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Sasol North America, Inc. – Two New Very Large Projects in an Environmental Justice Area of Calcasieu Parish Resulting in Increased Air Pollution and Increased Risk of Facility Accidents

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Calcasieu Parish has **31 Heavy Industrial Facilities** that release 5.85 million pounds (2,926 tons) of toxic chemicals into the air and 1.07 million pounds (1,536 tons) of toxic chemicals into the waters of Calcasieu Parish each year.

Calcasieu Parish ranks **first in Louisiana** in the number of industrial facilities in the parish. The number of new industrial facilities in the parish are increasing rapidly.

Sasol Facility Air Releases

126 tons per year of air emissions currently

111 tons per year are toxic Volatile Organic Compounds (VOC)

The new Sasol facility will release **3,275 tons** per year of toxic Volatile Organic Compounds (VOC).

This will be **30 times more than the VOCs currently being released** by Sasol, or equal to 30 more of the current facility.

Gas to Liquids Project

Ethane Cracker Project

At the Lake Charles Chemical Complex of

Sasol North America, Inc.

Sasol (South Africa Synthetic Oil Liquids)

Sasol North America received 17 permits from the Louisiana Department of Environmental Quality on May 30, 2014 to construct and operate the Gas to Liquids and Ethane Cracker Projects adjacent to Sasol's existing Lake Charles Chemical Complex between Westlake and Mossville, in Calcasieu Parish.

- The public comment period and public hearing for the Sasol applications were held in **March 2014**.

- The two projects were issued 17 permits by the Louisiana Department of Environmental Quality on **May 30, 2014**:

14 Part 70 Air Operating Permits

2 Prevention of Significant Deterioration (PSD) Air Permits

Water Discharge Permit

- Sasol received corporate approval to move forward with the Ethane Cracker project in **October 2014**.

The proposed Ethane Cracker will convert ethane to ethylene to low and high density polyethylene, and ethylene oxide to ethylene glycol. The facility will also produce linear alcohols, miscellaneous chemicals, alcohols, alumina, and ethoxylates.

The proposed as to Liquid Project will use natural gas as a feed stock to produce synthesis gas which will then be converted to liquid hydrocarbon products. The hydrocarbon products will consist of diesel, liquefied petroleum gas, naphtha, paraffins, wax products and base oil products.

Air Emissions from the Sasol Gas to Liquid and Ethane Cracker Projects Will Consist of

>3,000 tons per year of toxic VOCs – 30 times more than current

>10 million tons per year of Greenhouse Gases

10.678 million tons per year of total air emissions

Chemical	Emissions (tons per year)
Volatile Organic Compounds (VOCs)	3,275.43
Toxic Air Pollutants	1,068.21
Particulate Matter PM 10	611.12
Particulate Matter PM 2.5	740.33
Sulfur Dioxide (SO2)	118.584
Nitrogen Oxides (NOX)	1,597.76
Carbon Monoxide (CO)	4,548.09
Greenhouse Gases (CO2 Equivalents)	10,666,462
Total Air Emissions	**10,678,421.52**

Significant Increase in Net Emissions – all of the above pollutants:

Volatile Organic Compounds

Particulate Matter PM 10 and PM 2.5

Sulfur Dioxide (SO2)

Nitrogen Oxides (NOX)

Carbon Monoxide (CO)

Greenhouse Gases (CO2E)

Periodic Air Emissions

Sasol and the Louisiana Department of Environmental Quality have agreed to not include in the permit limits for the proposed Gas to Liquid and Ethane Cracker Projects the periodic air emissions resulting from accidental releases and upset condition incidents. Their agreement is based on the presumption that the periodic air emissions will have insignificant impacts on the air quality.

However, the periodic air emissions resulting from accidental releases and up set conditions have a very large impact on the health of community members living in the area of the industrial facilities in the Mossville area. These emissions should have been addressed by the Louisiana Department of Environmental Quality in such a manner that would decrease or eliminate the impacts on community members.

Recent Years of Accidental Releases and Upset Condition Incidents at Sasol's Existing Lake Charles Chemical Complex

Year	Emergency Incidents	Non-Emergency Incidents
2012	**0**	**7**
2013	**1**	**5**
2014	**3**	**5**

Some of the incidents were determined to not exceed reportable quantities.

2012 Incidents Largest Releases

Non-Emergency Incidents

Benzene 35 pounds released

Ethylene 1,540 pounds released

2013 Incidents Largest Releases

Emergency Incidents

20,608 pounds of ethylene – material went off site

Non-Emergency Incidents

3 events released Benzene in the following amounts: 4 pounds, 7 pounds, 842 pounds.

The 842 pounds of Benzene was within the permitted limits.

