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*NSR
82554*

July 3, 2012

Ms. Bridget Bohac
Office of the Chief Clerk, MC-105
Texas Commission on Environmental Quality
12100 Park 35 Circle, Building F
Austin, TX 78753

REVIEWED

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By *BP*

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2012 JUL -5 PM 3:27
CHIEF CLERK'S OFFICE
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Re: Comments and Contested Case Hearing Request on ExxonMobil Chemical Company's Application for a Permit to Construct a New Ethylene Production Unit at its Baytown Olefins Plant in Harris County, Texas

Dear Ms. Bohac:

Environmental Integrity Project, Sierra Club, and Air Alliance Houston submit the these preliminary comments ("Commenters"), and Environmental Integrity Project, Air Alliance Houston, and Matthew S. Tejada ("Requesters") request a contested case hearing on ExxonMobil Chemical Company's ("Exxon") application for Air Quality Permit No. 102982 authorizing construction of an ethylene production unit at Exxon's existing Baytown Olefins Plant.¹

I. INTRODUCTION

Exxon has applied for a new permit authorizing construction of an ethylene production unit at its existing Baytown Olefins Plant in Harris County, Texas. The application requests authorization for the following total annual emission increases associated with the project: Volatile Organic Compounds ("VOC"): 289.90 tons, Sulfur Dioxide ("SO2"): 19.53 tons, Carbon Monoxide ("CO"): 1,098 tons, Nitrogen Oxides ("NOx"): 236.67 tons, Particulate Matter ("PM"): 171.13 tons, PM 10 microns or less ("PM10"): 167.19 tons, PM 2.5 microns or less ("PM2.5"): 160.80 tons, Sulfuric Acid ("H2SO4"): 1.08 tons, and Ammonia ("NH3"): 99.64 tons.²

Exxon's application fails to demonstrate that emissions from the proposed ethylene production unit will be sufficiently controlled to protect human health. The large emission increases that Exxon seeks to authorize, including increases in the emission of ozone-forming pollutants, will further degrade the poor air quality in the Harris County nonattainment area, and further burden the health of those who live and work there. For this reason, the Commission

¹ To be clear, Sierra Club does not request a hearing at this time, but reserves the right to do so at a later time.

² Application, PI-1 at 4 of 9.

BP

should decline to issue the requested permit. Exxon's application should also be denied, because it wholly fails to comply with basic requirements of both the federal and Texas Clean Air Acts.

Request for a Contested Case Hearing

Environmental Integrity Project, Air Alliance Houston, and Matthew S. Tejada **request a contested case hearing** on Exxon's application.

Environmental Integrity Project is a nonprofit, non-partisan organization which promotes strict, effective enforcement and implementation of state and federal air quality laws. Environmental Integrity Project has offices in Austin, Texas and Washington, D.C.

Air Alliance Houston is a nonprofit organization whose mission is to reduce air pollution in the Houston region and to protect public health and environmental integrity through research, education, and advocacy. Air Alliance Houston participates in regulatory and legislative processes, testifies at hearings, and comments on proposals. Air Alliance Houston is heavily involved in community outreach, and works to educate those living in neighborhoods directly impacted by air pollution about local air pollution issues, as well as state and federal policy issues.

Matthew S. Tejada lives, works, and recreates, in Houston and serves as the Executive Director of Air Alliance Houston. Mr. Tejada's home is located approximately 27 miles away from the site where proposed ethylene production unit will be built. His office is located approximately 20 miles away. As Executive Director of Air Alliance Houston, Mr. Tejada regularly works in various locations throughout the greater Houston area, including Baytown. Because Mr. Tejada lives and works near the proposed Baytown ethylene unit construction site, he will be exposed to and directly affected by the increased emissions Exxon seeks to authorize with this permit. Several pollutants the Exxon proposes to emit in significant quantities are known to travel long distances and cause adverse health effects after short-term exposures at elevated concentrations. Unless Exxon's application fully complies with all applicable regulations and statutes, Mr. Tejada is concerned that emissions from the proposed ethylene production unit may adversely affect his health and the health of Houston-area residents that Air Alliance Houston works to protect.

All communications regarding this hearing request should be directed to:

Gabriel Clark-Leach
Environmental Integrity Project
1303 San Antonio Street, # 200
Austin, Texas 78701
Phone: (512) 637-9478
Fax: (512) 584-8019

II. ISSUES

Commenters and Requesters offer the following briefing on select deficiencies in Exxon's application. We reserve the right to submit additional comments and request a contested case hearing on additional issues at a later time.

Federal New Source Review Permitting Applicability

Exxon's proposed ethylene production unit is a new major stationary source of air pollution. The project will result in new emissions of many criteria pollutants at significant levels, including volatile organic compounds *and* nitrogen oxides, which interact with sunlight to form ozone. Even though the proposed ethylene production unit will be a major stationary source of air pollution, Exxon claims, incorrectly, that it is not subject to federal New Source Review ("NSR") permitting requirements, because the project increases can be accommodated under Exxon's existing Plant-wide Applicability Limit ("PAL").³

Beginning in the late 1990's, Texas has implemented its non-federally-approved PAL permitting program pursuant to various inconsistent policies and rules. Exxon's PAL, which was issued in 2005, predates the Commission's earliest PAL rules and was implemented pursuant a component of the Commission's Flexible Permitting program, which the U.S. EPA ("EPA") disapproved in 2010.⁴ Because the PAL policy under which Exxon's PAL was approved is clearly inconsistent with federal permitting requirements, the Texas Commission on Environmental Quality ("TCEQ") promulgated PAL rules in 2006 that more closely tracked federal PAL requirements. Nonetheless, EPA disapproved these rules because they failed to meet the minimum standards of the federal Clean Air Act.⁵ TCEQ revised its PAL rules in 2011, and has proposed additional revisions this year.⁶ EPA has preliminarily indicated that it will approve these rules as part of the Texas State Implementation Plan ("SIP") once the additional

³ Application at 1-1 - 1-2.

⁴ 75 Fed. Reg. 41,312 (July 15, 2010).

⁵ 75 Fed. Reg. 56,424 (Sept. 15, 2010).

