

A Report on Shintech's Title V Permit Application

(Prepared by LEAN for Bob Kuehn, Tulane Environmental Law Clinic. 10/28/96)

Summary

Shintech's Title V permit application was submitted to Louisiana's Department of Environmental Quality (DEQ) on July 23, 1996. This permit application was put on DEQ's fast-track. Hillary Lance, the head of DEQ's Air Permit Division, stated that he expected a draft permit would be produced for internal DEQ evaluation by the end of October, 1996. The real tragedy in the Shintech permit application is the inability and unwillingness of DEQ's permit's group to evaluate the permit application in accordance with the MACT (Maximum Achievable Control Technology) standards set by the EPA. Instead, they intend to let Shintech use any control technology they want.

Since Shintech's facility will be classified as a new source it should be required to meet the MACT standards for new sources as set in the 1990 amendments to the Clean Air Act (CAA). The CAA act requires that new sources have control technology equivalent to the best performing source in the nation in the same source category. Shintech's Title V permit application does not include technology used by the best performing source nationally. Instead, Shintech proposes to use essentially the same technology currently used in it's Freeport, Texas plant. This plant is the largest polyvinyl chloride production plant in the world, and the leading air emitter of vinyl chloride in the state of Texas. Shintech's Freeport, Texas, facility reported emitting 94,374 pounds of vinyl chloride in 1993.

Shintech submitted three separate Title V permits, one for the vinyl chloride monomer plant, called the VCM plant, one for the polyvinyl chloride plant, called the PVC plant, and one for the Chlor-Alkali plant. Shintech's Title V permit applications are requesting that the state of Louisiana give it permissions to emit over 104,000 pounds of vinyl chloride per year into the air. The permit applications include annual air releases of 360,000 pounds of methanol, 102,000 pounds of chlorine and 64,800 pounds of hydrochloric acid. The major releases are from the VCM plant and the PVC plant. These facilities contain poor control technology which is not commensurate with the best control technology utilized in the nation.

A timeline of the events following the public notice by the DEQ of a proposed permit approval are stated in the next section. A detailed description of the major air emissions sources at Shintech are then included. A list of vinyl chloride air emissions listed in Louisiana's 1994 Toxic Release Inventory follows that.

Timeline

The timeline for public notice, EPA review, petitioning the EPA and subsequent permit approval are defined in LAC 33:III Chapter 5, Section 531, "Public Notice and Affected State Notice" and Section 533, "EPA Notice, Review, and Objection". This chapter requires a 30 day public notice period for this type of plant. If there are no public comments the EPA then has 45 days for review starting at the beginning of the public comment period. If there are public comments the EPA 45 day review period starts after the DEQ has forwarded the public comments to the EPA. Public petitions to the EPA are made within 60 days after the expiration of the EPA's 45-day review period. Public petitions can only be made by those who sent in a public comment.

Issuance of the permit by the state can occur as stated in Section 533(C)(2): "The permitting authority may issue any such permit described in Subsection C.1 of this Section prior to the close of EPA's 45-day review period if the administrator first notifies the permitting authority that no objection will be made." So, if we submit a public comment, and send a copy of that comment to the EPA, specifically Jane Saginaw, the Administrator of the EPA, a permit can't be issued until at least 75 days after the public notice. The earliest the applications can be approved would be the middle of February. The 60 day petition period would then start, followed by an EPA review of the permit application. Petitions should be sent to Jane Saginaw, so that EPA review will occur at the federal level, and not the EPA regional level. The region has shown a willingness to simply rely on DEQ in responding to public concerns, which will do us no good.

There doesn't seem to be anything in LAC 33:III Chapter 5 about when a suit can be filed pertaining to an approved application.

Data and Information From the Shintech Title V Permit Application.

The VCM plant.

This plant should be covered by the EPA's MACT standards for the SOCOMI (Synthetic Organic Chemical Manufacturing Industry). This is commonly referred to as the HON (Hazardous Organic NESHAPS) and is 40 CFR 63 with Subparts F, G, H and I. The HON will soon be incorporated into the LAC using "Incorporation By Reference & Straight Delegation". It will be put in LAC 33:III Chapter 51, Subchapter C, Section 5121.

The major sources of air emissions for the VCM plant are from sources M-4, M-5 M-13, and M-15, where these source identification numbers were devised by Shintech and are used extensively in their Title V permit application. The permit application is a mess with many inconsistencies and several outright failures to adhere to the most basic federal MACT standards in 40 CFR 63. This was also the case for the PVC plant.

The following table lists the largest air emissions requested in the permit application. Only those chemicals designated as Hazardous Air Pollutants (HAP's) in the 1990 CAA are shown in this table. The CAA included 189 chemicals that were designated as HAP's. It is the emissions of these 189 chemicals that must meet the requirements of MACT. The table shows the total amount of emissions requested for that chemical and gives the primary emissions sources. Note that smaller emissions sources are not included.

Largest emissions requested in the permit application.

