SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Negative Declaration for:
Polychemie Inc. Los Angeles Facility
Facility Expansion Project

SCH No. 2004121075

July 2005

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PREFACE

This document constitutes the Final Negative Declaration for the Polychemie Inc. Los Angeles Facility Expansion Project. The Draft Negative Declaration included a detailed project description, the environmental setting for each environmental resource, and an analysis of each environmental resource on the California Environmental Quality Act (CEQA) checklist including all potentially significant environmental impacts. Based on the Draft Negative Declaration, no significant adverse environmental impacts were identified associated with the proposed Facility Expansion Project.

The Draft Negative Declaration was circulated for a 30-day public review and comment period from December 16, 2004 to January 14, 2005. One comment letter was received from the public during the comment period and one comment letter was received after the close of the comment period. The comment letters and responses are included in Appendix D of this document. In order to adequately address the comments raised in the comment letters, new information is provided to merely clarify, amplify or make insignificant modifications to the Negative Declaration. Minor modifications have been made to the Draft such that it is now a Final Negative Declaration. Pursuant to CEQA Guidelines §15073.5(c)(2), recirculation is not necessary since the information is provided in response to written comments on the project's effects and does not result in new avoidable significant effects. Additions to the text of the Negative Declaration are denoted using italics and text that has been removed has been ~~stricken through~~. The Negative Declaration is available at the South Coast Air Quality Management District (SCAQMD), 21865 Copley Drive, Diamond Bar, California 91765-4182 or by phone at (909) 396-2039. The Negative Declaration can also be downloaded by accessing the SCAQMD's CEQA web pages at http://www.aqmd.gov/ceqa/nonaqmd.html.

TABLE OF CONTENTS

TABLES:

APPENDICES:

DABWORD\2313\Final Negative Dec\2313NegDec1.doc

CHAPTER 1

PROJECT DESCRIPTION

Introduction
Agency Authority
Project Location
Overview of Current Operations
Proposed Project
Required Permits

CHAPTER 1.0

PROJECT DESCRIPTION

1.1 INTRODUCTION

Polychemie Inc. (Polychemie) operates a water treatment polymer manufacturing facility in Los Angeles, California since 1995. The polymer is sold for use to the municipal water and wastewater treatment market in southern California. Currently, the facility primarily manufactures a polymer, commonly called Mannich polymer which shares the name with the founder of the Mannich reaction, Carl Mannich. Polychemie plans to increase production of Mannich polymers and to expand its operations to include the production of dimethylaminoethylacrylate-methyl chloride (ADAM-quat) copolymer and diallyldimethylammoniumchloride (DADMAC) polymer. The new copolymer will eliminate concerns of residual dimethylamine in wastewater treatment plants, and the DADMAC polymer will be used to treat potable water. The proposed project will involve installing seven new storage tanks, three new mix tanks, four new reactors and a new scrubber at Polychemie's existing Los Angeles facility to produce additional amounts of water-soluble polymers for water and wastewater treatment.

1.2 AGENCY AUTHORITY

The California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., requires that the environmental impacts of proposed "projects" be evaluated and that feasible methods to reduce, avoid or eliminate significant adverse impacts of these projects be identified and implemented. The proposed modifications constitute a "project" as defined by CEQA. To fulfill the purpose and intent of CEQA, the SCAQMD is the "lead agency" for this project and has prepared this Negative Declaration to address the potential adverse environmental impacts associated with the proposed project at the Polychemie Inc. Los Angeles Facility.

The lead agency is the public agency that has the principal responsibility for carrying out or approving a project that may have a significant adverse effect upon the environment (Public Resources Code §21067). Since the proposed project requires discretionary approval from the SCAQMD and the SCAQMD has the greatest responsibility for supervising or approving the project as a whole, it was determined that the SCAQMD has been determined to be the most appropriate public agency to act as lead agency (CEQA Guidelines §15051(b)).

To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this Negative Declaration to address the potential adverse environmental impacts associated with the proposed project. A Negative Declaration for a project subject to CEQA is prepared when an environmental analysis of the project shows that there is no substantial evidence that the project may have a significant effect on the environment (CEQA Guidelines §15070(a)). As discussed in Chapter 2, the proposed project is not expected to result in significant adverse impacts so that a Negative Declaration is the appropriate document.

1.3 PROJECT LOCATION

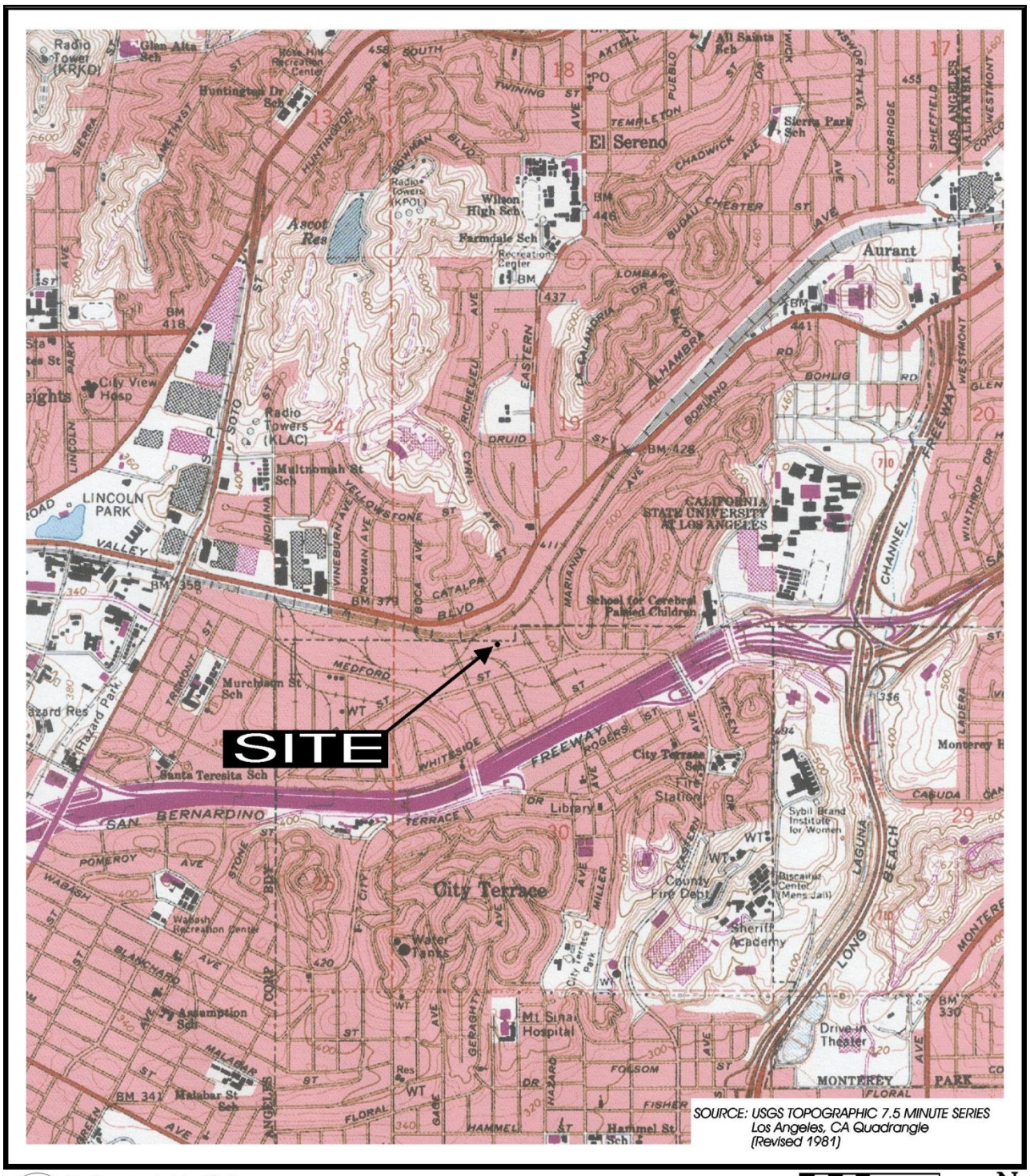
The Polychemie Inc. facility operates in the South Coast Air Basin, which is a sub-area of the SCAQMD's area of jurisdiction. The 7.41-acre site is located in the County of Los Angeles, near the cities of Alhambra and Monterey Park (see Figure 1). A portion of the site that contains no manufacturing is located within the City of Los Angeles. The proposed project includes physical modifications to process facilities at the Los Angeles facility located at 4690 Worth Street, Los Angeles, California (see Figure 1). The Los Angeles facility is bounded on the north by Worth Street, across which is a railroad spur, warehouses and a sofa manufacturing facility. The eastern portion of the property is bounded by Miller Avenue, across which includes a movie set construction facility and a dimensional stone cutting facility. South of the facility is an office building facing Medford Street, and other industrial facilities. Land use to the west of Polychemie includes a trucking transfer yard and warehousing facility.

1.4 OVERVIEW OF CURRENT OPERATIONS

SNF Holding Company (the parent company of Polychemie Inc.) is a subsidiary of a privately held company based in France (SNF Floerger). SNF Floerger is the largest manufacturer of water-soluble polymers for water and wastewater treatment in the world. The majority of its products are either powders or emulsions that are shipped from its facility in Riceboro, Georgia. The municipal wastewater treatment market often uses a product that is referred to in the industry as Mannich Polymer. Mannich polymer is manufactured on-site with products delivered by rail and truck, and then shipped to clients by truck as a four percent solution in water, and is typically produced near customer locations to minimize shipping costs. The manufacturing of product involves a simple process of mixing the stored substances in a reactor before shipping to client via tanker truck. The Polychemie Inc. facility in Los Angeles, a water treatment polymer manufacturing facility, is currently permitted to produce 250 million pounds per year of Mannich polymer. The facility operates 24 hours per day, seven days per week.

Mannich polymer is currently produced by mixing two compounds, polyacrylamide (PAM) and dimethylaminomethanol (DMAM), and allowing the two substances to react together. The end product is a non-hazardous water soluble polymer. PAM can be produced by either polymerizing acrylamide or by dissolving either PAM gel or powder in water. DMAM is made from the combination of dimethylamine (DMA) and formaldehyde.

Existing equipment at the site includes three existing non-ionic reactors, three Mannich reactors, a polymer storage tank, scrubber, railcar unloading facilities, truck loading/unloading facilities, acrylamide storage tank, DMA storage tank, formaldehyde storage tank, two DMAM preparation tanks, and two pre-mix tanks. The Polychemie facility also includes an office building, laboratory, several warehouses, and several unoccupied industrial buildings. Existing railroad tracks provide rail access to the site.



Environmental Audit, Inc.

SITE LOCATION MAP
POLYCHEMIE, INC.
LOS ANGELES, CALIFORINA

Project No. 2313

Figure 1

N:\2313\Site Location Map .CDR

1.5 PROPOSED PROJECT

1.5.1 Increase Mannich Polymer Production

As a result of anticipated local population growth and requirements for improved wastewater treatment, Polychemie plans to increase Mannich polymer production from 250 million pounds per year to 310 million pounds per year (60 million pound per year increase). The proposed project includes a new non-ionic reactor (NR4) to enable increased PAM production. Also, included in the proposed project is a new formaldehyde tank (V16), which will vent to a new scrubber (SC3). Note that chemical changes occur in reactors, while physical changes occur in mix tanks. The reactors operate at atmospheric pressure and near ambient temperatures (less than 150 degrees Fahrenheit).

1.5.2 New Copolymer Product

Polychemie also plans to expand its operations to include the production of ADAM-quat copolymer. ADAM-quat copolymer is an alternate product expected to eventually replace all or a portion of the Mannich polymer business. The raw materials for ADAM-quat copolymer are acrylamide and ADAM-quat. As noted above, acrylamide is currently shipped to the site to formulate the Mannich polymer. ADAM-quat will be stored in a new tank (V11) after being delivered to the site by rail. ADAM-quat copolymer will be produced in two new reactors (CPR1 and CPR2) by reacting acrylamide and ADAM-quat. The production of ADAM-quat will require two new mix tanks (MT1 and MT2). Emissions from the reactors will be reduced when vented to a new scrubber (SC3). The scrubber will use once through water that will be collected in a new collector in process (CIP) tank for use in subsequent batches. The ADAM-quat copolymer will then be stored in one of two new storage tanks (V12 and V13) prior to shipping or transferred directly from the reactors to tank trucks. The tank trucks will then deliver the copolymer product to the local client.

The proposed project will require no demolition or grading since the site for the proposed new equipment has been graded, paved, and no structures are currently present. The proposed project will not result in changes to the existing office buildings, warehouses, laboratory, railcar unloading facilities, or truck loading/unloading facilities. No changes to the railroad track are required as part of the proposed project.

The proposed project also includes a new acrylamide tank (V10), which will vent to a new scrubber (SC3) to reduce emissions. This tank, along with the existing acrylamide tank, will be used to supply acrylamide for both the Mannich and ADAM-quat processes. The schedule and extent to which the ADAM-quat copolymer replaces Mannich polymer is dependent upon customer acceptance of the new product. The Polychemie operators do not expect to produce 386 million pounds per year of ADAM-quat in addition to 310 million pounds of Mannich. The Polychemie operators expect that, depending on market conditions, they will need some combination of the two products that will total approximately 400 million pounds per year.

