazardous waste related activities from these proposed plants would be insignificant and that permit conditions of affected local and state agencies such as the BAAQMD would further ensure that impacts would fall below significance thresholds. DTSC agreed with this assessment and did not feel that further mitigation measures were necessary beyond those described in the AFC and as subsequently required by CEC during its approval of these projects.

DTSC also reviewed the analysis of potential air quality impacts contained in both the Delta Energy and Los Medanos AFCs and found that the primary pollutant that had some form of relationship, or nexus, with those produced by the DOW BIF facility was that of NOx. However, in both projects, the analysis indicated that total emission levels for NOx were below levels established by the BAAQMD, and consequently were considered to be insignificant from both an individual as well as cumulative standpoint. DTSC agreed with this assessment and consequently felt that further mitigation measures were not necessary beyond those described in the AFC and as subsequently required by the CEC during its approval of these projects.

The comment does not provide evidence to suggest that the above-conclusions are inaccurate.

COMMENT 21:

The Applicant must evaluate the public health impacts of the Project to comply with the Bay Area Air Quality Management District's "Toxic Risk Management Policy" ("TRMP"). The BAAQMD's policy requires the installation of Toxics Best Available Control Technology ("TBACT") if the cancer risk is greater than one in one million or if the chronic hazard index is greater than one. Incremental cancer risk is calculated by estimating toxic emissions, modeling these emissions to estimate corresponding ambient concentrations, multiplying the modeled ambient concentration by a cancer unit risk factor, and summing over all compounds. A cancer unit risk factor expresses an individual's risk of contracting cancer for a given amount of pollutant breathed. It is expressed as the cancer risk per amount of a pollutant in a volume of air (i.e., risk per $\mu g/m^3$). Risk factors are published on the Office of Environmental Health Hazard

Assessment's ("OEHHA's") website.[8] The Health Risk Assessment provided concluded that the upper limit of additional cancer risk at the nearest residences is approximately one in a million (1.43×10^{-6}). This exceeds the significance threshold of one in one million and requires that TBACT be installed. No such mitigation has been proposed or even considered to the knowledge of CARE. Therefore, acute and cancer impacts are significant, requiring mitigation.

RESPONSE TO COMMENT 21:

The cancer unit risk factor referred to in this question is the excess individual cancer risk per microgram per cubic meter in air which assumes that an individual is continuously exposed (24 hrs/day; 350 days/yr) at the same location for 70 years. The value shown in the comment (1.43×10^{-6}) is the upper bound cancer risk assuming 70 years of continuous exposure at the location of the maximum estimated annual average ground level concentration.

To be consistent with USEPA risk assessment guidance, DTSC conservatively assumes that a person lives at the same residence for 30 years (six years as a child + 24 years as an adult) which we refer to as a Reasonable Maximum Exposure (RME) residential exposure scenario. Under these risk assessment assumptions, the upper bound estimated cancer risk at the nearest actual residence is 0.83×10^{-6} (Table ES-1 in the HRA) which is below the generally accepted *de minimis* risk level of one in one million. The local agency BAAQMD has the authority to require a more conservative estimate of risk as they see fit in enforcing their regulations. As long as the Dow BIF units are in compliance with the BAAQMD air quality regulations, no significant cancer risks from the Dow BIF units are expected to occur.

Dow has to meet BAAQMD requirements. DTSC uses USEPA exposure factors and using these factors the risk is less than one in a million.

Like BACT, TBACT (Best Available Control Technology for Toxics) only applies to new and modified sources. The BAAQMD's Risk Management Policy (first adopted in 1987) describes when TBACT is required. TBACT is required if the emission increases from a project (which could include a source, a group of sources, or several modifications over time) result in an increased cancer risk to the maximally exposed receptor of more than 1 in a million. In most cases, the project is not allowed if the risk is greater than 10 in a million. The ST HAF has had no emission increases since 1987 and so has never been subject to the BAAQMD's Risk Management Policy or to TBACT. The ST HAF has had no emission increases that would trigger a risk screen, but a 1991 permit application included a relocation of a stack from the MS HAF, which could have an impact on risk. In 1991, the emissions from the MS HAF were found to result in a risk of less than 1 in a million and TBACT was not required.

Dow's most recent risk assessment for these units indicated a maximum increased cancer risk of 1.43 in a million (for both units combined). If these two units were permitted as new sources today, this risk level

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1 [8] **www.oehha.ca.gov**

would require the use of TBACT. These units are required to achieve 99.99% control for volatile organic compounds. This level of control would be considered TBACT for control of toxic VOCs today. However, the biggest contributors to this risk are toxic metals and semi-volatile/non-volatile organic compounds. BACT for particulate control is generally an emission rate of less than 0.002 grains/dscf at 12 % CO_2. The MS HAF and ST HAF are not meeting this particulate emission rate during all operating modes. Therefore, the particulate control measures currently being use may not qualify as TBACT for control of toxic particulate matter today. However, as stated before, neither the MS HAF nor the ST HAF are required to have TBACT, because the units were installed before the BAAQMD's Risk Management Policy was adopted and have had no emission increases since the policy was adopted.