<u>Chemical</u>	<u>Amount (pounds per year)</u>	<u>Primary emissions source</u>
Hydrochloric acid	64,760	M-4, M-5, M-13
Chlorine	51,840	M-4, M-5
1,2-dichloroethane	15,280	M-13
Vinyl chloride	5,800	M-4, M-5
Ethyl chloride	4,320	M-13

Description of the emissions sources.
M-4 and M-5.

These are listed as thermal oxidizers, but the description of this equipment is inconsistent throughout the permit application. M-4 and M-5 have identical emissions, but M-4 is listed as a thermal oxidizer with scrubber while M-5 is listed as a thermal oxidizer without a scrubber. Having identical releases of hydrochloric acid and chlorine is inconsistent with one oxidizer having a scrubber and one not having a scrubber. In that case the oxidizer with the scrubber would have substantially less chlorine and hydrochloric acid emissions. The emissions calculations, which are a required part of the permit application, don't include scrubber calculations for either oxidizer.

These thermal oxidizers are being used to incinerate waste gases and are reported as having destruction efficiencies of 99.99%. This destruction efficiency is quite high unless the oxidizers have a secondary afterburner similar to most industrial incinerators. With such high emissions of HAP's from these oxidizers the calculations must include the Total Resource Effectiveness (TRE), as required in the HON subpart G. No TRE calculations were included even though the permit application states that these oxidizers must comply with HON G 63.110(d). It is mandatory that these calculations be included in the permit application.

M-13.

This is listed as an "analyzer vent". When required to state what control devices will be used on this source Shintech responded with "Good housekeeping practices". In another part of the application they state "This analyzer does not meet the definition of process vent defined in 63.101". In another part they state that these emissions must go to waste disposal for compliance. In Appendix F they state they are exempt from control due to LAC 33:III 2115 since the VOC (volatile organic compounds) are less than 100ppm combined weight in 24 hours. This demonstrates total confusion on Shintech's part.

This approach is not in accordance with requirements of the HON subpart G. Shintech should have made a TRE calculation and then followed subpart G. They did not. DEQ has made no effort to ensure that this is done.

The PVC plant.

This plant should eventually be covered by the EPA's MACT standards set in the NESHAP for Resins and Polymers. This NESHAP is not yet final for polyvinyl chloride. It is expected that the standards set in the HON will be similar to the Resins and Polymers standards for vents, and that these HON standards can be applied.

The major sources of air emissions for the VCM plant are from sources P-1 and P-2, where these source identification numbers were devised by Shintech and are used extensively in their Title V permit application.

The following table lists the largest air emissions requested in the permit application. Only those chemicals designated as Hazardous Air Pollutants (HAP's) in the 1990 CAA are shown in this table. The CAA included 189 chemicals that were designated as HAP's. It is the emissions of these 189 chemicals that must meet the requirements of MACT. The table shows the total amount of emissions requested for that

chemical and gives the primary emissions sources. Note that smaller emissions sources are not included.

Largest emissions requested in the permit application.

<u>Chemical</u>	<u>Amount (pounds per year)</u>	<u>Primary emissions source</u>
Methanol	360,400	P-1, P-2
Vinyl chloride	98,600	P-1, P-2

Description of the emissions sources.

P-1 and P-2.

These sources are identical and are strippers followed by scrubbers. The permit application is confusing for these two sources and describes them differently in different parts of the permit application. The control for these sources is first described as a scrubber. This is incorrect and inaccurate, as the calculations show that the scrubber will remove no vinyl chloride or methanol. The real control technology used is a stripper. Shintech states that they need only meet the standards set in LAC 33:III 5125.E.5. This is no longer true as this chapter of the LAC will be superseded when the federal standards are incorporated into the LAC "by reference and straight delegation" into LAC 33:III Subchapter C Section 5121.

Shintech claims that methanol emissions from P-1 and P-2 need only meet "Ambient Standard". I don't know what that is, but it is not part of the federal standards that Shintech must meet. The federal standards require that a TRE calculation be done on these sources to determine if they are a Class I vent or a Class II vent. It appears they will be a Class I vent requiring incineration and subsequent scrubbing. Shintech did not include this necessary calculation in the permit application and DEQ shows no interest in ensuring that this is done.

Vinyl chloride emissions in Louisiana from the 1994 TRI.

1994 TRI REPORT FOR VINYL CHLORIDE
ALL EMISSIONS IN POUNDS.

	FACILITY	PARISH	EMISSIONS
10	BORDEN CHEMICAL AND PLASTICS	ASCENSIO	45,792
9	VISTA CHEMICAL CO./LAKE	CALCASIE	28,374
8	PPG INDUSTRIES, INC.	CALCASIE	17,330
7	FORMOSA PLASTICS CORPORATION	EAST BAT	16,611
6	GEORGIA GULF CORPORATION	IBERVILL	14,400
5	BORDEN CHEMICALS AND PLASTICS	WEST BAT	10,600
4	THE DOW CHEMICAL COMPANY,	IBERVILL	3,940
3	CERTAINTED CORPORATION	CALCASIE	3,020
2	VULCAN MATERIALS COMPANY,	ASCENSIO	610