2014 Incidents Largest Releases

Emergency Incidents

32 pounds of Benzene released to soil and water, above reportable quantity

Non-Emergency Incidents

41 pounds of Therminol to concrete

100 gallons of wastewater flowed off site

Best Available Control Technology (BACT)

Sasol stated in its application that the control of the more than 10 million tons per year of Greenhouse Gases consisted of the use of natural gas as feedstock and good combustion practices. Sasol states that very few Greenhouse Gas technologies have actually been demonstrated in practice and many are not commercially available. So the use of good combustion practices is proposed to be used as the only method of controlling Greenhouse Gas emissions which will be in excess of 10 million tons per year. The use of natural gas as feed stock is not a control technology for Greenhouse Gases, it is the feed stock on which the Gas to Liquid Project is based.

Facility Air Impacts

Toxic chemicals are currently being detected in the ambient air monitoring stations in Westlake and Mossville and are associated with the health impacts experienced by community members. The chemicals currently detected in the ambient air are some of the many chemicals that will be released into the air by the two Sasol projects. It is very difficult to comprehend how the additional burden of the large quantity of emissions from this very large development by Sasol can be calculated to demonstrate the lack of pollution impacts over acceptable levels.

The very large increase in air emissions from the new Sasol facility will have a negative impact on community members remaining in the area. Even though Sasol has made attempts to offer relocation to community members closest to the proposed facility, there will be individuals remaining in the area of impact.

Minority Populations in the Mossville Area within 1 – 5 Miles of Sasol Are Higher Than Minority Population in Calcasieu Parish

Within 1 mile of Sasol	31.9%	Minority Population
Four to Five miles of Sasol	39.6%	Minority Population

Low Income & Below Poverty Level Populations in the Mossville Area within 1 – 5 Miles of Sasol Are Higher Than Minority Population in Calcasieu Parish

Within 1 mile of Sasol	19.3%	Low Income & Below Poverty Level Population
Four to Five miles of Sasol	18.0%	Low Income & Below Poverty Level Population

Within one-mile of Sasol

1,716 Minority individuals

1,438 African Americans

898 Individuals below the poverty level

These are the populations that will be negatively impacted by the Sasol Projects.

Sasol has determined that:

- There are pockets of high-percentage minority census blocks around the proposed project site.

- A high level of poverty surrounds the site, especially to the West.

- The Sasol expansion area does not have a “fence line community”

- There are only scattered residences along roads bounding the Sasol expansion property. Sasol has made buyout offers to owners of property in the immediate vicinity.

- Southwest of the proposed Sasol plant boundary is the unincorporated community of Mossville.

- The new facility will be constructed in a sparsely populated area of the parish in an area zoned for industrial use that is already characterized by industrial facilities.

- The lights, flares and other appurtenances associated with an industrial facility are already common in this area and will not create any visual impairment beyond what is already seen in the typical daily commute.

The individuals within 1 mile of the Sasol expansion area do not count as far as Sasol is concerned and have been dismissed. The two new projects will have negative impacts on the Minority and Low Income populations in the entire Mossville community.

Mossville Health Survey Demonstrated Health Impacts

57% of Mossville community members considered themselves sick

The sick individuals were sick 3 days per month to every day per month

17% reported occupational exposure

51% never smoked, 15 % smoked in the past

88% had respiratory ailments

62% had muscle aches and pains

61% had sinus problems

61% had shortness of breathe

32 chemicals were associated with the medical conditions

20 of the chemicals were released by PPG Industries/Axiall Corp.

17 chemicals were released by Sasol

16 chemicals were released by Conoco Refinery

15 chemicals were released by Georgia Gulf

Of the chemicals released by Sasol that were associated with medical conditions recorded by the health survey, the following VOC chemicals will be associated with the largest increases in emissions from the existing Sasol facility to the new Sasol Projects.

Chemical	Current Emissions by Sasol Lake Charles Chemical Complex (in tons per year)	Total Emissions from Sasol Gas to Liquid and Ethane Cracker Projects (in tons per year)
Benzene	0.07	61.52
1,3-Butadiene	0.74	11.30
Ethylene Oxide	11.312	20.62
n-Hexane	71.06	164.72
Naphthalene	0.54	8.61
Toluene	0.76	12.63

The **health conditions** associated with these chemicals include:

Known human cancer causing agent

Mutagen, Teratogen

Damages kidneys, liver and brain

Damages developing fetus

Causes reproductive damage

Damages nervous system

Damages red blood cells

Irritates skin, eyes, nose, throat and lungs

Causes headaches, dizziness, nausea, vomiting, coughing and wheezing

The increase in toxic air emissions will be expected to result in an increase in human health impacts for the community members that remain in Mossville and the surrounding area and well as the new fence line communities created by Sasol.