1.5.3 New PolyDADMAC Product

Polychemie is also proposing to polymerize DADMAC (diallyldimethylammoniumchloride). PolyDADMAC is a non-hazardous material used primarily to treat potable water. It will be produced in a new reactor (PDR1) by polymerizing DADMAC monomer. The DADMAC monomer will be stored in a new storage tank (V14). The process will also require one new mix tank (MT3). Water is added prior to starting the reaction. When the process is complete, the product will either be stored in a new storage tank (V15) or transferred directly from the reactor to a tank truck, which will deliver the product to the client.

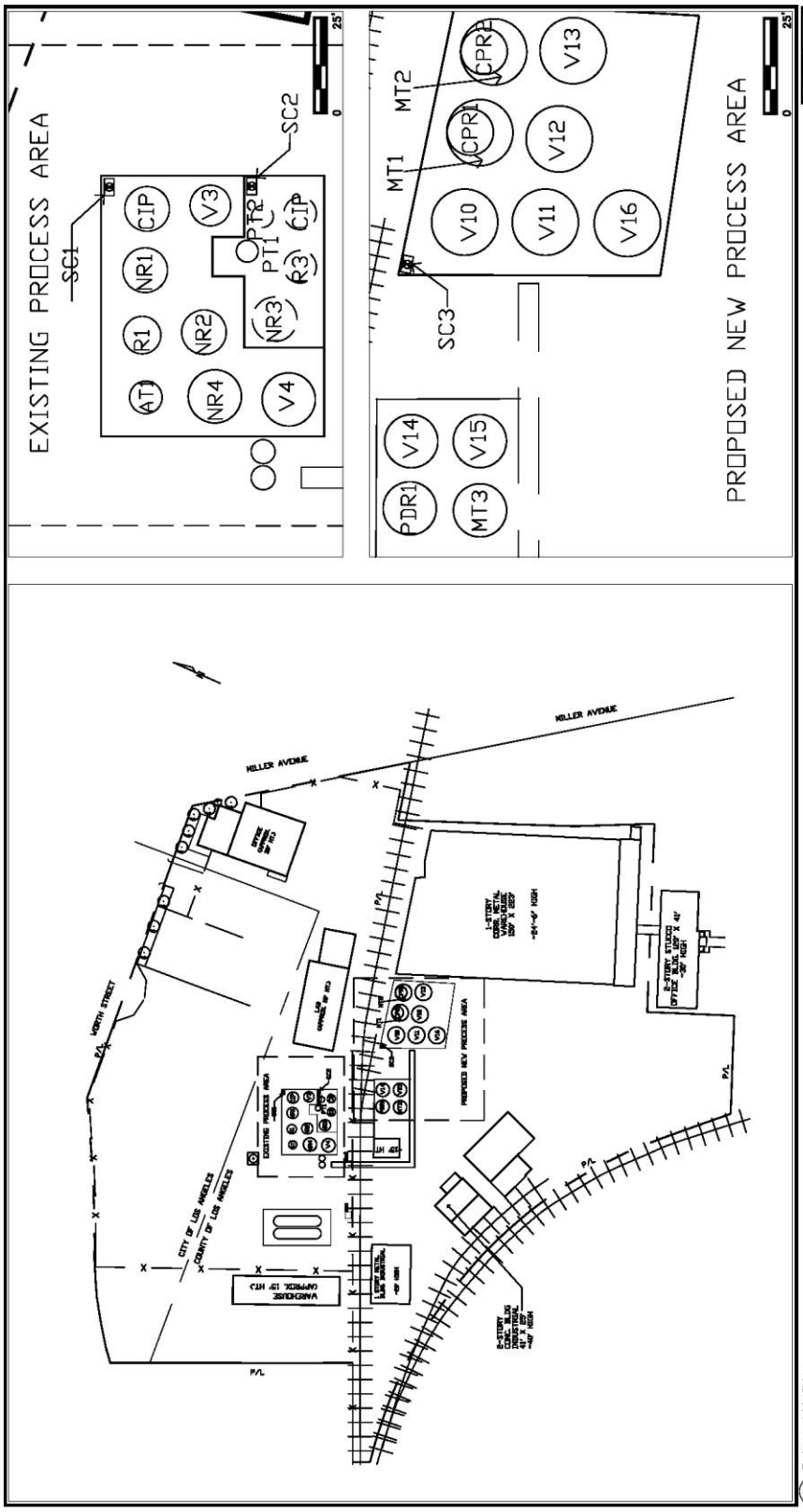
The following summarizes the new equipment Polychemie is proposing to construct in order to increase polymer production at its facility (see Figure 2 for equipment locations):

-Two ADAM-Quat Copolymer Reactors (CPR1 and CPR2)
-One DADMAC Polymer Reactor (PDR1)
-One 32,000-gallon capacity Acrylamide Tank (V10)
-One 32,000-gallon capacity ADAM-Quat Tank (V11)
-Two 12,700-gallon capacity ADAM-Quat Copolymer Tanks (V12 and V13)
-One 28,800-gallon capacity DADMAC Monomer Tank (V14)
-One 12,700-gallon capacity DADMAC Polymer Tank (V15)
-One 18,000-gallon capacity Formaldehyde Tank (V16)
-Two 12,700-gallon capacity ADAM-Quat Mix Tanks (MT1 and MT2)
-One 12,700-gallon capacity DADMAC Polymer Mix Tank (MT3)
-One polyacrylamide Reactor (NR4)
-Scrubber for air pollution control (SC3)

The facility has also requested permit modifications to existing equipment to require facility-wide usage limits on production, rather than limitations on individual pieces of equipment.

1.6 REQUIRED PERMITS

The proposed project will require Permits to Construct/Operate from the SCAQMD and will require building permits from the County of Los Angeles. No other permits are expected to be required.


EXISTING PROCESS AREA
PROPOSED NEW PROCESS AREA
SC1
SC2
SC3
PT1
PT2
MT1
MT2
MT3
AT1
R1
NR1
NR2
NR3
NR4
R3
CIP
V3
V4
V10
V11
V12
V13
V14
V15
V16
CPR1
CPR2
PDR1
KELLER AVENUE
NORTH STREET
CITY OF LOS ANGELES
COUNTY OF LOS ANGELES
P/L
SITE PLAN
POLYCHEMIE, INC.
LOS ANGELES, CALIFORNIA
Figure 2
Environmental Audit, Inc.
Project No. 2313

CHAPTER 2

ENVIRONMENTAL CHECKLIST FORM

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

GENERAL INFORMATION

Project Title:	Polychemie Facility Expansion Project
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
Contact Person:	Michael Krause
Contact Phone Number:	(909) 396-2706
Project Sponsor's Name:	Polychemie Inc.
Project Sponsor's Address:	4690 Worth Street Los Angeles, CA 90036
General Plan Designation:	Heavy Industrial
Zoning:	M-3 Heavy Industrial
Description of Project:	Polychemie plans to increase Mannich polymer production and to expand operations to include production of other polymers. The polymers are sold for use to the municipal water and wastewater treatment market. The proposed project involves installing four reactors, seven storage tanks, three mix tanks and a scrubber for air pollution control.
Surrounding Land Uses and Setting:	The Los Angeles facility is bounded on the north by Worth Street, a railroad spur, warehouses and a sofa manufacturing facility. East of the property is Miller Avenue, a movie set construction facility and a dimensional stone cutting facility. South of the facility is an office building and other industrial facilities. West of the facility is a trucking transfer yard and warehousing facility.
Other Public Agencies whose Approval is required:	County of Los Angeles

POTENTIALLY SIGNIFICANT IMPACT AREAS

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with a "✓" may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology/Soils	☐ Hazards & Hazardous Materials	☐ Hydrology/ Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☐ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☐ Solid/Hazardous Waste	☐ Transportation/ Traffic	☐ Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

- ☑ I find the proposed project COULD NOT have a significant effect on the environment, and that a NEGATIVE DECLARATION will be prepared.

- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

- ☐ I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

- ☐ I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: December 16, 2004 **Signature:** Steve Smith

Steve Smith, Ph.D.
Program Supervisor, Planning,
Rules, and Area Sources

ENVIRONMENTAL CHECKLIST AND DISCUSSION

		Potentially Significant Impact	Less Than Significant Impact	No Impact
1.	**AESTHETICS.** Would the project:			
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☑
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☑
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☑	☐
d)	Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☑

1.1 Significance Criteria

The proposed project impacts on aesthetics will be considered significant if:

The project will block views from a scenic highway or corridor.

The project will adversely affect the visual continuity of the surrounding area.

The impacts on light and glare will be considered significant if the project adds lighting that would add glare to residential areas or sensitive receptors.

1.2 Environmental Setting and Impacts

1. a), b) and c). Project construction consists of adding seven storage tanks, four reactors, three mix tanks and a scrubber to the existing process area in the middle of the property site. Therefore, the proposed project will introduce minor visual changes to the Los Angeles facility. The new storage tanks and other equipment will vary in heights. The tallest tanks (V10 and V11) will be approximately 28 feet high, and the tallest stack associated with the new scrubber

(S3) will be approximately 25 feet high. Other structures on the property surrounding the process area include warehouses, office buildings and a laboratory ranging in heights from approximately 15 to 40 feet high. The proposed storage tanks and reactors will be similar to other existing tanks and equipment in the process area of the facility. Therefore, no signifiicant adverse visual impacts are expected from the proposed new equipment. The views of the facility from adjacent properties, which are primarily commercial or industrial facilities, are not expected to change substantially because of the proposed project. The new units will have similar structures to the existing equipment so that a significant change in the visual characteristics of the facility is not expected. Further, no scenic vistas, highways or corridors are located in the vicinity of the facility. No significant adverse aesthetic impacts are expected.

1. d). Construction activities are not anticipated to require additional lighting because they are scheduled to take place during daylight hours. However, if the construction schedule requires nighttime activities, temporary lighting may be required. Since the project location is completely located within the boundaries of the existing facility, additional temporary lighting is not expected to be discernible from the existing permanent lighting.

The proposed project components will be located within existing industrial facilities, which are already lighted at night for nighttime operations, so no overall increase in lighting associated with the proposed project at the facility is expected. Therefore, no significant light and glare impacts are anticipated from the proposed project.

1.3 Mitigation Measures

No significant adverse impacts to aesthetics are expected to occur as a result of the proposed project. Therefore, no mitigation is necessary or proposed.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
2.	**AGRICULTURE RESOURCES.** Would the project:			
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☑
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☑

c)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☑

2.1 Significance Criteria

Project-related impacts on agricultural resources will be considered significant if any of the following conditions are met:

The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.

The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.

The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural uses.

2.2 Environmental Setting and Impacts

2. a), b), and c). There are no agricultural resources, (i.e., food crops grown for commercial purposes), located in or near the vicinity of the facility. The proposed project will not involve construction outside of the existing boundaries of the facility and no agricultural resources are located within the facility. The zoning of the facility will remain heavy industrial, and manufacturing uses are allowed within this zone. No existing agricultural land will be converted to non-agricultural land uses. Further, the project will not conflict with a Williamson Act contract because no Williamson Act properties are located on or in the vicinity of the proposed project site. Therefore, the proposed project will have no significant adverse impacts on agricultural resources.

2.3 Mitigation Measures

The impacts of the proposed project on agricultural resources are less than significant so no mitigation measures are required.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
3.	**AIR QUALITY.** Would the project:			
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☑
b)	Violate any air quality standard or contribute to an existing or projected air quality violation?	☐	☐	☑
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☑	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☑	☐
e)	Create objectionable odors affecting a substantial number of people?	☐	☑	☐
f)	Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	☐	☐	☑

3.1 Significance Criteria

Impacts will be evaluated and compared to the significance criteria in Table 1. If impacts equal or exceed any of the criteria, they will be considered significant.

3.2 Environmental Setting and Impacts

3. a) An inventory of existing emissions from the industrial facilities are included in the baseline inventory in the SCAQMD's Air Quality Management Plan (AQMP). The AQMP identifies emission reductions from existing sources and air pollution control measures that are necessary in order to comply with the state and federal ambient air quality standards (SCAQMD, 2003). The control strategies in the AQMP are based on projections from the local general plans provided by the cities and counties within the district. Projects that are consistent with the local General Plans are consistent with the air quality related regional plans. The proposed project is considered to be consistent with the air quality related regional plans since it is consistent with the County of Los Angeles' General Plan.

The 2003 AQMP demonstrates that applicable ambient air quality standards can be achieved within the timeframes required under federal law. This proposed project must comply with applicable SCAQMD rules and regulations for new or modified sources. For example, new and modified emission sources associated with the proposed project (e.g., formaldehyde and acrylamide storage tanks) are required to comply with the SCAQMD's Regulation XIII - New Source Review requirements that include the use of Best Available Control Technology (BACT). The project proponent must also comply with prohibitory rules, such as Rule 403, for the control of fugitive dust. By meeting these requirements, the project will be consistent with the goals and objectives of the AQMP to improve air quality in the basin.

TABLE 1
SCAQMD AIR QUALITY SIGNIFICANCE THRESHOLDS

Mass Daily Thresholds		
Pollutant	**Construction**	**Operational**
NO_x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment) Hazard Index ≥ 3.0 (facility-wide)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants [(a)]		
NO2 1-hour average annual average	In attainment; significant if project causes or contributes to an exceedance of any standard: 0.25 ppm (state) 0.053 ppm (federal)	
PM10 24-hour average annual geometric average annual arithmetic mean	10.4 $\mu g/m^3$ (recommended for construction) [(b)] 2.5 $\mu g/m^3$ (operation) 1.0 $\mu g/m^3$ 20 $\mu g/m^3$	
Sulfate 24-hour average	1 $\mu g/m^3$	
CO 1-hour average 8-hour average	In attainment; significant if project causes or contributes to an exceedance of any standard: 20 ppm (state) 9.0 ppm (state/federal)	

(a) Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.