⁶ 77 Fed. Reg. 36,964 (June 20, 2012).

changes that are currently pending before the Commission are approved.⁷ Whether or not EPA eventually approves Texas's current PAL rules, the Commission did not have authority to issue Exxon's PAL in 2005 and the PAL that TCEQ issued fails to comply with federal PAL requirements and current Texas PAL requirements. Accordingly, as EPA has made clear to Exxon,⁸ that PAL is ineffective.⁹ Whether or not Exxon's proposed ethylene production unit triggers major NSR requirements must be determined according to the requirements in Texas's federally approved SIP.¹⁰ Because the proposed ethylene unit is a major stationary source of air pollution that will be constructed in an ozone non-attainment region, Prevention of Significant Deterioration ("PSD") and Non-attainment NSR ("NNSR") requirements presumably apply. Though Exxon may net out of these requirements,¹¹ the application fails to include a netting demonstration for any pollutant.

Moreover, Exxon's application is inconsistent even with the requirements of its invalid PAL authorization. According to Exxon's PAL, "State authorization must be obtained by permit amendment, permit by rule or standard permit prior to start of construction for new facilities."¹² Exxon, however, has not requested a permit amendment, permit by rule, or standard permit to authorize construction of the new ethylene production unit. Instead, it has applied for a new, stand-alone NSR permit. This is contrary to the terms of Exxon's PAL. Thus, the requested permit falls outside the scope of the PAL permit and may not be authorized pursuant to it.

Finally, Exxon's proposed ethylene production unit will emit significant quantities of PM2.5.¹³ Exxon's PAL does not include a limit for PM2.5. Accordingly, even if the Executive Director finds that Exxon's PAL is effective, the ethylene production unit is still subject to

⁷ *Id.*

⁸ Attachment A, Letter from John Blevins, Director of Compliance Assurance and Enforcement, U.S. EPA Region 6, to Evelyn R. Ponton, Environmental Coordinator, ExxonMobil Corporation, Regarding Baytown Olefins Plant Permit Number PAL6 (March 6, 2012).

⁹ 42 U.S.C. § 7410(i) ("[N]o order, suspension, plan revision, or other action modifying any requirement of an applicable implementation plan may be taken with respect to any stationary source by the State"); *See United States v. Ford Motor Co.*, 814 F.2d 1099, 1103 (6th Cir. 1987) (holding that compliance with a state court consent decree was not a defense to non-compliance with SIP emission limits because, "the original [SIP] emission limit remains fully enforceable until a revision or variance is approved by both the State and EPA"); *St. Bernard Commenters for Env'tl. Quality, Inc. v. Chalmette Refining L.L.C.*, 399 F. Supp. 2d 726, 734 (E.D. La. 2005) ("Because there is no evidence that [an emergency state rule] has been approved by the EPA, it is not a valid and enforceable part of Louisiana's implementation plan, and it does not change defendant's [benzene emission limits]" in SIP-approved permits.); *United States v. General Dynamics Corp.*, 755 F. Supp. 720, 722-24 (N.D. Tex. 1991) (plaintiff's compliance with state issued, non-EPA approved "agreed board orders," whose effect was to raise the emissions limitations set by the Texas SIP, did not relieve defendant from compliance with the emission limitations of the Texas SIP); *Public Citizen v. Amer. Elec. Power Co.*, No. 5:05-CV-39-DF, 2006 WL 3813766, at *5-6 (E.D. Tex. Dec. 27, 2006) (finding that Texas could not raise a PSD permit limit "without federal approval").

¹⁰ *Id.*; *See also* Attachment A.

¹¹ 30 Tex. Admin. Code §§ 116.150(c) & 116.160(b).

¹² Flexible Permit No. 18287/PSD-TX-730M4/PAL 7, Special Condition 40.

¹³ Application, PI-1 at 4 of 9.

federal NSR permitting requirements, in light of significant PM2.5 emissions increases associated with the project.

Exxon's Application Fails to Include Information about Emissions Increases Associated with the Ethylene Production Unit

Increases at Facilities Covered by Separate Permits:

According to recent press releases, Exxon plans to use ethylene produced at the produced Baytown ethylene production unit as feedstock for a new polyethylene unit that will be constructed at Exxon's nearby Mont Belvieu Plastics Plant.¹⁴ If this is so, Exxon's proposed ethylene production unit and the proposed polyethylene unit should be considered a single source for permitting purposes, unless Exxon demonstrates that the proposed ethylene production unit is not a support facility for the new polyethylene unit and that the two facilities do not satisfy the three factor test EPA has established for single-source determinations.¹⁵

Exxon's application also indicates that Deethanizer bottoms product generated at the proposed ethylene production unit will be sent to the existing Depropanizer at Exxon's Baytown Olefins Plant.¹⁶ Presumably, this will lead to increased emissions from the existing Depropanizer. It is unclear whether emissions increases from existing facilities associated with operation of the proposed ethylene plant have been adequately accounted for in the application. Exxon must account for all emissions increases associated with construction and operation of the proposed ethylene unit, even if those increases occur at units authorized under separate permits.

Inadequate Information Concerning Emissions at the Proposed Ethylene Production Unit:

While Exxon has provided a vague account of the general methodology it used to calculate some emissions from various facilities at the proposed ethylene production unit, the actual calculations as well as detailed information about estimates and assumptions used to make the calculations—insofar as such detailed information is actually included in the application—has not been made available to the public. Accordingly, we object to the application because it fails to include critical information about emissions from the proposed plant, and fails to demonstrate that Exxon's emissions calculations were made correctly on the basis of reliable information. While the "Confidential" portion of the application may contain more detailed information about the Exxon's bases for its emission calculations, this information has improperly been withheld from public review. To the extent that information necessary to

¹⁴ See, e.g., Attachment B ("ExxonMobil Chemical Files Permits for Ethane Cracker and Two PE Units in Texas," July 1, 2012).

¹⁵ See, e.g., Single Source Determination for Coors/TriGen, available electronically at: <http://www.epa.gov/region07/air/nsr/nsrmemos/coorstri.pdf>

¹⁶ Application at 2-3.

confirm the validity of Exxon's emissions calculations is included in the application but has not been made public, the Executive Director should make such information available for public review. To the extent that such information is simply absent from the application, the Executive Director must direct Exxon to supplement and re-notice the application once complete.