Title V is the Federal Operating Permits Program that is required by the 1990 amendments to the Federal Clean Air Act. The BAAQMD implements the Title V program through our Major Facility Review Rule (Regulation 2, Rule 6) and through MFR permits. Dow is required to obtain a Title V/MFR permit and has submitted all necessary application materials. The BAAQMD is currently evaluating their application and expects to issue the first draft of their MFR Permit later this year. Title V does not impose any new or more stringent emission limits. Therefore, Title V cannot be used to impose TBACT on the HAFs. Under Title V, the BAAQMD can state limits that are currently in effect and add monitoring for these limits if none exists. For the HAFs, it is likely that the BAAQMD will explicitly state in permit conditions several emission limits that are currently in effect but are not explicitly stated in a BAAQMD permit condition. The BAAQMD is also likely to add monitoring requirements for these HAFs. Monitoring can include records, source testing, monitoring of operating parameters, or combinations of these. The BAAQMD determines the appropriate monitoring frequency, which is typically either annual, monthly, daily, or continuous. Monitoring does not necessarily mean having a continuous emissions monitor (CEM). The BAAQMD cannot require new control equipment or more stringent toxic emission limits.

COMMENT 22:

To estimate actual emissions of constituents of concern for input into a Health Risk Assessment (HRA) and to establish operating conditions for the Halogen Acid Furnaces, trial burns were conducted between October 1999 and March 2000. The trial burn purportedly defined worst-case operating conditions for the HAF units and demonstrated that the units can meet air emission standards for this wide range of operating conditions. Both halogen acid furnaces produce hydrochloric acid by thermal oxidation at temperatures between 1,000 degrees Centigrade (EC) and 1,500 EC. The HAF units have destruction and removal efficiencies (DREs) greater than 99.99%. This means that 99.99% of feed waste constituents are converted to hydrochloric acid, water, and carbon dioxide. The primary air contaminant of the HAF units is identified as nitrogen oxides. CARE objects to the applicant’s failure to require Continuous Emission Monitoring (CEM) of the HAF units for NOx and HCl constituent emissions. Apparently different mitigation and monitoring is being proposed for this project than those provided for in the Delta Energy Center and Los Medanos Energy Center Application for Certification process. No CO catalyst is proposed for control of CO emissions.

RESPONSE TO COMMENT 22:

The CO emissions from the HAFs are less than 10 pounds/day each. CO catalysts are not required for such low emission rates.

The BAAQMD requires continuous emission monitors (CEMS) for NOx emissions only under certain circumstances. Regulation 1-520 requires CEMS for boiler and steam generators if the equipment capacity is 250 MM BTU/hour or more. Large nitric acid plants (300 tons per day or more) are also required to have NOx CEMS. Regulation 9-9-501 requires NOx CEMs for 10 MW or larger Gas Turbines, which generally have capacities of more than 100 MM BTU per hour. The MS HAF and ST HAF capacities are 5 MM BTU per hour and 3 MM BTU per hour, respectively, with NOx emissions of less than 10 pounds per day and less than 20 pounds per day, respectively. CEMs would not be appropriate for such low capacity sources with these levels of NOx emissions.

COMMENT 23:

To determine the actual worst-case emissions for the project the applicant must re-evaluate the worst-case scenario in lights of the events of September 11, 2001. This worst-case scenario must include possible terrorist attack or acts of war against the facility. This must include the firing of incendiary devices at the facility's furnaces, pipelines, storage tanks, and tanker rail cars that may service the facility. This analysis must include possible attack and explosion at the following three facilities:

C Liquid Hazardous Waste Storage Tanks T-501B and T-502A: These two tanks store liquid hazardous waste feed that is processed in the ST HAF unit. The volume of each tank is approximately 15,000 gallons.

C Waste Storage Tank T-12: This tank stores liquid hazardous waste that is processed in the MS HAF unit. The volume of the tank is approximately 3,750 gallons.

RESPONSE TO COMMENT 23:

Please refer to the Response to Comment 8 regarding plausible scenarios that were considered in the risk of upset analysis (as part of the Health Risk Assessment). It should be noted that access by the public to the hazardous waste units is restricted by high security fence and guard system. Hazardous waste units are over 500 feet from the fence line.

In the event of catastrophic incident such as firing of incendiary devices, the probability of them hitting these hazardous waste units amongst all the facility equipment within Dow does not appear to be plausible. However, in the event of incident involving explosion with incendiary devices and associated fires, Dow has an onsite 24 hour, 7 day a week fire fighting crew available. In addition, the facility has an arrangement with the local fire department of rapid response in the event of such an incidence.

COMMENT 24:

CARE is seeking to require the completion of an Environmental Impact Report (EIR) by the lead agency DTSC that identifies all environmental and socioeconomic impacts and their mitigation as required by CEQA. Additionally the associated federally required Environmental Justice analysis needs to be completed by DTSC prior to approval of the permit.

RESPONSE TO COMMENT 24:

Please refer to Responses to Comments 17 & 20.

COMMENT 25 WAS RECEIVED IN WRITING FROM MR. JEAN C.R. FINNEY, DISTRICT BRANCH CHIEF, STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION

COMMENT 25:

The Initial Study /Negative Declaration indicates that truck volume along State Route (SR4) in the project area and along Loveridge Road constitutes approximately 7% to 9% of the total volume. Please clarify further how many additional truck trips per day this project will add to SR4.

RESPONSE TO COMMENT 25:

Truck traffic volume along SR4 in the project area and along Loveridge Road constitutes approximately 7 to 9% of total traffic volume. This equates to 850 to 1,050 trucks per day along Loveridge Road and 3,650 to 4,700 trucks per day along SR 4 in the vicinity of the facility. Of these truck traffic trips, approximately 4% are expected to be handling hazardous materials, based on studies performed by the Association of Bay Area Governments. Currently, Dow's Pittsburg facility accounts for 14,300 truck trips per year and 2,600 rail trips per year.

The proposed project will not increase the number of vehicle or rail trips to or from the Pittsburg facility and thus will have no impact on traffic or transportation patterns.