(b) Ambient air quality threshold based on SCAQMD Rule 403.

ppm = parts per million; $\mu g/m^3$ = microgram per cubic meter; mg/m^3 = milligram per cubic meter; lbs/day = pounds per day; ≥ greater than or equal to

3. b), c), and f) Emissions Estimates

Construction Emissions: Construction activities associated with the proposed project would result in emissions of carbon monoxide (CO), particulate matter less than 10 microns in diameter (PM10), volatile organic compounds (VOCs), NOx and sulfur dioxide (SO_x)**.** Construction activities include construction of new foundations, and the installation of four reactors, seven storage tanks, three mix tanks and one scrubber. The site is already graded, so no major grading activities are expected and therefore, no water trucks are needed. No demolition is anticipated since no established buildings or structures exist where the new tanks and reactors will be installed. Some of the new facility tanks and reactors will be located in the existing process area (see Figure 2).

Construction activities can generate emissions from heavy construction equipment, construction worker vehicles, truck deliveries, and fugitive dust. Daily construction emissions were calculated for the peak construction day activities based on activities at the facility. Peak day emissions are the sum of the highest daily emissions from employee vehicles, fugitive dust sources, construction equipment, and transport activities at the facility for the entire construction period, which is anticipated to take place over six months. The peak day is based on the day in which the highest emissions occur for each pollutant. The criteria pollutant emissions for that peak day were then compared to their respective significance thresholds. Peak construction emissions for the proposed project are summarized in Table 2. Detailed construction emissions calculations for the proposed project are provided in Appendix A.

The proposed project emissions during the construction phase are compared to the SCAQMD CEQA thresholds in Table 2. The peak construction emissions are expected to be less than the SCAQMD CEQA thresholds so that no significant impacts on air quality are expected during the construction phase.

TABLE 2

PEAK CONSTRUCTION EMISSIONS

Activity/Source	Peak Daily Emissions (lbs/day)				
	CO	VOC	NO_X	SO_X	PM10
Construction Equipment	253.02	14.86	51.77	4.90	3.29
Vehicle/Truck Emissions	20.94	2.67	17.79	0.15	0.34
Fugitive Construction	--	--	--	--	40.70
Fugitive Road Dust	--	--	--	--	13.11
Total Emissions	**273.96**	**17.53**	**69.56**	**5.05**	**57.45**
SCAQMD Threshold	*550*	*75*	*100*	*150*	*150*
Significant	NO	NO	NO	NO	NO

Notes: "On-Site Other Fugitive PM10" includes fugitive PM10 from storage pile wind erosion.
SCAQMD Threshold = threshold criteria for determining environmental significance of construction activities, as provided in the South Coast Air Quality Management District's 1993 Handbook for Air Quality Analysis.

Operational Emissions

The proposed project involves the installation of storage tanks, reactors, mix tanks and a scrubber in order to expand the current existing operation. Emissions generated from the tanks, reactors and mix tanks during operations will be vented to the scrubbers as a means of emission control. Operational emissions generated are fugitive emissions from storage tanks, mix tanks and reactors. The proposed project emissions are summarized in Table 3. A scrubber control efficiency of 99 percent was assumed for acrylamide based on manufacturer's data and 95.9 percent for DMA based on engineering stack test results. A zero percent scrubber control efficiency was used for formaldehyde in order to provide a conservative estimate of formaldehyde emissions. The actual scrubber efficiency for volatile organic compounds (including formaldehyde) is expected to be closer to 70 percent based on various stack tests. It is estimated that the proposed project will generate 0.39 lb/day of VOC stationary source emissions (see Appendix A for detailed calculations).

TABLE 3

POLYCHEMIE INC. PROPOSED PROJECT OPERATIONAL EMISSIONS (lbs/day)

SOURCE	CO	VOC	NOx	SOx	PM10
Stationary Sources:	-	0.39	-	-	-
Indirect Sources:					
Diesel Trucks (within Basin)	26.79	3.89	37.46	0.35	0.68
Railcar Emissions (within Basin)	1.10	0.42	8.04	0.68	0.27
New Employee Vehicles	2.26	0.24	0.24	0.0	0.01
Fugitive Road Dust	--	--	--	--	29.98
TOTAL OPERATIONAL EMISSIONS	**30.15**	**4.55**	**45.74**	**1.03**	**30.33**
SCAQMD Significance Thresholds	**550**	**55**	**55**	**150**	**150**
Significant?	**No**	**No**	**No**	**No**	**No**

See Appendix A for detailed calculations.

Diesel Trucks Emissions

The project will involve the transport of additional raw materials to the facility and delivery of final product to customers via tank trucks. (See Table 7 in the Hazards and Hazardous Materials for a discussion on the number of existing trucks and the estimated increase in truck traffic is associated with the proposed project.) A maximum of one truck per day of salt (used in polymer production) will be shipped to the Polychemie facility from a supplier within the Basin. It is assumed that the salt delivery truck would travel 100 miles round-trip. A maximum of 13 deliveries per day of Mannich, ADAM-quat and/or DADMAC polymer will be made to customers within southern California via tank trucks. It is assumed that the average distance to customers is 50 miles (100 miles round-trip). Therefore, a total maximum of 14 trucks per day will be required to transport materials to/from the site. No increase in truck idling emissions is

expected. Trucks that deliver raw materials to the facility shut down their engines and the material is unloaded with plant pumps. Product trucks drop off an empty trailer and pick up a full one. Therefore, no increase in truck idling is expected due to the proposed project. The estimated daily emissions from the trucks are shown in Table 3 and Appendix A.

Railcar Emissions

Railcars deliver raw materials to the Polychemie facilities. (See Table 7 in the Hazards and Hazardous Materials for a discussion on the number of existing railcars and the estimated increase associated with the proposed project.) The proposed project will require the transport of ADAM-quat and DADMAC monomer to the facility via railcar. ADAM-quat is received from a supplier in Riceboro, Georgia. DADMAC monomer is received by railcar from the Polychemie facility in Mississippi. It is estimated that a maximum of two additional railcars per day of materials (one of ADAM-quat and one of DADMAC monomer) will be required as a result of the proposed project. These railcars will be added to existing rail trips to the facility; therefore, the railcar emissions associated with the proposed project are associated with the adding two railcars onto an existing train engine. The approximate distance the railcars will travel within California is 160 miles, while the distance traveled within the Basin is about 60 miles. No increase in railcar idling is expected as railcars generally require a maximum of about 15 minutes to unload. Adding additional railcars to the train is not expected to increase the time to unload product so the rail engines are assumed to idle for 15 minutes. The estimated emissions from the transport of railcars are shown in Table 3 and Appendix A.

As noted above, some of the railcar emissions will occur outside of the South Coast Air Basin. The emissions outside of the Basin include emissions from the Arizona border to the entrance to the South Coast Air Basin (an estimated 160 miles). The air basin between the Arizona border and the Basin is under the jurisdiction of the Mojave Desert Air Quality Management District. Because these railcar emissions occur outside of and will not impact the South Coast Air Basin, they are not subject to the SCAQMD's significance thresholds. The emissions within the Mojave Desert Air District are subject to the CEQA thresholds for that Air Basin. A comparison of the emissions within the Mojave Air District and the CEQA thresholds is included in Table 4.

TABLE 4

RAILCAR EMISSIONS WITHIN THE MOJAVE DESERT AIR BASIN
(lbs/day)

SOURCE	CO	VOC	NOx	SOx	PM10
Railcar Emissions within Mojave Desert Air Basin	2.7	1.0	20.0	1.7	0.7
Mojave Desert Air Basin Significance Thresholds[(1)]	**548**	**137**	**137**	**137**	**82**
Significant?	**No**	**No**	**No**	**No**	**No**

(1) Source: MDAQMD, 2002. See Appendix A for detailed calculations.

As noted in Table 4, the railcar emissions within the Mojave Desert Air Basin are less than the significance thresholds. Therefore, no significant impacts on air quality are expected due to an increase in railcar emissions through the Mojave Desert Air Basin.

New Employee Vehicles Emissions

The proposed project will require five additional permanent employees as a result of the proposed modifications to the Polychemie facility. The increase in employee travel is assumed to be consistent with recent studies complete by the Southern California Association of Governments and that employees will travel approximately 16.2 miles each way to and from work (SCAG, 2000). The estimated emissions from the employee cars are as shown in Table 3 and Appendix A.

The estimated increase in emissions are below the SCAQMD thresholds (see Table 3), therefore no significant adverse air quality impacts are expected during operations. The project emission increases are limited to emissions from a maximum of five additional employees, 14 trucks per day and four railcars per day. Thus, the proposed project will not diminish an existing air quality rule or future compliance requirement.

Toxic Air Contaminants Impacts

3. d) The proposed project will increase the use of formaldehyde and acrylamide at the facility and, therefore, potentially generate additional formaldehyde and/or acrylamide emissions. Formaldehyde and acrylamide are currently regulated as toxic air contaminants under SCAQMD Rule 1401, New Source Review for Toxic Air Contaminants. The impacts associated with the increase in toxic air contaminants (TACs) were evaluated using the SCAQMD Rule 1401 Risk Assessment Procedures (Version 6.0). (Note: A zero percent scrubber control efficiency was used for formaldehyde emissions in order to provide a conservative estimate of the potential health risks from the proposed project. The actual scrubber efficiency for volatile organic compounds (including formaldehyde) is expected to be closer to 70 percent so that the health risks herein are overestimated.)

Carcinogenic Health Impact

A Tier 3 risk assessment was conducted to estimate the maximum individual cancer risk (MICR) that could result from the proposed project. Air dispersion modeling was completed to evaluate the impacts over an annual period for both worker and local residents. The MICR was estimated based on the modeling results. According to the health risk calculations, the total MICR for workers is 9.48×10^{-7} (formaldehyde total: 2.32×10^{-7} combined with acrylamide total: 7.16×10^{-7}) or about 0.95 in one million. The MICR for residents was calculated to be a combined 1.22×10^{-7} (formaldehyde being 9.6×10^{-8} and acrylamide 2.6×10^{-8}) or about 0.1 in one million. The MICR results are below the significance criteria of 10×10^{-6} or ten in one million for both workers and residents, therefore no significant impacts associated with carcinogenic compounds are expected. See Appendix B for more detailed health risk calculations.

Non-Carcinogenic Health Impacts

Chronic Health Impacts: The potential chronic (long-term) health impacts associated with the proposed project are limited to exposure to formaldehyde. The annual estimated emissions of formaldehyde of 35.22 lbs/year were modeled to determine the maximum annual average ground level concentration. The maximum ground level concentration of 0.18 ug/m^3 was compared to the reference exposure limit (REL) of chronic screening level of 3.0 ug/m^3. The chronic hazard index for the proposed project was calculated to be 0.06 (0.18/3.0) which is less than the significance threshold of 1.0 (see Appendix B). Since there is no chronic REL for acrylamide, estimation of the chronic hazard index was not completed for this constituent. Therefore, no significant adverse chronic health impacts are expected due to exposure to formaldehyde or acrylamide.

Acute Health Impacts: The potential acute (short-term) health impacts associated with the proposed project are limited to exposure to formaldehyde. The maximum one-hour emissions of formaldehyde were modeled to determine the maximum one-hour ground level concentration. The maximum ground level concentration of 53.05 ug/m^3 was compared to the reference exposure limit (REL) for formaldehyde of 94.0 ug/m^3. The acute hazard index for the proposed project was calculated to be 0.56 (53.05/94) which is less than the significance threshold of 1.0 (see Appendix B). Since there is no acute REL for acrylamide, estimation of the acute hazard index was not completed for this constituent. Therefore, no significant adverse acute health impacts are expected due to exposure to formaldehyde or acrylamide.

Rail Engine Idling Emissions

In order to provide a worst-case estimate of the potential health risks associated with rail engine idling emissions a screening health risk assessment was completed (see Appendix A), even though the emissions from rail engine idling are not expected to increase over current emissions. The screening HRA assumed that there would be an increase in rail engine idling of 15 minutes per day. The TAC emissions due to rail engine idling were estimated using recent data for locomotive engines from U.S. EPA (U.S. EPA, 2003). The potential increase in TAC emissions were compared to the SCAQMD's screening thresholds established in the SCAQMD Risk Assessment Procedures for Rules 1401 and 212 (SCAQMD, 2003). For all pollutants, the estimated increase in emissions were below the screening thresholds. Therefore, the TAC impacts associated with rail engine idling are expected to be less than significant.

Odors

3. e) The proposed project is not expected to result in an increase in odors. Odors (formaldehyde and dimethylamine) from current facility operations have not generated odor complaints from nearby residents or businesses. The mixing and reaction processes at the facility occur within enclosed vessels that are controlled with emission control devices (i.e., scrubbers) which also limits the potential odors from the facility.

Potential odors from new tanks and reactors at the facility will continue to be enclosed vessels with emission controls. Odors from the proposed additional processing of formaldehyde and dimethylamine (DMA) will be controlled by scrubbers. The use of BACT also reduces the emissions of compounds that could produce odor impacts. Because of the emission controls and the low level of emissions generated at the facility (less than one pound per day of VOCs from stationary sources, see Table 3), potential odor impacts from the proposed project are not expected to be significant.