For example:

- The application states that VOC emissions from the Wastewater Collection and Treatment System were calculated using "emission estimates from process modeling completed for the Biological Oxidation Unit constructed for the 1997 expansion project scaled based on expected capacity of the proposed project."¹⁷ Exxon must include the modeling it relies upon and demonstrate that the modeling conducted for the 1997 expansion project is a reliable basis for predicting emissions from the wastewater collection and treatment system.
- The application states that VOC emissions from the Acetylene Converter Regeneration Vent were calculated using "emission estimates from process modeling completed for the Acetylene Converter Regeneration Vent constructed for the 1997 expansion project scaled based on expected capacity of the proposed project."¹⁸ Exxon must include the modeling it relies upon and demonstrate that the modeling conducted for the 1997 expansion project is a reliable basis for predicting emissions from the Acetylene Converter Regeneration Vent.
- According to the application, "[a]nnual and short-term emissions from the storage tanks that vent to atmosphere were estimated using the emissions estimation procedures from U.S. EPA's AP-42."¹⁹ The AP-42 procedures require a large number of input parameters, including tank volume, turnovers per year; net throughput, roof support; number of columns, effective column diameter; internal and external shell condition and color; roof color and condition; type of primary and secondary seal; deck type; deck fitting category; fitting types and quantity; daily average and annual minimum and maximum average ambient temperature; average wind speed; annual average solar insolation; atmospheric pressure; chemical category and speciation of stored liquid mixture; vapor pressure; molecular weight; and liquid density. Only a few of these input parameters can be found in the application materials. Exxon's must supplement publicly available application materials to include information about these inputs.

¹⁷ Application at 3-4.

¹⁸ Application at 3-3.

¹⁹ Application at 3-4.

- According to the application, “emissions released through combustion at the flare were determined based on the estimated mass flow, stream speciation, and lower heating value (LHV) of each component during routine and intermittent operations, including nitrogen. . .The NOx, CO, and SO2 emissions factors are based [on] TCEQ guidance (RG-360A/10, 2011).”²⁰ The application fails to provide information about assumptions used for these calculations. Moreover, it appears that the application does not propose any annual limits for intermittent emissions from the flares. Exxon must supplement its application to include this information and annual limits on intermittent flare emissions must be established in the Draft Permit. Finally, the application fails to include basic information about the various FINs listed in Table 1(a) associated with the flare system.

Emissions Impacts Analysis

Before the requested permit may be issued, Exxon must demonstrate that emissions from the proposed ethylene project will be protective of public health and welfare, and that emissions from the facility will not cause or contribute to the violation of any National Ambient Air Quality Standard (“NAAQS”).²¹ Additionally, assuming that the project triggers PSD permitting requirements, Exxon must demonstrate that emissions from the project will not exceed any PSD increment.²² Exxon’s application fails to demonstrate that emissions from the proposed expansion project will be protective of human health and welfare and that emissions from the project will not cause or contribute to a violation of a NAAQS or PSD increment. Given the significant emissions increases associated with the project, Exxon must conduct detailed emissions modeling to demonstrate compliance with applicable air quality standards, including the health-based NAAQS.

Technology-Based Emissions Control Requirements

Federal Best Available Control Technology and Lowest Achievable Emission Rate Requirements:

Exxon’s application incorrectly presumes that federal case-by-case technology-based emissions control requirements do not apply for this application. Unless Exxon nets out of PSD and NNSR, it must demonstrate that it will satisfy federal best available control technology (“BACT”) requirements for all criteria pollutants, except NOx and VOC, and lowest achievable emission rate (“LAER”) requirements for NOx and VOC. Exxon’s application fails to include a demonstration that controls consistent with these federal requirements will be used at the proposed ethylene production unit.

²⁰ Application at 3-3.

²¹ 30 Tex. Admin. Code §§ 116.111(a)(2)(A)(i), 101.4, and 101.21.

²² 30 Tex. Admin. Code §§ 116.111(a)(2)(I), 116.160(c)(2)(A).

Texas Clean Air Act Best Available Control Technology Requirements:

Even if Exxon successfully nets out of federal PSD and NNSR requirements, it must still demonstrate compliance with Texas state BACT requirements. To make this demonstration, Exxon must show that BACT will be applied to all facilities at the proposed ethylene production unit.²³ The Texas Health and Safety Code defines the term “facility” to mean “a discrete or identifiable structure, item, equipment, or enclosure that constitutes or contains a stationary source, including appurtenances other than emission control equipment.”²⁴ As the Commission’s current BACT guidance document explains, “TCEQ equates the federal term ‘emission unit’ with the state term ‘facility.’”²⁵ EPA’s regulations define the term “emission unit” to mean “any part of a stationary source that emits or would have the potential to emit any regulated NSR pollutant[.]”²⁶ Thus, Exxon must demonstrate that each and every emissions unit to be covered by the requested permit applies BACT. However, Exxon’s application does not propose to apply BACT to each individual furnace that will be authorized under the requested permit. Rather, the application proposes that BACT will be achieved by the furnace section (which includes emissions from all the furnaces) without demonstrating or proposing emission limits sufficient to demonstrate that emissions from each furnace will be consistent with BACT.²⁷ This fails to satisfy Texas BACT requirements.

Exxon’s BACT demonstration is also deficient, because it fails to include detailed information about the facilities it intends to construct or the measures it will implement to control emissions from those facilities. As the Commission’s BACT guidance makes clear, BACT demonstrations must identify and discuss reduction options chosen for each facility,²⁸ and discuss elements of performance for each selected control option.²⁹ In order to determine appropriate emission limits for each facility consistent with BACT, Exxon is required to provide design information about each facility, including its potential to emit and the chemical composition of fuels and feedstocks to be used. Exxon’s application fails to include a thorough and well-documented BACT analysis for any facility to be authorized under the requested permit. The application is therefore “deficient” and must be supplemented.³⁰

²³ 30 Tex. Admin. Code § 116.111(a)(2)(C).

²⁴ Tex. Health & Safety Code § 382.003(6); 30 Tex. Admin. Code § 116.10(4).

²⁵ APDG 6110 at 30.

²⁶ 40 C.F.R. § 51.166(b)(7); *See also*, APDG 6110 at 30.

²⁷ Application at 4-1-4-2.

²⁸ APDG 6110 at 13.

²⁹ *Id.* at 14.

³⁰ *Id.*

Application Materials Have Been Improperly Withheld from the Public

Critical information concerning Exxon's proposed ethylene production unit project has been improperly withheld from public review. All detailed information in the application concerning 1) the material balance of feedstocks and fuels to be used at the ethylene unit, 2) specifications of the furnaces to be constructed, 3) the storage tanks that will be used, 4) the flare system to be built, and 5) the cyclonic separator that will be used to control particulate matter emissions from processes at the proposed unit, and 5) the detailed emission calculations for the project has been marked "confidential" by Exxon, and has not been made available members of the public. Insofar as this information is being directly used to create or demonstrate a basis for emission limits, this information must be made publicly available. If this information is not made available, the public cannot determine how the emission limits were calculated and established, whether or not such limits are appropriate, and how the application fulfills all legal requirements: In short, the public will be deprived of an opportunity to meaningfully participate in the permitting process.

III. CONCLUSION

Because Exxon's application fails to comply with applicable regulations and statutes and because Exxon has not demonstrated that emissions from the proposed ethylene production unit will not endanger human health and welfare, the application is deficient. Requesters seek a contested case hearing on the issues identified above.

Thank you for your attention to this matter.

Sincerely,



Gabriel Clark-Leach
Environmental Integrity Project
1303 San Antonio Street, Suite 200
Austin, Texas 78701
Phone: 512-637-9477
Fax: 512-584-8019

ATTACHMENT A



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

March 6, 2012

Evelyn R. Ponton
Environmental Coordinator
ExxonMobil Corporation
PO Box 4004
Baytown, TX 77522-4004

Re: Baytown Olefins Plant
Permit Number PAL6

Dear Ms. Ponton:

The TCEQ's Plant-Wide Applicability Limit (PAL) rules (30 Tex. Admin. Code §§ 116.180 *et seq.*) have never been approved into the State Implementation Plan (SIP) for implementing the federal Clean Air Act (CAA) in Texas. As a result, permits issued under the Texas PAL rules reflect state requirements and cannot modify or replace federal requirements. The purpose of this letter is to reiterate to owners and operators of their obligation to comply with federally-approved air permitting requirements in the SIP.

ExxonMobil Corporation was issued PAL Permit No. PAL6 under the state-only Texas PAL rules. We recognize that a PAL permit is a state permitting vehicle for certain operational requirements at your facility. However, you must continue to comply with applicable federal requirements, including the New Source Review requirements in the Texas SIP. Applicable federal requirements include, but are not limited to, all terms and conditions of permits approved under the Texas SIP, including unit-specific emission limits that existed prior to issuance of a PAL permit. EPA may enforce the provisions of any permit issued to a source under a SIP-approved process, and is not bound by changes made to those provisions by non-SIP approved mechanisms, such as the Texas PAL rules. In accordance with EPA policy,¹ EPA will assess its enforcement options on a case-by-case basis.

Although PAL provisions are not part of the implementation plan for the State of Texas,² EPA and TCEQ are currently working together on a process that could result in a federally-approved PAL program in the Texas SIP. If the development of federally-approvable PAL rules is successful, eligible facilities will be able to apply to TCEQ for this CAA-compliant mechanism.

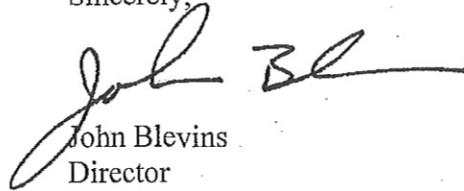
¹ See "Revised Guidance on Enforcement During Pending SIP Revisions," available at <http://www.epa.gov/compliance/resources/policies/civil/caa/stationary/enf-siprev-rpt.pdf>

² 75 Fed. Reg. 56427 (Sept. 15, 2010)

Re: Baytown Olefins Plant
Permit Number PAL6

For questions and inquiries, please contact Steve Thompson of my staff at (214) 665-2769, or Patricia Welton in the Office of Regional Counsel at (214) 665-7327.

Sincerely,

A handwritten signature in black ink, appearing to read "John Blevins", written over the typed name.

John Blevins
Director
Compliance Assurance and
Enforcement Division

cc: Steve Hagle, P.E., Deputy Director
Air Permits Division, TCEQ

Stephanie Bergeron Perdue, Deputy Director
Office of Legal Services, TCEQ

Richard Hyde, P.E., Deputy Director
Office of Compliance and Enforcement, TCEQ

ATTACHMENT B

[Bloomberg Businessweek](#)

[News From Bloomberg](#)

Exxon Plans U.S. Ethylene Plant to Make Use of Cheap Gas

By Jack Kaskey and Jim Polson on June 01, 2012

Exxon Mobil Corp. (XOM) ([XOM](#)), the largest U.S. oil company, plans to build factories that produce ethylene and plastics in Texas, joining a growing group of competitors racing to use U.S. natural gas to make chemicals.

A new plant at the company's site in Baytown would produce 1.5 million metric tons of ethylene annually starting in 2016, pending regulatory approvals, Irving, Texas-based Exxon said today in an e-mailed statement. The gaseous chemical would be used to make 1.3 million metric tons of polyethylene plastic at two plants to be built in nearby Mont Belvieu, the company said.

The Houston-area plants would "significantly" increase exports of plastics, Exxon said in the statement. Chevron Phillips Chemical Co. is planning a \$5 billion ethylene project at its Baytown site and Dow Chemical Co. (DOW) ([DOW](#)) is also expanding to use more gas-based raw materials that provide a cost advantage over oil-based production in Europe and Asia.

"The proposed investment reflects Exxon Mobil's continued confidence in the natural-gas-driven revitalization of the U.S. chemical industry," the company said in the statement.

Gas prices in New York fell to a 10-year-low in April and have pushed costs for U.S. chemical producers to the lowest outside of the Middle East, Cynthia Werneth, an analyst at Standard & Poor's, said on a conference call today.

Exxon's Largest

The ethylene plant would be Exxon's largest in the U.S. and its first in the country since 1997. The company has two ethylene plants in Baytown with capacities of 1 million tons and 1.2 million tons; a 800,000-ton capacity factory in Beaumont, Texas; and 1-million-ton plant in Baton Rouge, Louisiana, according to Exxon's 2011 Financial & Operating Review.