3.3 Mitigation Measures

No mitigation measures are required for the proposed project since no significant adverse impacts to air quality are expected.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
4.	**BIOLOGICAL RESOURCES.** Would the project:			
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☑
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☑
c)	Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☑
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of	☐	☐	☑

native wildlife nursery sites?

e)	Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☑
f)	Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☑

4.1 Significance Criteria

The impacts on biological resources will be considered significant if any of the following criteria apply:

The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.

The project interferes substantially with the movement of any resident or migratory wildlife species.

The project adversely affects aquatic communities through construction or operation of the project.

4.2 Environmental Setting and Impacts

4. a), b), c), d), e), and f). The proposed project would be located entirely within the existing boundaries of the Polychemie Los Angeles facility, which has already been developed, therefore, no conflict with local, regional or state Conservation Plans are expected. No new land will be graded or disturbed. The proposed project site and surrounding area contain industrial activities and do not support riparian habitat, federally protected wetlands, or migratory corridors. Based on a review of California Natural Diversity Database maps for the project area, there are no sensitive, threatened, or endangered plant or animal species on or in the immediate vicinity of the facility.

4.3 Mitigation Measures

No mitigation measures are required since no significant adverse impacts to biological resources are expected.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
5.	**CULTURAL RESOURCES.** Would the project:			
a)	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☑
b)	Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☐	☑
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☑
d)	Disturb any human remains, including those interred outside a formal cemetery?	☐	☐	☑

5.1 Significance Criteria

Impacts to cultural resources will be considered significant if:

The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group.

Unique paleontological resources are present that could be disturbed by construction of the proposed project.

The project would disturb human remains.

5.2 Environmental Setting and Impacts

5. a), b), c), and d) The proposed project will result in minor ground-disturbing activities, but no significant adverse impacts to equipment and structures over 50 years of age, which may be culturally significant, are anticipated to occur. No existing structures at the Polychemie facility are considered architecturally or historically significant, as defined under CEQA Guidelines §15064.5, i.e., no structures are eligible for listing in the California Register of Historical Resources or included in a local register of historic resources. The entire facility site has been previously graded and developed. The larger existing facility structures and equipment are

supported on existing concrete foundations. The new storage tanks and equipment will be constructed in the center of the facility site (see Figure 2) also to be supported on existing concrete foundations. No adverse impacts to cultural resources are expected since no known cultural resources are located within the Plant where the proposed new units will be constructed.

5.3 Mitigation Measures

The impacts of the proposed project on cultural resources are less than significant so that no mitigation measures are required.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
6.	**ENERGY.** Would the project:			
a)	Conflict with adopted energy conservation plans?	☐	☐	☑
b)	Result in the need for new or substantially altered power or natural gas utility systems?	☐	☐	☑
c)	Create any significant effects on local or regional energy supplies and on requirements for additional energy?	☐	☑	☐
d)	Create any significant effects on peak and base period demands for electricity and other forms of energy?	☐	☑	☐
e)	Comply with existing energy standards?	☐	☐	☑

6.1 Significance Criteria

The impacts to energy and mineral resources will be considered significant if any of the following criteria are met:

The project conflicts with adopted energy conservation plans or standards.

The project results in substantial depletion of existing energy resource supplies.

An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.

The project uses non-renewable resources in a wasteful and/or inefficient manner.

6.2 Environmental Setting and Impacts

6. a) The proposed project is not expected to conflict with an adopted energy conservation plan because there is no known energy conservation plan that would apply to this proposed project. Therefore, the project will not conflict with any energy conservation plan.

6. b), c), d), and e). The facility is currently served by Southern California Edison (SCE) for electricity supply. No significant increase in electricity is expected during the nine-month construction period because most of the equipment is powered by diesel fuel. The diesel fuel use will be minor during the short construction period. Therefore, no significant impacts on energy are expected during the construction period.

SCE currently supplies electricity to the Polychemie facility at the rate of approximately 62,000 kilowatt-hours per month. The new process equipment will require an additional 62,000 kilowatt-hours per month to operate, for a total post project electrical usage of 124,000 kilowatt-hours per month. SCE supplies more than 101,000 gigawatt hours of electricity a year to its service area. SCE will be able to annually increase its output, and additional power plants capable of supplying over 121,000 megawatts will be available in 2012 (personal communication, Mark Acosta, SCE, June 2004). Sufficient electrical supplies are available from SCE to handle the electricity use from the proposed project, therefore, no significant adverse impacts on electricity supply are expected. Further, no energy standards are known to apply to the proposed project.

The proposed installation of the storage tanks, reactors and scrubber is not expected to increase the demand for natural gas at the Polychemie facility.

6.3 Mitigation Measures

The impacts of the proposed project on energy resources are less than significant so that no mitigation measures are required.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
7.	**GEOLOGY AND SOILS.** Would the project:			
a)	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☑
	• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☑

	• Strong seismic ground shaking?	☐	☑	☐
	• Seismic–related ground failure, including liquefaction?	☐	☑	☐
	• Landslides?	☐	☐	☑
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☑	☐
c)	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☑
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☑
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☑

7.1 Significance Criteria

The impacts on the geological environment will be considered significant if any of the following criteria apply:

Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.

Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.

Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.

Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.

Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

7.2 Environmental Setting and Impacts

7.a). The City of Los Angeles is located within a seismically active region. The most significant potential geologic hazard at the facility is estimated to be seismic shaking from future earthquakes generated by active or potentially active faults in the region. Table 5 identifies those faults considered important to the project site in terms of potential for future activity. Seismic records have been available for the last 200 years, with improved instrumental seismic records available for the past 50 years. Based on a review of earthquake data, most of the earthquake epicenters occur along the Whittier-Elsinore, San Andreas, Newport-Inglewood, Malibu-Santa Monica-Raymond Hills, Palos Verdes, Sierra Madre, San Fernando, Elysian Park-Montebello, and Torrance-Wilmington faults (Jones and Hauksson, 1986). All these faults are elements of the San Andreas Fault system. Past experience indicates that there has not been any substantial damage, structural or otherwise to the Facility as a result of earthquakes. Table 6 identifies the historic earthquakes over magnitude 4.5 in southern California, between 1915 and the present, along various faults in the region.

TABLE 5

MAJOR ACTIVE OR POTENTIALLY ACTIVE FAULTS IN SOUTHERN CALIFORNIA

FAULT ZONE	FAULT LENGTH (Miles)	MAXIMUM CREDIBLE EARTHQUAKE	MAXIMUM ACCELERATION (G)
Malibu-Santa Monica-Raymond Hill	65	7.5	0.49
Newport-Inglewood	25	7.0	0.42
Northridge	12	6.7	0.16
Palos Verdes	20	7.0	0.24
San Andreas	200+	8.25	0.21
San Jacinto	112	7.5	0.11
San Fernando	8	6.8	0.17
Sierra Madre	55	7.3	0.23
Whittier-Elsinore	140	7.1	0.46
Elysian Park – Montebello	15	7.1	0.27

Notes: G = acceleration of gravity.

Whittier-Elsinore Fault Zone: The Whittier fault is one of the more prominent structural features in the Los Angeles Basin. It extends from Turnbull Canyon near Whittier, southeast to the Santa Ana River, where it merges with the Elsinore fault. Yerkes (1972) indicated that vertical separation on the fault in the upper Miocene strata increases from approximately 2,000 feet at the Santa Ana River northwestward to approximately 14,000 feet in the Brea-Olinda oil field. Farther to the northwest, the vertical separation decreases to approximately 3,000 feet in the Whittier Narrows of the San Gabriel River.

The fault also has a major right-lateral strike slip component. Yerkes (1972) indicates streams along the fault have been deflected in a right-lateral sense from 4,000 to 5,000 feet. The fault is capable of producing a maximum credible earthquake event of about magnitude 7.0 every 500 to 700 years.

TABLE 6

SIGNIFICANT HISTORICAL EARTHQUAKES IN SOUTHERN CALIFORNIA

DATE	LOCATION (epicenter)	MAGNITUDE
1915	Imperial Valley	6.3
1925	Santa Barbara	6.3
1920	Inglewood	4.9
1933	Long Beach	6.3
1940	El Centro	6.7
1940	Santa Monica	4.7
1941	Gardena	4.9
1941	Torrance	5.4
1947	Mojave Desert	6.2
1951	Imperial Valley	5.6
1968	Borrego Mountain	6.5
1971	Sylmar	6.4
1975	Mojave Desert	5.2
1979	Imperial Valley	6.6
1987	Whittier	5.9
1992	Joshua Tree	6.3
1992	Landers	7.4
1992	Big Bear	6.5
1994	Northridge	6.7
1999	Hector Mine	7.1

Sources: Bolt (1988), Jennings (1985), Gere and Shah (1984), Source Fault Hazard Zones in California (1988), Yanev (1974), and personnel communication with the California Division of Mines and Geology.

San Andreas Fault Zone: The San Andreas fault is located on the north side of the San Gabriel Mountains trending east-southeast as it passes the Los Angeles Basin. This fault is recognized as the longest and most active fault in California. It is generally characterized as a right-lateral strike-slip fault, which is comprised of numerous sub-parallel faults in a zone over two miles wide. There is a high probability that southern California will experience a magnitude 7.0 or greater earthquake along the San Andreas or San Jacinto fault zones, which could generate strong ground motion in the project area. There is a five to twelve percent probability of such an event occurring in southern California during any one of the next five years and a cumulative 47 percent chance of such an event occurring over a five-year period (Reich, 1992).

The Newport-Inglewood Fault Zone: The Newport-Inglewood fault is a major tectonic structure within the Los Angeles Basin. This fault is best described as a structural zone comprising a series of echelon and sub-parallel fault segments and folds. The faults of the Newport-Inglewood uplift in some cases exert considerable barrier influence upon the movement

of subsurface water (DWR, 1961). Offsetting of sediments along this fault usually is greater in deeper, older formations. Sediment displacement is less in younger formations. The Alquist-Priolo Act has designated this fault as an earthquake fault zone. The purpose of designating this area as an earthquake fault zone is to mitigate the hazards of fault rupture by prohibiting building structures across the trace of the fault. This fault poses a seismic hazard to the Los Angeles area (Toppozada, et al., 1988, 1989), although no surface faulting has been associated with earthquakes along this structural zone during the past 200 years. Since this fault is located within the Los Angeles Metropolitan area, a major earthquake along this fault would produce more destruction than a magnitude 8.0 on the San Andreas Fault. The largest instrumentally recorded event was the 1933 Long Beach earthquake, which occurred on the offshore portion of the Newport-Inglewood structural zone with a magnitude of 6.3. A maximum credible earthquake of magnitude 7.0 has been assigned to this fault zone (Yerkes, 1985).

Malibu-Santa Monica-Raymond Hills Fault Zone: The Raymond Hills fault is part of the fault system that extends from the base of the San Gabriel Mountains westward to beyond the Malibu coastline. The fault has been relatively quiet, with no recorded seismic events in historic time; however, recent studies have found evidence of ground rupture within the last 11,000 years.

The Palos Verdes Fault Zone: The Palos Verdes fault extends for about 50 miles from the Redondo submarine canyon in Santa Monica Bay to south of Lausen Knoll and is responsible for the uplift of the Palos Verdes Peninsula. This fault is both a right-lateral strike-slip and reverse separation fault. The Gaffey anticline and syncline are reported to extend along the northwestern portion of the Palos Verdes hills. These folds plunge southeast and extend beneath recent alluvium east of the hills and into the San Pedro Harbor, where they may affect movement of ground water (DWR, 1961). The probability of a moderate or major earthquake along the Palos Verdes fault is low compared to movements on either the Newport-Inglewood or San Andreas faults (Los Angeles Harbor Department, 1980). However, this fault is capable of producing strong to intense ground motion and ground surface rupture. This fault zone has not been placed by the California State Mining and Geology Board into an Alquist-Priolo special studies zone.

Sierra Madre Fault System: The Sierra Madre fault system extends for approximately 60 miles along the northern edge of the densely populated San Fernando and San Gabriel valleys (Dolan, et al., 1995) and includes all faults that have participated in the Quaternary uplift of the San Gabriel Mountains. The fault system is complex and appears to be broken into five or six segments each 10 to 15 miles in length (Ehlig, 1975). The fault system is divided into three major faults by Dolan, et al. (1995), including the Sierra Madre, the Cucamonga and the Clamshell-Sawpit faults. The Sierra Madre fault is further divided into three minor fault segments the Azusa, the Altadena and the San Fernando fault segments. The Sierra Madre fault is capable of producing a 7.3 magnitude fault every 805 years (Dolan, et al., 1995).

San Fernando Fault: The westernmost segment of the Sierra Madre fault system is the San Fernando segment. This segment extends for approximately 12 miles beginning at Big Tujunga Canyon on the east to the joint between the San Gabriel Mountains and the Santa Susana

Mountains on the west (Ehlig, 1975). The 1971 Sylmar earthquake occurred along this segment of the Sierra Madre fault system, resulting in a 6.4 magnitude fault. Dolan, et al. (1995) indicates the San Fernando fault segment is capable of producing a 6.8 magnitude fault every 455 years.