The polyethylene plants would increase by 34 percent Exxon's U.S. output of the resin used to make products such as food packaging and plastics bags, based on data in the company review. Globally, Exxon's ethylene capacity would increase 17 percent and its polyethylene production would rise 18 percent.

The project would create 10,000 construction jobs and would boost Exxon's Baytown workforce of 6,500 by about 350, the company said. Margaret Ross, a company spokeswoman, declined to say in a telephone

interview how much the project would cost.

Exxon filed applications with Texas and U.S. environmental regulators on May 22.

To contact the reporters on this story: Jack Kaskey in Houston at jkaskey@bloomberg.net; Jim Polson in New York at jpolson@bloomberg.net

To contact the editors responsible for this story: Simon Casey at scasey4@bloomberg.net; Susan Warren at susanwarren@bloomberg.net

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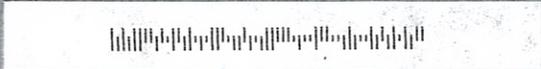

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REVIEWED

JUL 05 2012

By *4*

FAX TRANSMITTAL

July 2, 2012

NSR
82554

To/Fax No.: Office of the Chief Clerk (512) 239-3311

From Gabriel Clark-Leach

RE: Comments and Contested Case Hearing Request- Exxon Mobil Chemical
Baytown Olefins Plant, Permit No. 102982

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
2012 JUL -3 PM 1:08
CHIEF CLERKS OFFICE

This facsimile consists of a cover page and 15 pages.

MW



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² Application, PI-1 at 4 of 9.

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Environmental Integrity Project is a nonprofit, non-partisan organization which promotes strict, effective enforcement and implementation of state and federal air quality laws. Environmental Integrity Project has offices in Austin, Texas and Washington, D.C.

Air Alliance Houston is a nonprofit organization whose mission is to reduce air pollution in the Houston region and to protect public health and environmental integrity through research, education, and advocacy. Air Alliance Houston participates in regulatory and legislative processes, testifies at hearings, and comments on proposals. Air Alliance Houston is heavily involved in community outreach, and works to educate those living in neighborhoods directly impacted by air pollution about local air pollution issues, as well as state and federal policy issues.

Matthew S. Tejada lives, works, and recreates, in Houston and serves as the Executive Director of Air Alliance Houston. Mr. Tejada's home is located approximately 27 miles away from the site where proposed ethylene production unit will be built. His office is located approximately 20 miles away. As Executive Director of Air Alliance Houston, Mr. Tejada regularly works in various locations throughout the greater Houston area, including Baytown. Because Mr. Tejada lives and works near the proposed Baytown ethylene unit construction site, he will be exposed to and directly affected by the increased emissions Exxon seeks to authorize with this permit. Several pollutants the Exxon proposes to emit in significant quantities are known to travel long distances and cause adverse health effects after short-term exposures at elevated concentrations. Unless Exxon's application fully complies with all applicable regulations and statutes, Mr. Tejada is concerned that emissions from the proposed ethylene production unit may adversely affect his health and the health of Houston-area residents that Air Alliance Houston works to protect.

All communications regarding this hearing request should be directed to:

Gabriel Clark-Leach
Environmental Integrity Project
1303 San Antonio Street, # 200
Austin, Texas 78701
Phone: (512) 637-9478
Fax: (512) 584-8019

II. ISSUES

Commenters and Requesters offer the following briefing on select deficiencies in Exxon's application. We reserve the right to submit additional comments and request a contested case hearing on additional issues at a later time.

Federal New Source Review Permitting Applicability

Exxon's proposed ethylene production unit is a new major stationary source of air pollution. The project will result in new emissions of many criteria pollutants at significant levels, including volatile organic compounds *and* nitrogen oxides, which interact with sunlight to form ozone. Even though the proposed ethylene production unit will be a major stationary source of air pollution, Exxon claims, incorrectly, that it is not subject to federal New Source Review ("NSR") permitting requirements, because the project increases can be accommodated under Exxon's existing Plant-wide Applicability Limit ("PAL").³

Beginning in the late 1990's, Texas has implemented its non-federally-approved PAL permitting program pursuant to various inconsistent policies and rules. Exxon's PAL, which was issued in 2005, predates the Commission's earliest PAL rules and was implemented pursuant a component of the Commission's Flexible Permitting program, which the U.S. EPA ("EPA") disapproved in 2010.⁴ Because the PAL policy under which Exxon's PAL was approved is clearly inconsistent with federal permitting requirements, the Texas Commission on Environmental Quality ("TCEQ") promulgated PAL rules in 2006 that more closely tracked federal PAL requirements. Nonetheless, EPA disapproved these rules because they failed to meet the minimum standards of the federal Clean Air Act.⁵ TCEQ revised its PAL rules in 2011, and has proposed additional revisions this year.⁶ EPA has preliminarily indicated that it will approve these rules as part of the Texas State Implementation Plan ("SIP") once the additional

³ Application at 1-1 - 1-2.

⁴ 75 Fed. Reg. 41,312 (July 15, 2010).

⁵ 75 Fed. Reg. 56,424 (Sept. 15, 2010).

⁶ 77 Fed. Reg. 36,964 (June 20, 2012).

changes that are currently pending before the Commission are approved.⁷ Whether or not EPA eventually approves Texas's current PAL rules, the Commission did not have authority to issue Exxon's PAL in 2005 and the PAL that TCEQ issued fails to comply with federal PAL requirements and current Texas PAL requirements. Accordingly, as EPA has made clear to Exxon,⁸ that PAL is ineffective.⁹ Whether or not Exxon's proposed ethylene production unit triggers major NSR requirements must be determined according to the requirements in Texas's federally approved SIP.¹⁰ Because the proposed ethylene unit is a major stationary source of air pollution that will be constructed in an ozone non-attainment region, Prevention of Significant Deterioration ("PSD") and Non-attainment NSR ("NNSR") requirements presumably apply. Though Exxon may net out of these requirements,¹¹ the application fails to include a netting demonstration for any pollutant.

Moreover, Exxon's application is inconsistent even with the requirements of its invalid PAL authorization. According to Exxon's PAL, "State authorization must be obtained by permit amendment, permit by rule or standard permit prior to start of construction for new facilities."¹² Exxon, however, has not requested a permit amendment, permit by rule, or standard permit to authorize construction of the new ethylene production unit. Instead, it has applied for a new, stand-alone NSR permit. This is contrary to the terms of Exxon's PAL. Thus, the requested permit falls outside the scope of the PAL permit and may not be authorized pursuant to it.

Finally, Exxon's proposed ethylene production unit will emit significant quantities of PM_{2.5}.¹³ Exxon's PAL does not include a limit for PM_{2.5}. Accordingly, even if the Executive Director finds that Exxon's PAL is effective, the ethylene production unit is still subject to

⁷ *Id.*

⁸ Attachment A, Letter from John Blevins, Director of Compliance Assurance and Enforcement, U.S. EPA Region 6, to Evelyn R. Ponton, Environmental Coordinator, ExxonMobil Corporation, Regarding Baytown Olefins Plant Permit Number PAL6 (March 6, 2012).

⁹ 42 U.S.C. § 7410(i) ("[N]o order, suspension, plan revision, or other action modifying any requirement of an applicable implementation plan may be taken with respect to any stationary source by the State"); See *United States v. Ford Motor Co.*, 814 F.2d 1099, 1103 (6th Cir. 1987) (holding that compliance with a state court consent decree was not a defense to non-compliance with SIP emission limits because, "the original [SIP] emission limit remains fully enforceable until a revision or variance is approved by both the State and EPA"); *St. Bernard Commenters for Env'l. Quality, Inc. v. Chalmette Refining L.L.C.*, 399 F. Supp. 2d 726, 734 (E.D. La. 2005) ("Because there is no evidence that [an emergency state rule] has been approved by the EPA, it is not a valid and enforceable part of Louisiana's implementation plan, and it does not change defendant's [benzene emission limits]" in SIP-approved permits.); *United States v. General Dynamics Corp.*, 755 F. Supp. 720, 722-24 (N.D. Tex. 1991) (plaintiff's compliance with state issued, non-EPA approved "agreed board orders," whose effect was to raise the emissions limitations set by the Texas SIP, did not relieve defendant from compliance with the emission limitations of the Texas SIP); *Public Citizen v. Amer. Elec. Power Co.*, No. 5:05-CV-39-DP, 2006 WL 3813766, at *5-6 (E.D. Tex. Dec. 27, 2006) (finding that Texas could not raise a PSD permit limit "without federal approval").

¹⁰ *Id.*; See also Attachment A.

¹¹ 30 Tex. Admin. Code §§ 116.150(c) & 116.160(b).

¹² Flexible Permit No. 18287/PSD-TX-730M4/PAL 7. Special Condition 40.

¹³ Application, PI-1 at 4 of 9.

federal NSR permitting requirements, in light of significant PM2.5 emissions increases associated with the project.

Exxon's Application Fails to Include Information about Emissions Increases Associated with the Ethylene Production Unit

Increases at Facilities Covered by Separate Permits:

According to recent press releases, Exxon plans to use ethylene produced at the produced Baytown ethylene production unit as feedstock for a new polyethylene unit that will be constructed at Exxon's nearby Mont Belvieu Plastics Plant.¹⁴ If this is so, Exxon's proposed ethylene production unit and the proposed polyethylene unit should be considered a single source for permitting purposes, unless Exxon demonstrates that the proposed ethylene production unit is not a support facility for the new polyethylene unit and that the two facilities do not satisfy the three factor test EPA has established for single-source determinations.¹⁵

Exxon's application also indicates that Deethanizer bottoms product generated at the proposed ethylene production unit will be sent to the existing Depropanizer at Exxon's Baytown Olefins Plant.¹⁶ Presumably, this will lead to increased emissions from the existing Depropanizer. It is unclear whether emissions increases from existing facilities associated with operation of the proposed ethylene plant have been adequately accounted for in the application. Exxon must account for all emissions increases associated with construction and operation of the proposed ethylene unit, even if those increases occur at units authorized under separate permits.

Inadequate Information Concerning Emissions at the Proposed Ethylene Production Unit:

While Exxon has provided a vague account of the general methodology it used to calculate some emissions from various facilities at the proposed ethylene production unit, the actual calculations as well as detailed information about estimates and assumptions used to make the calculations—insofar as such detailed information is actually included in the application—has not been made available to the public. Accordingly, we object to the application because it fails to include critical information about emissions from the proposed plant, and fails to demonstrate that Exxon's emissions calculations were made correctly on the basis of reliable information. While the "Confidential" portion of the application may contain more detailed information about the Exxon's bases for its emission calculations, this information has improperly been withheld from public review. To the extent that information necessary to

¹⁴ See, e.g., Attachment B ("ExxonMobil Chemical Files Permits for Ethane Cracker and Two PE Units in Texas," July 1, 2012).

¹⁵ See, e.g., Single Source Determination for Coors/TriGen, available electronically at: <http://www.epa.gov/region07/air/nsr/nsrmemos/coorstri.pdf>

¹⁶ Application at 2-3.

confirm the validity of Exxon's emissions calculations is included in the application but has not been made public, the Executive Director should make such information available for public review. To the extent that such information is simply absent from the application, the Executive Director must direct Exxon to supplement and re-notice the application once complete.

For example:

- The application states that VOC emissions from the Wastewater Collection and Treatment System were calculated using "emission estimates from process modeling completed for the Biological Oxidation Unit constructed for the 1997 expansion project scaled based on expected capacity of the proposed project."¹⁷ Exxon must include the modeling it relies upon and demonstrate that the modeling conducted for the 1997 expansion project is a reliable basis for predicting emissions from the wastewater collection and treatment system.
- The application states that VOC emissions from the Acetylene Converter Regeneration Vent were calculated using "emission estimates from process modeling completed for the Acetylene Converter Regeneration Vent constructed for the 1997 expansion project scaled based on expected capacity of the proposed project."¹⁸ Exxon must include the modeling it relies upon and demonstrate that the modeling conducted for the 1997 expansion project is a reliable basis for predicting emissions from the Acetylene Converter Regeneration Vent.
- According to the application, "[a]nnual and short-term emissions from the storage tanks that vent to atmosphere were estimated using the emissions estimation procedures from U.S. EPA's AP-42."¹⁹ The AP-42 procedures require a large number of input parameters, including tank volume, turnovers per year; net throughput; roof support; number of columns; effective column diameter; internal and external shell condition and color; roof color and condition; type of primary and secondary seal; deck type; deck fitting category; fitting types and quantity; daily average and annual minimum and maximum average ambient temperature; average wind speed; annual average solar insolation; atmospheric pressure; chemical category and speciation of stored liquid mixture; vapor pressure; molecular weight; and liquid density. Only a few of these input parameters can be found in the application materials. Exxon's must supplement publicly available application materials to include information about these inputs.