Elysian Park-Montebello System: The Elysian Park fault is a blind thrust fault system, i.e., not exposed at the surface, whose existence has been inferred from seismic and geological studies. The system as defined by Dolan, et al. (1995) comprises two distinct thrust fault systems; 1) an east-west-trending thrust ramp located beneath the Santa Monica Mountains; and 2) a west-northwest-trending system that extends from Elysian Park Hills through downtown Los Angeles and southeastward beneath the Puente Hills. The Elysian Park thrust is capable of producing a magnitude 7.1 earthquake every 1,475 years.

Torrance-Wilmington Fault Zone: The Torrance-Wilmington fault has been reported to be a potentially destructive, deeply buried fault, which underlies the Los Angeles Basin. Kerr (1988) has reported this fault as a low-angle reverse or thrust fault. This proposed fault could be interacting with the Palos Verdes hills at depth. Little is known about this fault, and its existence is inferred from the study of deep earthquakes. Although information is still too preliminary to be able to quantify the specific characteristics of this fault system, this fault appears to be responsible for many of the small to moderate earthquakes within Santa Monica Bay and easterly into the Los Angeles area. This fault itself should not cause surface rupture, only ground shaking in the event of an earthquake.

In addition to the known surface faults, shallow-dipping concealed "blind" thrust faults have been postulated to underlie portions of the Los Angeles Basin. Because there exist few data to define the potential extent of rupture planes associated with these concealed thrust faults, the maximum earthquake that they might generate is largely unknown.

No faults or fault-related features are known to exist at the project site. The site is not located in any Alquist-Priolo Earthquake fault zone and is not expected to be subject to significant surface fault displacement. Therefore, no significant impacts to the proposed project facilities are expected from seismically induced ground rupture.

Based on the historical record, it is highly probable that earthquakes will affect the Los Angeles region in the future. Research shows that damaging earthquakes will occur on or near recognized faults that show evidence of recent geologic activity. The proximity of major faults to the facility increases the probability that an earthquake may impact the facility. There is the potential for damage in the event of an earthquake. Impacts of an earthquake could include structural failure, spill, etc. The hazards of a release during an earthquake are addressed in the "8. Hazards and Hazardous Materials" section below.

New structures must be designed to comply with the Uniform Building Code Zone 4 requirements since the proposed project is located in a seismically active area. The County of Los Angeles is responsible for assuring that the proposed project complies with the Uniform Building Code as part of the issuance of the building permits and can conduct inspections to

ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the code is to provide structures that will: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage, but with some non-structural damage; and (3) resist major earthquakes without collapse, but with some structural and non-structural damage. The Uniform Building Code bases seismic design on minimum lateral seismic forces ("ground shaking"). The Uniform Building Code requirements operate on the principle that providing appropriate foundations, among other aspects, help to protect buildings from failure during earthquakes. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions at the site.

The facility will be required to obtain building permits, as applicable, for all new structures at the site. The facility shall submit building plans to the County of Los Angeles for review. The facility must receive approval of all building plans and building permits to assure compliance with the latest Building Code adopted by the County prior to commencing construction activities. The issuance of building permits from the local agency will assure compliance with the Uniform Building Code requirements, which include requirements for building within seismic hazard zones. No significant impacts from seismic hazards are expected since the project will be required to comply with the Uniform Building Codes.

7. b) Topography and Soils

The proposed project is located within the confines of the existing facility. Concrete pavement presently supports several of the facility structures and equipment. Most of the facility roads, including all high traffic roads have been paved. Some portions of the site have also been landscaped. The site is relatively flat. No unstable earth conditions, changes in topography or changes in geologic substructures are anticipated to occur with the project because of the limited grading and excavation involved. No significant adverse impacts on topography and soils are expected.

The proposed project involves the addition of new equipment to an existing facility, so no major grading/trenching is expected to be required, and should be limited to minor foundation work, and minor trenching for piping. Since the proposed project will occur within an already developed facility, no significant impacts related to soil erosion are expected. No significant change in topography is expected because little grading/trenching is required that could substantially increase wind erosion or runoff from affected sites.

The proposed project will be required to comply with SCAQMD Rule 403 – Fugitive Dust, which imposes requirements to minimize dust emissions associated with wind erosion. Relative to operation, no change in surface runoff is expected because surface conditions will remain relatively unchanged. Further, surface runoff is minimized because surface runoff at the facility is captured and reused on-site.

7. c) and d) Liquefaction.

Liquefaction would most likely occur in unconsolidated granular sediments that are water saturated less than 30 feet below ground surface (Tinsley et al., 1985). Based on the latest seismic hazards maps developed under the Seismic Hazards Mapping Act, the Polychemie facility is located in an area of historic, or has the potential for, liquefaction (California Division of Mines and Geology, Map of Seismic Hazard Zones, Los Angeles Quadrangle). The facility lies in an area that has conditions conducive to liquefaction. There is no evidence of expansive soils at the site. The issuance of building permits from the local agency will assure compliance with the Uniform Building Code requirements, which include requirements for building within potential liquefaction zones. No significant adverse impacts from liquefaction are expected since the project will be required to comply with the Uniform Building Codes.

7. e) Waste Discharge.

There is no process wastewater discharge from the facility. Process wastewater and storm water from the site is collected and used in facility processes. Only a small amount of storm water from an undeveloped portion of the site exits the site as sheet flow. The proposed project will not generate process wastewater that would need to be discharged by the facility. The facility, or the proposed project, will not use septic tanks or alternative wastewater disposal systems, therefore, no significant impacts on soils from alternative wastewater disposal systems are expected.

Mitigation Measures

No mitigation measures are required for the construction/operation of the project since no significant adverse impacts to geology or soils are expected.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
8.	**HAZARDS AND HAZARDOUS MATERIALS.** Would the project:			
a)	Create a significant hazard to the public or the environment through the routine transport, use, disposal of hazardous materials?	☐	☑	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☑	☐

c)	Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☑
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☑
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑
h)	Expose people or structures to a significant risk of loss, injury or death involving wild land fires, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands?	☐	☐	☑
i)	Significantly increased fire hazard in areas with flammable materials?	☐	☐	☑

8.1 Significance Criteria

The impacts associated with hazards will be considered significant if any of the following occur:

Non-compliance with any applicable design code or regulation.

Non-conformance to National Fire Protection Association standards.

Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.

Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

8. a), and b) Potential Hazards

The Polychemie facility uses a number of hazardous materials at the site to manufacture water-soluble polymers for water and wastewater treatment. The major types of public safety risks consist of impacts from toxic substance releases, fires, and explosions. Toxic substances handled by the facility include formaldehyde, acrylamide, and dimethylamine (DMA). These materials are currently transported to, handled, and stored at the Polychemie facility. Shipping, handling, storing, and disposing of hazardous materials inherently poses a certain risk of a release to the environment.

The "worst-case" release scenario associated with toxic materials (formaldehyde and acrylamide) would be a release forming a pool, which would evaporate. The potential "worst-case" hazard associated with the storage and use of DMA is a vapor cloud explosion. DMA is flammable and is currently stored in existing pressurized storage tanks. The hazards associated with formaldehyde, acrylamide and DMA already exist at the site and, as discussed below, are not expected to increase.

Hazard Analysis

The proposed project includes the addition of one 18,000-gallon formaldehyde storage tank and one 32,000-gallon acrylamide storage tank. The onsite storage and handling of formaldehyde, acrylamide, and DMA creates the possibility of accidental spills and releases of the substances. "Worst-case" release scenarios for formaldehyde and acrylamide would be formation of evaporative pools; "worst-case" release scenario for DMA would result in a vapor cloud explosion.

To further evaluate the potential for significant adverse environmental impacts due to an accidental release of formaldehyde, acrylamide or DMA an Offsite Consequence Analysis was prepared for the facility and proposed revisions (see Appendix C). The "worst-case" release scenario for these three materials would involve a release from the largest vessel on-site. The release was assumed to instantaneously occur. For the flammable material (DMA), the release was assumed to result in a vapor cloud explosion. The release for toxic materials (formaldehyde and acrylamide) is assumed to form a pool and evaporate. A comparison of the results of the "worst-case" scenarios before and after the proposed facility modifications are provided in Table 7.

TABLE 7

RESULTS OF "WORST-CASE" HAZARD ANALYSIS

Chemical	Endpoint	Distance to Endpoint Worst Case Release (miles)	
		Existing Facility	Proposed Project
Dimethylamine	Overpressure of 1 psi	0.32	0.32
Formaldehyde	0.012 mg/l	0.2	0.2
Acrylamide	0.11 mg/l	<0.1	<0.1

The potential hazard associated with the storage of formaldehyde and acrylamide would be a tank failure resulting in evaporative pools. Formaldehyde is currently stored onsite in Tank V3, and the hazard of a "worst-case" release scenario already exists at the site. The Offsite Consequence Analysis prepared for the Polychemie facility indicates that the proposed project will not change the existing risk associated with the storage of formaldehyde. The Offsite Consequence Analysis prepared for the Polychemie facility indicates that before and after modifications, a "worst-case" scenario formaldehyde release would travel about 0.2 mile to its endpoint concentration. Therefore, there would be no increase in risk associated with the storage of formaldehyde.

Acrylamide is currently stored onsite in Tank V4, and the hazard of a "worst-case" scenario acrylamide release already exists at the site. The Offsite Consequence Analysis indicates that the proposed project would not result in an increase in risk associated with the storage of acrylamide. The Offsite Consequence Analysis indicated that a release of acrylamide would travel <0.1 mile at its endpoint concentration. There are no existing or proposed schools or residential areas within the radius of impact.

The potential hazard associated with the storage and use of DMA is a vapor cloud explosion. DMA is stored in existing pressurized storage tanks. The Offsite Consequence Analysis prepared for the Polychemie facility indicates that there will be not increase in risk associated with the delivery or storage of DMA associated with the proposed project. The Offsite Consequence Analysis prepared for the Polychemie facility indicates that before and after modifications, a "worst-case" scenario DMA vapor cloud explosion from either a tank or railcar was concluded to travel a maximum of 0.32 mile to its endpoint. There are no existing or proposed schools or residential areas within the radius of impact.

All other chemicals handled at the facility are not considered to be hazardous materials so that an offsite consequence analysis for those materials was not completed and is not needed as the materials would not be expected to generate substantial adverse health impacts in the event of off-site exposures to the public. Based on the Offsite Consequence Analysis, the proposed project is not expected to result in a significant hazards impact from the Polychemie facility.

Transportation Release Scenario

The only hazardous chemical transported to the Polychemie facility is formaldehyde. Polychemie receives formaldehyde as a 37 percent solution in water via tank truck from a supplier in Oregon and currently receives about 127 trucks per year (no more than one truck per day on any given day) of formaldehyde. It is assumed that the truck would travel approximately 160 round-trip miles. The proposed project would increase the amount of formaldehyde transported to the facility by an estimated 25 trucks per year (about two trucks per month). Following construction activities, the facility will be expected to require a total of 152 trucks per year of formaldehyde (see Table 8). Although the proposed project is expected to increase the number of truck trips per year, there will not be an increase in the number of truck trips per day, that is, it is still expected that there will be no more than one truck per day on any given day. Therefore, the proposed project is not expected to result in an increase in the magnitude of a release or increase the maximum daily truck trips associated with the transport of formaldehyde.

Polychemie receives salt via truck from a supplier in southern California. Deliveries are made to the facility by truck via public roads. Polychemie delivers final polymer product to its customers in southern California via trucks. Based on the onsite storage capacity and consumption of raw hazardous and non-hazardous materials, Polychemie estimates that the proposed project will increase truck traffic to/from the facility by a maximum of 14 trucks per day (about 4,190 trucks per year) (see Table 8 – the final product includes Mannich/ADAM-Quat and DADMAC polymer). No increase in transportation hazards is expected due to the proposed project as salt and the final product are non-hazardous.

TABLE 8

MATERIAL TRANSPORT TO POLYCHEMIE

MATERIAL	Current Traffic				Proposed Traffic Increase			
	Trucks/ day	Trucks/ year	Railcars/ Day	Railcars/ year	Max. Trucks/ day	Trucks/ year	Max. Railcars/ Day	Railcars/ year
Acrylamide			2	84			0	64
Formaldehyde	1	127			0	25		
Dimethylamine			2	34			0	7
ADAM-Quat							1	68
Salt					1	9		
DADMAC Monomer							1	85
Mannich/Adam-Quat	16	5,682			10	3,409		
DADMAC Polymer					3	747		
TOTALS	**17**	**5,809**	**4**	**118**	**14**	**4,190**	**2**	**224**

Although trucking of hazardous materials is regulated for safety by the U.S. Department of Transportation (49 Code of Federal Regulations 173 and 177), there is a possibility that a tanker truck could be involved in an accident spilling its contents. The factors that enter into accident statistics include distance traveled and type of vehicle or transportation system. Factors affecting automobiles and truck transportation accidents include the type of roadway, presence of road hazards, vehicle type, maintenance and physical condition, and driver training. A common reference frequently used in measuring risk of an accident is the number of accidents per million miles traveled. Complicating the assessment of risk is the fact that some accidents can cause significant damage without injury or fatality.

Every time hazardous materials are moved from the site of generation, opportunities are provided for accidental (unintentional) release. A study conducted by the U.S. EPA indicates that the expected number of hazardous materials spills per mile shipped ranges from one in 100 million to one in one million, depending on the type of road and transport vehicle used. The U.S. EPA analyzed accident and traffic volume data from New Jersey, California, and Texas, using the Resource Conservation and Recovery Act Risk/Cost Analysis Model and calculated the accident involvement rates presented in Table 9. This information was summarized from the Los Angeles County Hazardous Waste Management Plan (Los Angeles County, 1988).