¹⁷ Application at 3-4.

¹⁸ Application at 3-3.

¹⁹ Application at 3-4.

- According to the application, “emissions released through combustion at the flare were determined based on the estimated mass flow, stream speciation, and lower heating value (LHV) of each component during routine and intermittent operations, including nitrogen. . .The NO_x, CO, and SO₂ emissions factors are based [on] TCEQ guidance (RG-360A/10, 2011).”²⁰ The application fails to provide information about assumptions used for these calculations. Moreover, it appears that the application does not propose any annual limits for intermittent emissions from the flares. Exxon must supplement its application to include this information and annual limits on intermittent flare emissions must be established in the Draft Permit. Finally, the application fails to include basic information about the various FINs listed in Table 1(a) associated with the flare system.

Emissions Impacts Analysis

Before the requested permit may be issued, Exxon must demonstrate that emissions from the proposed ethylene project will be protective of public health and welfare, and that emissions from the facility will not cause or contribute to the violation of any National Ambient Air Quality Standard (“NAAQS”).²¹ Additionally, assuming that the project triggers PSD permitting requirements, Exxon must demonstrate that emissions from the project will not exceed any PSD increment.²² Exxon’s application fails to demonstrate that emissions from the proposed expansion project will be protective of human health and welfare and that emissions from the project will not cause or contribute to a violation of a NAAQS or PSD increment. Given the significant emissions increases associated with the project, Exxon must conduct detailed emissions modeling to demonstrate compliance with applicable air quality standards, including the health-based NAAQS.

Technology-Based Emissions Control Requirements

Federal Best Available Control Technology and Lowest Achievable Emission Rate Requirements:

Exxon’s application incorrectly presumes that federal case-by-case technology-based emissions control requirements do not apply for this application. Unless Exxon nets out of PSD and NNSR, it must demonstrate that it will satisfy federal best available control technology (“BACT”) requirements for all criteria pollutants, except NO_x and VOC, and lowest achievable emission rate (“LAER”) requirements for NO_x and VOC. Exxon’s application fails to include a demonstration that controls consistent with these federal requirements will be used at the proposed ethylene production unit.

²⁰ Application at 3-3.

²¹ 30 Tex. Admin. Code §§ 116.111(a)(2)(A)(i), 101.4, and 101.21.

²² 30 Tex. Admin. Code §§ 116.111(a)(2)(i), 116.160(c)(2)(A).

Texas Clean Air Act Best Available Control Technology Requirements:

Even if Exxon successfully opts out of federal PSD and NNSR requirements, it must still demonstrate compliance with Texas state BACT requirements. To make this demonstration, Exxon must show that BACT will be applied to all facilities at the proposed ethylene production unit.²³ The Texas Health and Safety Code defines the term “facility” to mean “a discrete or identifiable structure, item, equipment, or enclosure that constitutes or contains a stationary source, including appurtenances other than emission control equipment.”²⁴ As the Commission’s current BACT guidance document explains, “TCEQ equates the federal term ‘emission unit’ with the state term ‘facility.’”²⁵ EPA’s regulations define the term “emission unit” to mean “any part of a stationary source that emits or would have the potential to emit any regulated NSR pollutant[.]”²⁶ Thus, Exxon must demonstrate that each and every emissions unit to be covered by the requested permit applies BACT. However, Exxon’s application does not propose to apply BACT to each individual furnace that will be authorized under the requested permit. Rather, the application proposes that BACT will be achieved by the furnace section (which includes emissions from all the furnaces) without demonstrating or proposing emission limits sufficient to demonstrate that emissions from each furnace will be consistent with BACT.²⁷ This fails to satisfy Texas BACT requirements.

Exxon’s BACT demonstration is also deficient, because it fails to include detailed information about the facilities it intends to construct or the measures it will implement to control emissions from those facilities. As the Commission’s BACT guidance makes clear, BACT demonstrations must identify and discuss reduction options chosen for each facility,²⁸ and discuss elements of performance for each selected control option.²⁹ In order to determine appropriate emission limits for each facility consistent with BACT, Exxon is required to provide design information about each facility, including its potential to emit and the chemical composition of fuels and feedstocks to be used. Exxon’s application fails to include a thorough and well-documented BACT analysis for any facility to be authorized under the requested permit. The application is therefore “deficient” and must be supplemented.³⁰

²³ 30 Tex. Admin. Code § 116.111(a)(2)(C).

²⁴ Tex. Health & Safety Code § 382.003(6); 30 Tex. Admin. Code § 116.10(4).

²⁵ APDG 6110 at 30.

²⁶ 40 C.F.R. § 51.166(b)(7); *See also*, APDG 6110 at 30.

²⁷ Application at 4-1-4-2.

²⁸ APDG 6110 at 13.

²⁹ *Id.* at 14.

³⁰ *Id.*

Application Materials Have Been Improperly Withheld from the Public

Critical information concerning Exxon's proposed ethylene production unit project has been improperly withheld from public review. All detailed information in the application concerning 1) the material balance of feedstocks and fuels to be used at the ethylene unit, 2) specifications of the furnaces to be constructed, 3) the storage tanks that will be used, 4) the flare system to be built, and 5) the cyclonic separator that will be used to control particulate matter emissions from processes at the proposed unit, and 5) the detailed emission calculations for the project has been marked "confidential" by Exxon, and has not been made available members of the public. Insofar as this information is being directly used to create or demonstrate a basis for emission limits, this information must be made publicly available. If this information is not made available, the public cannot determine how the emission limits were calculated and established, whether or not such limits are appropriate, and how the application fulfills all legal requirements: In short, the public will be deprived of an opportunity to meaningfully participate in the permitting process.