In the study completed by the U.S. EPA, cylinders, cans, glass, plastic, fiber boxes, tanks, metal drum/parts, and open metal containers were identified as usual container types. For each container type, the expected fractional release en route was calculated. The study concluded that the release rate for tank trucks is much lower than for any other container type (Los Angeles County, 1988).

TABLE 9

TRUCK ACCIDENT RATES FOR CARGO ON HIGHWAYS

Highway Type	Accidents Per 1,000,000 miles
Interstate	0.13
U.S. and State Highways	0.45
Urban Roadways	0.73
Composite*	0.28

Source: U.S. Environmental Protection Agency, 1984.
* Average number for transport on interstates, highways, and urban roadways.

The accident rates developed based on transportation in California are used to predict the accident rate associated with trucks transporting formaldehyde to the facility. Assuming an average truck accident rate of 0.28 accidents per million miles traveled (Los Angeles County, 1988), the estimated accident rate associated with current operations at the at the facility (i.e., a maximum of one truck per day traveling about 50 miles per day with formaldehyde. Note that the truck would not contain formaldehyde on its return trip) is about 0.005 or about one accident every 196 years. The proposed project would not change the hazards associated with truck

transport of formaldehyde as the facility will continue to generate a maximum of one truck per day.

The current estimated accident rate for trucks carrying non-hazardous materials to/from the Polychemie facility is based on the existing maximum of 16 truck trips per day. Assuming an average truck accident rate of 0.28 accident per million miles traveled, the estimated accident rate associated with current operations at the facility (i.e., a maximum of 16 trucks per day traveling about 50 miles per trip per day. Note that the truck would be empty on its return trip) is about 0.08, or about one accident every 12.2 years for trucks transporting non-hazardous materials.

The proposed project is expected to result in an increase in truck traffic of a maximum of 14 trucks per day. The trucks would be carrying non-hazardous materials (see Table 8). Assuming an average truck accident rate of 0.28 accidents per million miles traveled, the estimated accident rate associated with the proposed project's estimated 14 transport trucks per day (traveling about 50 miles per day. Note the truck would be empty on its return trip) is 0.07, or about one accident every 14 years. Approximately 20 percent of accidents involving delivery trucks result in a spill of the cargo, making the probability of an accident involving a spill rare. Further, the increased truck traffic associated with the proposed project is primarily related to the Mannich/Adam-Quat polymer and the DADMAC polymer which are considered non-hazardous. Therefore, no significant adverse hazard impacts associated with the proposed project are expected.

The actual occurrence of an accidental release of a hazardous material cannot be predicted. The location of an accident or whether sensitive populations would be present in the immediate vicinity also cannot be identified. In general, the shortest and most direct route that takes the least amount of time would have the least risk of an accident. Hazardous material transporters do not routinely avoid populated areas along their routes, although they generally use approved truck routes that take population densities and sensitive populations into account. The major route for trucks to reach the facility is from the 10 freeway to Eastern Avenue N./Marianna Avenue to Medford Street to Miller Avenue to Worth Street, which would generally avoid sensitive receptors. Factors such as amount transported, wind speed, ambient temperatures, route traveled, distance to sensitive receptors are considered when determining the consequence of a hazardous material spill.

In the unlikely event that the tanker truck would rupture and release the entire 6,000 gallons of formaldehyde, the formaldehyde would have to pool and spread out over a flat surface in order to create sufficient evaporation to produce a significant vapor cloud. For a road accident, the roads are usually graded and channeled to prevent water accumulation and a spill would be channeled to a low spot or drainage system, which would limit the surface area of the spill and the subsequent toxic emissions. Additionally, the roadside surfaces may not be paved and may absorb some of the spill. Without this pooling effect on an impervious surface, the spilled formaldehyde would not evaporate into a toxic cloud and impact residences or other sensitive receptors in the area of the spill. Based on the improbability of a formaldehyde tanker truck accident with a major release and its potential severity if it did occur, the conclusion of this

analysis is that potential impacts due to accidental release of formaldehyde during transportation are less than significant.

Acrylamide is shipped as a 50 percent solution via railcar from an SNF facility in Riceboro, Georgia, and dimethylamine is received as a 60 percent solution by railcar from Ontario. A maximum of about 4 railcars per day may be required to deliver material to the facility. The proposed project is not expected to change the probability of a train accident, derailment, or potential release of material in the event of an accident. Rail accidents are generally weather or mechanical-related. The proposed project will not change the average number of railcars that would derail and/or rupture in the event of an accident. Further, acrylamide and dimethylamine are currently delivered to the facility by railcar so that the proposed project is not expected to result in an increased risk associated with a transportation hazard. Therefore, the transport of material via railcar is expected to be less than significant for hazard impacts.

There are a number of rules and regulations that Polychemie has been or must comply with that serve to minimize the potential impacts associated with hazards at the facility. Under the federal Occupational Safety and Health Act (OSHA), regulations have been promulgated that require the preparation and implementation of a Process Safety Management (PSM) Program (29 CFR Part 1910, Section 119, and Title 8 of the California Code of Regulations, Section 5189). A Risk Management Plan (RMP) is also required for the facility under the California Health and Safety Code Section 25534 and 40 CFR Part 68, and Title 1 §112(r)(7), by the Clean Air Act.

A PSM review that meets the requirements of the regulations and is appropriately implemented is intended to prevent or minimize the consequences of a release involving a toxic, reactive, flammable, or explosive chemical. A PSM review will be required as part of the proposed project. The primary components of a PSM include the following:

- Compilation of written process safety information to enable the employer and employees to identify and understand the hazards posed by the process;

- Performance of a process safety analysis to determine and evaluate the hazard of the process being analyzed;

- Development of operating procedures that provide clear instructions for safely conducting activities involved in each process identified for analysis;

- Training in the overview of the process and in the operating procedures is required for facility personnel and contractors. The training should emphasize the specific safety and health hazards, procedures, and safe practices; and

- A pre-start up safety review for new facilities and for modified facilities where a change is made in the process safety information.

An RMP is required for certain chemicals at the facility. The RMP consists of four main parts: hazard assessment that includes an off-site consequence analysis, five-year accident history, prevention program, and emergency response program. The facility's existing RMP has been revised to include the proposed project modifications.

Other hazard regulations that apply to the facility include general Industry Standards and Practices that include codes for design of various equipment, including the American National Standards Institute (ANSI), American Society of Mechanical Engineers (ASME), and National Fire Protection Association (NFPA).

The Hazardous Materials Transportation Act is the federal legislation that regulates transportation of hazardous materials. These regulations include requirements for labeling and placarding, driver training, safety requirements, construction specifications for the trucks, and so forth.

The standards noted above and other applicable design standards will govern the design of mechanical equipment such as tanks, vessels, pumps, and piping. The County's building inspector will verify adherence to codes before the proposed project's new or modified facilities and equipment become operational. Compliance with the above requirements that limit the potential for hazards is expected to minimize hazard impacts to less than significant.

Other Hazard Issues

8. c) Since the proposed project is not expected to result in an increase in existing off-stie hazard impacts and no existing or proposed schools are located within one-quarter mile of the existing facility, so that no significant adverse impacts are expected to a school.

8. d) The proposed project is not located on a site which is included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5; therefore, no significant hazards related to hazardous materials at the site on the environment or to the public are expected.

8. e) and f) The proposed project site is not within an airport land use plan or within about five miles of a public or private airport. Therefore, no safety hazards are expected from the proposed project on any airports in the region.

8. g) The proposed project is not expected to interfere with an emergency response plan or emergency evacuation plan. The proposed project will result in modifications to the existing facility. All construction activities will occur within the confines of the existing facility so that no emergency response plans should be impacted. Polychemie has implemented emergency response plans at its facility, but no modifications to the plans are expected as a result of the proposed project. The proposed project is not expected to alter the route that employees would take to evacuate the site, as the evacuation routes generally directs employees outside of the main operating portions of the facility. The proposed project is not expected to impact any emergency response plans.

8. h) and i) The proposed project will not increase the existing risk of fire hazards in areas with flammable brush, grass, or trees. The facility will continue to use flammable materials (see discussion in 8 a) and b) above). No substantial or native vegetation exists within the operational portions of the facility. Employees at the facility are fire extinguisher and HAZWOPER trained, and work closely with the Los Angeles County Fire Department to ensure safe operating conditions at the facility. Therefore, no significant increase in fire hazards is expected at the facility associated with the proposed project.

8.3 Mitigation Measures

No mitigation is required since no significant adverse hazard impacts have been identified.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
9.	**HYDROLOGY AND WATER QUALITY.** Would the project:			
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☑
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☑
c)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☑
d)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☑
e)	Create or contribute runoff water which would exceed the capacity of existing or planned	☐	☐	☑

	stormwater drainage systems or provide substantial additional sources of polluted runoff?			
f)	Otherwise substantially degrade water quality?	☐	☐	☑
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☑
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☑
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☑
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☑
k)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☑
l)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑
m)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑
n)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☑
o)	Require in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☑

9.1 Significance Criteria

Potential impacts on water resources will be considered significant if any of the following criteria apply:

Water Quality:

The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.

The project will cause the degradation of surface water substantially affecting current or future uses.

The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.

The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.

The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.

The project results in alterations to the course or flow of floodwaters.

Water Demand:

The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use a substantial amount of potable water.

The project increases demand for water by more than five million gallons per day.

9.2 Environmental Setting and Impacts

9. a), f), k), l) and o) Wastewater Generation.

There is no process wastewater discharge from the facility. Process wastewater and storm water from the site are collected, filtered as necessary, and used in facility processes. Only a small amount of storm water from an undeveloped portion of the site currently exits the site as sheet flow. The proposed project will not generate process wastewater that would need to be discharged to the local sewer system. Neither the existing facility, nor the proposed project will use septic tanks or alternative process wastewater disposal systems. As a result, no significant adverse impacts associated with wastewater discharges are expected.

9. b) and n) Water Demand

Water is primarily provided by the California Water Service Company. Currently the Polychemie facility uses approximately 75,000 gallons of water per day. The proposed project will increase water usage by approximately 82,000 gallons per day. Total water usage by the facility after completion of the proposed project is expected to be approximately 157,000 gallons per day. The increase in water use associated with the proposed project (82,000 gallons per day) is less than the SCAQMD CEQA threshold of 5,000,000 gallons per day so that no significant adverse impacts on water demand are expected. Further, the facility captures storm water and wastewater for use in the facility processes which helps minimize the amount of water purchased by the facility.

None of the water used at the Polychemie facility is supplied by onsite water wells, therefore, the proposed project is not expected to directly result in additional demand for ground water supplies. Water will continue to be supplied by the California Water Service Company who gets water from a number of different sources that may include ground water. The increase in water demand is not expected to require a significant increase in purchased water or require the water company to search for additional water supplies. Consequently, no significant adverse impacts from the proposed project are anticipated for ground water supplies.

9. c), d), e) and m) Surface Water

Most storm water runoff from the facility is collected and reused in facility processes. There is no process wastewater discharge from the facility. Only a small amount of storm water from an undeveloped portion of the site exits the site as sheet flow. The proposed project is not expected to increase the storm water runoff from the facility because the entire site is already paved. The facility modifications will occur within the existing facility. The new tanks and reactors will be located within a containment facility. Any rainwater that enters the containment facility will be collected and used on-site so that no additional storm water will be generated. No new storm drainage facilities or expansion of existing storm facilities are expected to be required. Since storm water discharge or runoff is not expected to change in either volume or water quality, no significant storm water quality impacts are expected to result from the operation of the proposed project.

9. g), h), i) and j) Flood Hazards

Based on the topography and/or site elevations in relation to the ocean, the proposed project is not expected to result in an increased risk of flood, seiche, tsunami or mud flow hazards. The proposed project would not locate housing within a 100-year flood hazard area. The facility is not located within a 100-year flood hazard zone so no new equipment would be located within a 100-year flood hazard zone. No change to the existing environment is expected because the existing facility and proposed project are not located within flood hazard areas. Therefore, no significant impacts associated with flooding are expected.

9.3 Mitigation Measures

No significant adverse impacts to water quality and supply are expected as a result of the activities associated with the proposed project. Therefore, no mitigation measures are required.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
10.	**LAND USE AND PLANNING.** Would the project:			
a)	Physically divide an established community?	☐	☐	☑
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☑
c)	Conflict with any applicable habitat conservation or natural community conservation plan?	☐	☐	☑

10.1 Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by the County of Los Angeles.

10.2 Environmental Setting and Impacts

10. a), b), and c) The proposed modifications to the Polychemie facility will be developed entirely within the existing facility property boundaries. Land use for the facility property is designated as M3, which is heavy industrial zoning. The proposed project is consistent with the land use designation of heavy industry and manufacturing.

No new property will be acquired for the facility and there will be no impacts to established communities or adjacent businesses. The existing facility complies with the land use and zoning designations from the County of Los Angeles and no additional land use approvals are required for the proposed project. Additionally, the proposed project is not expected to conflict with local habitat conservation plans, or natural community conservation plans, as the proposed project site is a previously developed industrial facility. The proposed project will not trigger changes in the current zoning designations at the project site. Based on these considerations, no significant adverse impacts to established residential or natural communities are expected.

The proposed project includes construction at an existing industrial facility. The activities and products produced at the facility for the proposed project are the same as existing activities and products produced. No new land would be required for the project, and no zoning and/or land use changes are required as part of the project.

Land use at the Polychemie facility, and in the surrounding vicinity is consistent with the County of Los Angeles General Plan or the City of Los Angeles General Plan land use designations. Therefore, no significant adverse impacts on land use are expected.

10.3 Mitigation Measures

No significant adverse impacts to land use are expected to occur as a result of construction or operation of the proposed project. Therefore, no mitigation is necessary or proposed.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
11.	**MINERAL RESOURCES.** Would the project:			
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☑
b)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☑

11.1 Significance Criteria

Project-related impacts on mineral resources will be considered significant if any of the following conditions are met:

> The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
>
> The proposed project results in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

11.2 Environmental Setting and Impacts

11. a) As the proposed project will be limited to modifications within the confines of the existing Polychemie facility boundaries, no loss of availability of known mineral resource that would be of value to the region or the residents of the state is expected. No mineral resources are known to exist in the area. No mineral extraction is anticipated to occur during the construction phase of the project.

11. b) The proposed project is not expected to result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

11.3 Mitigation Measures

No significant adverse impacts to mineral resources are expected to occur as a result of the proposed project so no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
12. NOISE. Would the project result in:			
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☑	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☑	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☑	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☑	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the	☐	☐	☑

project area to excessive noise levels?

f) For a project within the vicinity of a private airship, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑

12.1 Significance Criteria

Impacts on noise will be considered significant if:

Construction noise levels exceed the County of Los Angeles' noise ordinance or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.

The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

12.2 Environmental Setting and Impacts

12. a), b) c) and d) The Polychemie facility is surrounded by other industrial land uses. The facility borders Worth Street, across which is a railroad spur, warehouses and a sofa manufacturing facility. The eastern portion of the property borders Miller Avenue, across which includes a movie set construction facility and a dimensional stone cutting facility. South of the facility is an office building facing Medford Street, and other industrial facilities. Land use to the west of Polychemie includes a trucking transfer yard and warehousing facility.

Construction Phase

Construction activity for the proposed project will produce noise as a result of operation of construction equipment. Typical sound levels for typical construction equipment are presented in Table 10. The construction equipment associated with the proposed project will be minimal. The construction equipment at the Polychemie facility will include an air compressor, backhoe, plate compactor, dump truck and forklifts. The estimated noise level during equipment installation is expected to be an average of about 80 dBA at 50 feet from the center of construction activity. The proposed project activities will be located near the center portion of the facility, about 240 feet from the nearest property line (eastern). Using an estimated six dBA reduction for every doubling distance, the noise levels at the property boundaries are estimated to be about 67 dBA. Most of the construction noise sources will be located near ground level, so the noise levels are expected to attenuate further than analyzed herein. Noise attenuation due to existing structures and equipment has not been included in

the analysis. The closest resident is about 500 meters (1,640 feet) from the northern fencline of the facility. Construction noise levels at the residential area are expected to be about 50 dBA, which is below ambient noise levels (about 55 to 65 dBA).

TABLE 10

CONSTRUCTION NOISE SOURCES

EQUIPMENT	TYPICAL RANGE (decibels)(1)	ANALYSIS VALUE (decibels)(2)
Truck	82-92	82
Air compressor	85-91	85
Flatbed Truck	84-87	85
Pickup	70-85	70
Tractor Trailer	75-92	85
Cranes	85-90	85
Pumps	68-72	70
Welding Machines	72-77	72

1. Data are modified from U.S. Environmental Protection Agency NTID 300.1, 1972, and City of Long Beach, 1975. Levels are in dBA at 50-foot reference distance. These values are based on a range of equipment and operating conditions.
2. Analysis values are intended to reflect noise levels from equipment in good conditions, with appropriate mufflers, air intake silencers, etc. In addition, these values assume averaging of sound level over all directions from the listed piece of equipment.

The construction activities that generate noise will be carried out during daytime from Monday to Friday, or as permitted by the local cities or county. Because of the nature of the construction activities, the types, number, operation time and loudness of construction equipment will vary throughout the construction period. As a result, the sound level associated with construction will change as construction progresses. Construction noise sources will be temporary and will cease following construction activities. Noise levels at the closest residential area are not expected to increase during construction activities, i.e., background noise levels in residential areas generally are in the range of 55-65 dBA. The noise levels from the construction equipment are expected to be within the allowable noise levels established by the local noise ordinance for industrial areas which are about 70 dBA. Noise impacts associated with the proposed project construction activities are expected to be less than significant.

Workers exposed to noise sources in excess of 85 dBA are required to participate in a hearing conservation program. Workers exposed to noise sources in excess of 90 dBA for an eight-hour period will be required to wear hearing protection devices that conform to Occupational Safety and Health Administration/National Institute for Occupational Safety and Health (NIOSH) standards. Since the maximum noise levels during construction activities are

expected to be 85 decibels or less, no significant impacts to workers during construction activities are expected.

Operational Phase

The new equipment being installed as part of the proposed project is not expected to generate noise beyond noise that is currently generated at the facility. Storage tanks and reactors are not sources of noise. The only noise sources included as part of the proposed project are pumps that would generate minimal additional noise. The project will include installing several storage tanks and reactors. No noticeable increase in noise is expected from these sources. The new equipment will be located within existing industrial areas where noise is generated by adjacent operational equipment. Therefore, significant noise impacts from the proposed project are not expected.

The proposed project is expected to generate a maximum of 14 truck trips per day. The trucks are expected to be spread out throughout the day. Further, the facility is located within an industrial area so that no significant impacts in noise due to traffic is expected.

12. e) and f) The proposed project site is not located within an airport land use plan or within the vicinity of a private airstrip. Further, the Polychemie Facility is not located within the normal flight pattern of an airport. Thus, the proposed project would not increase the noise levels to people residing or working in the area.

12.3 Mitigation Measures

No significant adverse noise impacts are expected to occur as a result of construction or operation of the proposed project. Therefore, no mitigation is necessary or proposed.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
13.	**POPULATION AND HOUSING.** Would the project:			
a)	Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	☐	☐	☑
b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☑
c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☑

13.1 Significance Criteria

The impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:

The demand for temporary or permanent housing exceeds the existing supply.

The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

13.2 Environmental Setting and Impacts

13. a), b) and c) The proposed project would require modifications to the existing Polychemie facility and will not involve an increase, decrease or relocation of population. Labor for construction (an estimated 12 employees) is expected to come from the existing labor pool in southern California. Operation of the proposed project is expected to require five new permanent employees at the Polychemie Facility. These new workers are expected to come for the existing labor pool in southern California. Therefore, construction and operation of the proposed project are not expected to have significant adverse impacts on population or housing, induce substantial population growth, or exceed the growth projections contained in any adopted plans.

13.3 Mitigation Measures

No mitigation measures are required for the construction/operation of the project since no significant adverse impacts to population and housing are expected.

	Potentially Significant Impact	**Less Than Significant Impact**	**No Impact**
14. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:			
a) Fire protection?	☐	☐	☑
b) Police protection?	☐	☐	☑

c) Schools?	☐	☐	☑
d) Parks?	☐	☐	☑
e) Other public facilities?	☐	☐	☑

14.1 Significance Criteria

Impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives.

14.2 Environmental Setting and Impacts

14. a) The Polychemie Facility is served by the Los Angeles County Fire Department. Facility employees have fire extinguisher training. Polychemie complies with the Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) per the requirements of OSHA standards (29 Code of Federal Regulations 1910.120) and conducts employee training on the proper handling, emergency response, protection, use, storage, labeling, etc., for hazardous materials and hazardous wastes. There are sprinklers in the warehouse and on equipment that may contain flammable materials. The facility also has permanent monitor nozzles for fire-fighting that can reach the process areas. Compliance with state and local fire codes is expected to minimize the need for additional fire protection services. The proposed project will require a permit from the County of Los Angeles Fire Department. As part of their permit review, the Fire Department will review the proposed project design and assure compliance with applicable codes. The proposed project will be required to comply with the Los Angeles County Fire Codes which is expected to minimize the need for fire services.

The proposed project will not increase the requirements for additional or altered fire protection. Fire-fighting and emergency response personnel and equipment will continue to be maintained and operated at the Polychemie Facility. Close coordination with local fire departments and emergency services also will be continued.

14. b) The County of Los Angeles Sheriff Department is the responding agency for law enforcement needs at the Polychemie facility. The facility is fenced and entry is restricted to authorized individuals. Entry and exit are currently monitored and no additional or altered police protection is expected. The operation of the proposed project will require five additional workers. The Polychemie facility is an existing facility with a 24-hour operation which provides security for people and property currently in place. All modifications will occur within the confines of the existing facility. Therefore, no impacts to the local police department are expected related to the proposed project.

14. c), d) and e) The local workforce is expected to fill the short-term construction positions required for this project. Polychemie is expecting to hire five additional operators as a result of the proposed project. The additional positions are expected to be filled by the local workforce.

Therefore, there will be no increase in the local population and thus no impacts are expected to schools, parks, or other public facilities.

14.3 Mitigation Measures

Because no significant adverse impacts to public services are expected as a result of the proposed project, no mitigation is necessary or proposed.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
15.	**RECREATION.**			
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☑
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☑

15.1 Significance Criteria

The impacts to recreation will be considered significant if:

The project results in an increased demand for neighborhood or regional parks or other recreational facilities.

The project adversely affects existing recreational opportunities.

15.2 Environmental Setting and Impacts

15. a) and b) During the construction phase of the proposed project, there would be no significant changes in population densities resulting from the project since construction workers are expected to draw from the existing labor pool in southern California. The operation of the new equipment will require five additional employees. These positions are expected to be filled by the local workforce. Thus, there will be no increase in the use of existing neighborhood and regional parks or other recreational facilities.

The project does not include recreational facilities or require the construction or expansion of existing recreational facilities. No significant adverse impacts to recreational facilities are expected.

15.3 Mitigation Measures

No significant adverse impacts to recreational resources are expected to occur as a result of construction or operation of the proposed project. Therefore, no mitigation is necessary or proposed.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
16.	**SOLID/HAZARDOUS WASTE.** Would the project:			
a)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☑
b)	Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	☐	☐	☑

16.1 Significance Criteria

The proposed project impacts on solid/hazardous waste will be considered significant if the following occur:

> The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

16.2 Environmental Setting and Impacts

16. a) Non-Hazardous Waste

Construction activities could uncover contaminated soils, given the fact that industrial activities have been conducted at the site over a number of years. No grading is expected to be required at the site since the site is already flat. The construction of foundations could uncover contaminated soil. The amount of soil that will be uncovered is minimal but if it were all contaminated, then approximately 12 cubic yards (i.e., one truck load) would require disposal. Where appropriate, the soil will be recycled if it is considered or classified as a non-hazardous waste. Otherwise the material will need to be disposed of at a hazardous waste facility (see below discussion under hazardous waste).

During operation, the proposed project is not expected to generate significant quantities of solid waste, which are primarily generated from administrative or office activities. The proposed project would require only five additional permanent operators and would not result in a significant increase in permanent employees at the facility, so no significant increase in solid waste is expected.

16. b) Hazardous Waste

There are no hazardous waste disposal sites within the southern California area. Hazardous waste generated at the facility is disposed of at a licensed hazardous waste disposal facility. Contaminated soil that was determined to be hazardous waste would need to be disposed of at a hazardous waste disposal facility (either in-state or out-of-state). Two such facilities are the Chemical Waste Management Inc. (CWMI) Kettleman Hills facility in King's County, and the Safety-Kleen facility in Buttonwillow (Kern County). Kettleman Hills has an estimated 9 million cubic yard capacity (4 million currently, with an additional 5 million expected upon completion of a berm expansion). The facility expects to continue receiving wastes for approximately 9 years under its current permit. The facility is in the process of permitting a new landfill which would extend the life of the operation another 15 years. (Personal Communication, Terry Yarbough, Chemical Waste Management Inc., June 2004). Buttonwillow receives approximately 960 tons of hazardous waste per day and has a remaining capacity of approximately 9 million cubic yards. The expected life of the Buttonwillow Landfill is approximately 40 years (Personal Communication, Marianna Buoni, Safety-Kleen (Buttonwillow), Inc., June 2004).

Hazardous waste also can be transported to permitted facilities outside of California. The nearest out-of-state landfills are U.S. Ecology, Inc., located in Beatty, Nevada; USPCI, Inc., in Murray, Utah; and Envirosafe Services of Idaho, Inc., in Mountain Home, Idaho. Incineration is provided at the following out-of-state facilities: Aptus, located in Aragonite, Utah and Coffeyville, Kansas; Rollins Environmental Services, Inc., located in Deer Park, Texas and Baton Rouge, Louisiana; Chemical Waste Management, Inc., in Port Arthur, Texas; and Waste Research & Reclamation Co., Eau Claire, Wisconsin.

Existing Polychemie facility operations do not routinely produce hazardous waste. Raw products are delivered to the facility, converted into products, temporarily stored and transported from the facility. The materials used at the site and the products produced by the facility do not generate hazardous waste. Further, since the materials stored in tanks do not generate sludge, routine tank cleanings are not required. The proposed project process is not ~~designed~~ *expected* to produce hazardous waste *associated with operation*. A maximum of about 12 cubic yards of contaminated soil would *be expected during the construction phase and would require* disposal. ~~and~~ Sufficient capacity exists at the hazardous waste disposal facilities within California to handle the potential one-time disposal of contaminated soil. *Contaminated soil that meets the definition of "hazardous waste," will be placed in covered containers, stored on-site no longer than 90 days, and handled per the requirements of 22 California Code of Regulations, Chapter 12.* There are no byproducts from the operation of the proposed project process that need to be

disposed. Therefore, no significant impacts to hazardous waste disposal facilities are expected due to the operation of the proposed project. The facility is expected to continue to comply with federal, state, and local statutes and regulations related to solid and hazardous wastes.