III. CONCLUSION

Because Exxon's application fails to comply with applicable regulations and statutes and because Exxon has not demonstrated that emissions from the proposed ethylene production unit will not endanger human health and welfare, the application is deficient. Requesters seek a contested case hearing on the issues identified above.

Thank you for your attention to this matter.

Sincerely,



Gabriel Clark-Leach
Environmental Integrity Project
1303 San Antonio Street, Suite 200
Austin, Texas 78701
Phone: 512-637-9477
Fax: 512-584-8019

ATTACHMENT A



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

March 6, 2012

Evclyn R. Ponton
Environmental Coordinator
ExxonMobil Corporation
PO Box 4004
Baytown, TX 77522-4004

Re: Baytown Olefins Plant
Permit Number PAL6

Dear Ms. Ponton:

The TCEQ's Plant-Wide Applicability Limit (PAL) rules (30 Tex. Admin. Code §§ 116.180 *et seq.*) have never been approved into the State Implementation Plan (SIP) for implementing the federal Clean Air Act (CAA) in Texas. As a result, permits issued under the Texas PAL rules reflect state requirements and cannot modify or replace federal requirements. The purpose of this letter is to reiterate to owners and operators of their obligation to comply with federally-approved air permitting requirements in the SIP.

ExxonMobil Corporation was issued PAL Permit No. PAL6 under the state-only Texas PAL rules. We recognize that a PAL permit is a state permitting vehicle for certain operational requirements at your facility. However, you must continue to comply with applicable federal requirements, including the New Source Review requirements in the Texas SIP. Applicable federal requirements include, but are not limited to, all terms and conditions of permits approved under the Texas SIP, including unit-specific emission limits that existed prior to issuance of a PAL permit. EPA may enforce the provisions of any permit issued to a source under a SIP-approved process, and is not bound by changes made to those provisions by non-SIP approved mechanisms, such as the Texas PAL rules. In accordance with EPA policy,¹ EPA will assess its enforcement options on a case-by-case basis.

Although PAL provisions are not part of the implementation plan for the State of Texas,² EPA and TCEQ are currently working together on a process that could result in a federally-approved PAL program in the Texas SIP. If the development of federally-approved PAL rules is successful, eligible facilities will be able to apply to TCEQ for this CAA-compliant mechanism.

¹ See "Revised Guidance on Enforcement During Pending SIP Revisions," available at <http://www.epa.gov/compliance/resources/policies/civil/caa/stationary/cnf-siprev-rpt.pdf>

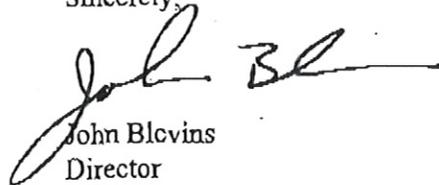
² 75 Fed. Reg. 56427 (Sept. 15, 2010)

2

Re: Baytown Olefins Plant
Permit Number PAJ.6

For questions and inquiries, please contact Steve Thompson of my staff at (214) 665-2769, or Patricia Welton in the Office of Regional Counsel at (214) 665-7327.

Sincerely,



John Blcivins
Director
Compliance Assurance and
Enforcement Division

cc: Steve Hagle, P.E., Deputy Director
Air Permits Division, TCEQ

Stephanie Bergeron Perdue, Deputy Director
Office of Legal Services, TCEQ

Richard Hyde, P.E., Deputy Director
Office of Compliance and Enforcement, TCEQ

ATTACHMENT B

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Bloomberg Businessweek

News From Bloomberg

Exxon Plans U.S. Ethylene Plant to Make Use of Cheap Gas

By Jack Kaskey and Jim Polson on June 01, 2012

Exxon Mobil Corp. (XOM) (XOM), the largest U.S. oil company, plans to build factories that produce ethylene and plastics in Texas, joining a growing group of competitors racing to use U.S. natural gas to make chemicals.

A new plant at the company's site in Baytown would produce 1.5 million metric tons of ethylene annually starting in 2016, pending regulatory approvals, Irving, Texas-based Exxon said today in an e-mailed statement. The gaseous chemical would be used to make 1.3 million metric tons of polyethylene plastic at two plants to be built in nearby Mont Belvieu, the company said.

The Houston-area plants would "significantly" increase exports of plastics, Exxon said in the statement. Chevron Phillips Chemical Co. is planning a \$5 billion ethylene project at its Baytown site and Dow Chemical Co. (DOW) (DOW) is also expanding to use more gas-based raw materials that provide a cost advantage over oil-based production in Europe and Asia.

"The proposed investment reflects Exxon Mobil's continued confidence in the natural-gas-driven revitalization of the U.S. chemical industry," the company said in the statement.

Gas prices in New York fell to a 10-year-low in April and have pushed costs for U.S. chemical producers to the lowest outside of the Middle East, Cynthia Werneth, an analyst at Standard & Poor's, said on a conference call today.

Exxon's Largest

The ethylene plant would be Exxon's largest in the U.S. and its first in the country since 1997. The company has two ethylene plants in Baytown with capacities of 1 million tons and 1.2 million tons; a 800,000-ton capacity factory in Beaumont, Texas; and 1-million-ton plant in Baton Rouge, Louisiana, according to Exxon's 2011 Financial & Operating Review.

The polyethylene plants would increase by 34 percent Exxon's U.S. output of the resin used to make products such as food packaging and plastics bags, based on data in the company review. Globally, Exxon's ethylene capacity would increase 17 percent and its polyethylene production would rise 18 percent.

The project would create 10,000 construction jobs and would boost Exxon's Baytown workforce of 6,500 by about 350, the company said. Margaret Ross, a company spokeswoman, declined to say in a telephone

interview how much the project would cost.

Exxon filed applications with Texas and U.S. environmental regulators on May 22.

To contact the reporters on this story: Jack Kaskey in Houston at jkaskey@bloomberg.net; Jim Polson in New York at jpolson@bloomberg.net

To contact the editors responsible for this story: Simon Casey at scasey4@bloomberg.net; Susan Warren at susanwarren@bloomberg.net

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