16.3 Mitigation Measures

No significant adverse impacts from waste generated or disposed of are expected and thus no mitigation measures are required.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
17.	**TRANSPORTATION/TRAFFIC.** Would the project:			
a)	Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☑	☐
b)	Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☑	☐
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☑
d)	Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☑
e)	Result in inadequate emergency access or access to nearby uses?	☐	☐	☑
f)	Result in inadequate parking capacity?	☐	☐	☑
g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	☐	☐	☑

17.1 Significance Criteria

The impacts on transportation/traffic will be considered significant if any of the following criteria apply:

Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D or F for more than one month.

An intersection's volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F.

A major roadway is closed to all through traffic, and no alternate route is available.

There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.

The demand for parking facilities is substantially increased.

Water borne, rail car or air traffic is substantially altered.

Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.

17.2 Environmental Setting and Impacts

The Polychemie facility is located on Worth Street between Bonnie Beach and Miller Avenues, north of the San Bernardino (I-10) freeway, and west of the Long Beach (710) freeway. .

17 a) and b) Traffic and Circulation

About 12 construction workers will be commuting to the Polychemie facility, during peak construction activities. All construction workers will park at the facility since sufficient parking is available onsite. Construction workers are expected to arrive at the work sites between 6:30 – 7:00 a.m. and depart about 5:30 – 6:00 p.m., which would generally avoid peak hour traffic conditions. The construction activities are expected to avoid peak hour traffic during morning hours, between 7-9 a.m but could impact the evening peak hour (between 4-6 p.m.). Construction activities also are expected to be limited to about a two to three month period. Therefore, the increase in traffic in the area is temporary and will cease following the completion of construction activities. The projected increase in traffic during the construction phase of the proposed project is minimal, therefore the proposed project's impact on traffic during the construction phase is expected to be less than significant.

Construction will require contractor parking areas, equipment laydown and materials stockpiling areas. Parking for project construction will be within the facility and sufficient parking is expected to be available so no significant adverse impacts on parking are expected.

The operation of the proposed project will result in an increase of five permanent workers. Employees work on shifts that operate between 6 a.m. to 2 p.m., 2 p.m. to 10 p.m., and 10 p.m. to 6 a.m. These shifts avoid peak traffic hours, therefore, the increase in employee traffic of five vehicles is not expected to be significant.

Truck traffic will increase by a maximum of 14 trucks per day to receive raw materials to the facility/and deliver the polymer product to customers (see Table 3). The facility operates 24 hours per day, seven days a week. Truck traffic would be spread throughout the day, and it is expected that only 5 additional trucks (of the total increase of 14 trucks) would be traveling during peak traffic hours. Based on the above analysis, the additional truck trips would not result in significant adverse traffic impacts or level of service impact at any nearby intersections. The proposed project impacts on traffic during the operational phase would be considered less than significant.

Railcars will deliver acrylamide, dimethylamine, ADAM-quat and DADMAC monomer to and/or from the facility. It is estimated that a maximum of four additional railcars per day of material will be required as a result of the proposed project. It is expected that the additional railcars will be delivered along with deliveries already being made to/from the facility so the number of railroad trips is not expected to increase.

17 c) The proposed project includes modifications to existing facilities. The project will not involve the delivery of materials via air so no increase in air traffic is expected.

17. d) and e) The proposed project is not expected to increase traffic hazards or create incompatible uses at or adjacent to the site. The proposed project will result in an increase in traffic of about 14 truck trips per day. The trucks will access the facility using existing streets and access points. No new streets or entrances/exits to the facility are required. Emergency access at the facility will not be adversely affected by the proposed project and Polychemie will continue to maintain the existing emergency access gates to the facility.

17. f) Parking for the construction workers will be provided within the confines of the existing site. Polychemie is expecting to hire five new workers for the proposed project. There is adequate parking within the facility for these additional employees. Therefore, the proposed project will not result in significant impacts on parking.

17. g) The proposed project will be constructed within the confines of an existing facility and is not expected to conflict with adopted policies, plans, or programs supporting alternative transportation modes (e.g., bus turnouts, bicycle racks).

17.3 Mitigation Measures

No significant impacts to transportation/traffic are expected and thus mitigation measures are not required.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
18.	**MANDATORY FINDINGS OF SIGNIFICANCE.**			
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☑
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☐	☑	☐
c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☑	☐

18. MANDATORY FINDINGS OF SIGNIFICANCE

18. a) The proposed project does not have the potential to adversely affect the environment, reduce or eliminate any plant or animal species or destroy prehistoric records of the past. The proposed project is located at a site that is part of an existing industrial facility, which has been previously disturbed, graded and developed, and this project will not extend into environmentally sensitive areas but will remain within the confines of an existing, operating facility. For additional information, see Section 4.0 – Biological Resources (page 2-13) and Section 5.0 – Cultural Resources (page 2-14).

18. b) and c) The proposed project is not expected to result in cumulative adverse environmental impacts. The proposed project will not result in a significant increase in facility emissions. The new and modified equipment at the facility will be required to comply with the current BACT requirements. The emission increases at the Polychemie facility will be below the SCAQMD's threshold. Therefore, no significant adverse air quality impacts are expected, either individually or cumulatively. Additional traffic is primarily expected due to an increase in truck traffic. However, the truck traffic will be spread throughout the day so that no significant adverse traffic impacts, either individually or cumulatively, are expected. Therefore, the proposed project is not expected to result in significant adverse cumulative impacts pursuant to CEQA Guidelines Section 15130(a)(3).

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ACRONYMS

ABBREVIATION	DESCRIPTION
AB1807	California Toxic Air Contaminants Program (Tanner Bill)
AB2728	Revised Tanner Bill
AB2588	Air Toxic "Hot Spots" Information and Assessment Act
AB2595	California Clean Air Act
ACE2588	Assessment of Chemical Exposure for AB2588
ADAM-quat	dimethylaminoethylacrylate-methyl chloride
DMA	dimethylamine
DMAM	dimethylamine and formaldehyde
DT	Average Daily Traffic
AEL	Acute Exposure Limit
AHI	Acute Hazard Index
AHM	Acutely Hazardous Material
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	Air Resources Board
ATIR	Air Toxics Inventory Report
AVR	Average Vehicle Ridership
BACT	Best Available Control Technology
Basin	South Coast Air Basin
BLEVE	Boiling Liquid Expanding Vapor Explosion
BTU	British Thermal Units
BTU/hr	British Thermal Units per hour
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAAQS	California Ambient Air Quality Standards
CalARP	California Accidental Release Prevention Program
Caltrans	California Department of Transportation
CalOSHA	California Occupational Safety and Health Administration
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEMS	Continuous Emissions Monitoring System
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHI	Chronic Hazard Index
CMP	Congestion Management Plan
CNEL	Community noise equivalent level
CNS	Central nervous system
CO	Carbon monoxide
CO_2	Carbon dioxide

CPUC	California Public Utilities Commission
CUP	Conditional Use Permit
DADMAC	diallyldimethylammoniumchloride
dBA	A-weighted noise level measurement in decibels
DMA	dimethylamine
DMAM	dimethylaminomethanol
DOT	Department of Transportation
DTSC	California Environmental Protection Agency, Department of Toxic Substances Control
DWR	California Department of Water Resources
EHS	Extremely Hazardous Substance
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPCRA	USEPA's Emergency Planning and Community Right-to-Know
ERPG	Emergency Response Planning Guideline
^{o}F	Degrees Fahrenheit
FEMA	Federal Emergency Management Agency
FT-BGS	feet below ground surface
FHWA	Federal Highway Administration
FIP	Federal Implementation Plan
G	acceleration of gravity
GWh	Gigawatts per hour
H_2	Hydrogen
HAP	Hazardous air pollutant
HAZOP	Hazardous operation process analysis
HAZWOPER	
HI	Hazard Index
HMBP	Hazardous Materials Business Plan
HRA	Health Risk Assessment
ICU	Intersection Capacity Utilization
ID #	Identification number
ISCST3	Industrial Source Complex Model Short Term Version 3
^{o}K	degrees Kelvin
LACFD	Los Angeles County Fire Department
LACSD	Los Angeles County Sanitation Districts
LADPW	Los Angeles Department of Public Works
LAER	lowest achievable emission reduction
LARWQCB	Los Angeles Regional Water Quality Control Board
LEL	Lower explosive limit
lbs	pounds
lbs/hr	pounds per hour
L_{dn}	day-night average sound level
L_{eq}	energy equivalent sound level
LFL	Lower Flammable Limit

Lmax	Maximum sound level
Lmin	Minimum sound level
LOS	Level of Service
Lpk	Peak sound level
MACT	Maximum Achieved Control Technologies
m/s	meters per second
MEIR	maximum exposed individual resident
MEIW	maximum exposed individual worker
mw	megawatts
MMscf	Million Standard Cubic Feet
MICR	Maximum Incremental Cancer Risk
MWD	Metropolitan Water District of Southern California
N_2	nitrogen
NAAQS	National Ambient Air Quality Standards
nanograms/m^3	nanograms per cubic meter
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Agency
NIOSH	National Institute of Occupational Safety and Health
NOP	Notice of Preparation
NOx	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
NSR	New Source Review
OSHA	Occupational Safety and Health Administration
PAH's	Polynuclear Aromatic Hydrocarbons
PAM	polyacrylamide
PCE	passenger car equivalents
pH	potential hydrogen ion concentration
PM10	particulate matter less than 10 microns in diameter
ppbv	parts per billion by volume
ppm	parts per million
ppmv	parts per million by volume
PolyDADMAC	polymerized diallyldimethylammoniumchloride
PRD	pressure relief devices
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
PSI	Pollutant Screening Index
psi	pounds per square inch
psia	pounds per square inch absolute
psig	pounds per square inch (gauge)
PSM	Process Safety Management Program
RCRA	Resource Conservation and Recovery Act
RECLAIM	Regional Clean Air Incentives Market
REL	Reference exposure level
RMP	Risk Management Program

RMPP	Risk Management and Prevention Program
RVP	Reid Vapor Pressure
RWQCB	Regional Water Quality Control Board, Los Angeles Region
S	Significant impacts even after mitigation
SB	South Bound
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison Company
SCS	Soil Conservation Service
SO_2	sulfur dioxide
SOx	sulfur oxide
SPCC	Spill Prevention, Control and Countermeasure
SRU	Sulfur Recovery Unit
SWRCB	State Water Resources Control Board
T-BACT	Toxics Best Available Control Technology
TACs	toxic air contaminants
TDM	transportation demand management
TPH	total petroleum hydrocarbons
USDOT	United States Department of Transportation
U.S. EPA	United States Environmental Protection Agency
USC	United States Code
USDA	United States Department of Agriculture
USGS	United States Geological Society
ug/l	micrograms per liter
ug/m^3	micrograms per cubic meter
UVCE	Unconfined Vapor Cloud Explosion
V/C	volume to capacity ratio
VOC	volatile organic compounds

GLOSSARY

TERM	DEFINITION
Ambient Noise	The background sound of an environment in relation to which all additional sounds are heard
ADAM-quat Polymer	Substance used created by reacting acrylamide and dimethylaminoethylacrylate-methyl chloride.
Anhydrous	Free from water.
Aqueous	Formed from water, having a water base.
Barrel	42 gallons.
Catalyst	A substance that promotes a chemical reaction to take place but which is not itself chemically changed.
Condensate	Steam that has been condensed back into water by either raising its pressure or lowering its temperature
DADMAC Polymer	Substance produced by polymerizing ammonium diallydimethyl chloride monomer; used in the treatment of potable water and wastewater.
dBA	The decibel (dDB) is one tenth of a *bel* where one bel represents a difference in noise level between two intensities I_1, I_0 where one is ten times greater than the other. (A) indicates the measurement is weighted to the human ear.
Mannich Polymer	A substance created by reacting polyacrylamide and dimethylaminomethanol; used for wastewater treatment.
Natural Gas	A mixture of hydrocarbon gases that occurs with petroleum deposits, principally methane together with varying quantities of ethane, propane, butane, and other gases.
Paleontological	Prehistoric life.
Peak Hour	This typically refers to the hour during the morning (typically 7 AM to 9 AM) or the evening (typically 4 PM to 6 PM) in which the greatest number of vehicle trips are generated by a given land use or are traveling on a given roadway.

Polymer	A chemical compound or mixture of compounds formed by polymerization and consisting essentially of repeating structural units.
Polymerization	A chemical reaction in which two or more small molecules combine to form larger molecules that contain repeating structural units of the original molecules.
Reactor	Vessels in which desired reactions take place.
Scrubber	An apparatus for removing impurities from gases.
Seiches	A vibration of the surface of a lake or landlocked sea that varies in period from a few minutes to several hours and which many change in intensity.

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APPENDIX A

EMISSION CALCULATIONS

APPENDIX B

HEALTH RISK ASSESSMENT

APPENDIX C

OFFSITE CONSEQUENCE ANALYSIS