Ticona

February 28, 2011

Certified Mail
7009 0820 0000 5146 2273

Bishop Facility
Highway 77 South
P.O. Box 428
Bishop, TX 78343

Mr. David Eppler
Toxics Enforcement Section (6EN-AT)
Compliance Assurance and Enforcement Division
U.S.EPA Region 6
1445 Ross Avenue
Suite 1200
Dallas, TX 75202-2733

Subject: **Clean Air Act ("CAA") Section 114 Information Request – Supplemental Response**

Dear Mr. Eppler:

Ticona Polymers, Inc. ("Ticona") is submitting the attached supplemental response to the EPA's original CAA Section 114 Information Request dated July 2, 2010. Ticona initially responded to the Information Request on August 30, 2010. This Supplemental Response addresses the flare events identified in your email dated January 7, 2011, a copy of which is attached.

I certify under penalty of law that I have examined and am familiar with the information in the enclosed documents, including all attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are, to the best of my knowledge and belief, true and complete. I am aware that there are significant penalties for knowingly submitting false statements and information, including the possibility of fines or imprisonment pursuant to Section 113(c)(2) of the Act, and 18 U.S.S. §§ 1001 and 1341.

Due to the electronic file size this response will be divided into two documents and submitted in two separate emails. Should you have any questions or need additional information, please contact our technical representative Buddy Joyner at (361) 584-6104.

Sincerely,

Ed McKinley
Site Director

Ticona Polymers, Inc., - Bishop Texas
Flare Analysis

Ticona Polymers, Inc. ("Ticona") operates seven flares which were the subject of the EPA's Information Request. Each flare is discussed separately below.

MO-3 Flare

In the attached Flare Analysis Table, EPA identified 676 MO-3 Flare events in which the net heating value of the flare gas being combusted in Flare MO-3 was less than 300 Btu per standard cubic foot ("Btu/scf").
The MO-3 and MO-4 flares have both been determined to be non-assisted flares by the flare manufacturer because the steam-assist line to the flare has been blinded.
Attached below is a letter from Jeff Wirt, Application Engineer with Callidus Technologies, the manufacturer of the MO-3 and MO-4 flares.

{INSERT CALLIDUS TECHNOLOGY LETTER HERE]

Mr. Wirt states that both the MO-3 and MO-4 flares are non-assisted flares.
Because these flares are non-assist flares, the net heating value requirement is a minimum of 200 Btu/scf, 40 C.F.R. §60.18(c)(3)(ii).
Steam used for "steam-assisted" flares is introduced directly into the combustion zone to induce additional air into the combustion zone to prevent smoking. "Steam-assist" steam can induce 5 to 10 times more air into the combustion zone than the steam.
For MO-3 & MO-4 non-assisted flares, the steam flow that is introduced to the flare is used to maintain a minimum velocity in the flare stack which reduces the chance of flame flashback. This steam is injected in the flare line at approximately 7.5 feet below the flare stack outlet.
In addition, the definition from the Federal Register, Vol. 63, No. 85, Monday, May 4, 1998 states that:

> "*A non-assisted flare is a flare tip without any auxiliary provision for enhancing the mixing of air (steam) into its flame.*"

On the attached P&ID Flare 1, the Point "Q1" is the injection point of the steam into the flare. Point "78" represents where a blind flange was installed to prevent steam from going to the top of the flare as "steam-assist" steam. This blind was installed to prevent a flame flashback to the flare. As this line is blinded, it is impossible to inject steam into or above the combustion zone. The main purpose for installing this blind was to ensure that there would be enough remaining steam to create sufficient velocity to prevent flame flashback.

[INSERT P&ID FLARE 1 DOC HERE]

The waste gases combusted in the MO-3 Flare have a low molecular weight, so steam is not needed to reduce smoking and no steam is injected at the flare tip or into the combustion zone. Steam introduced in the flare, as done in our case, should be treated in the same way water vapor entering the flare header with the vent gases is treated. All permitting calculations have been completed using this philosophy.
The MO-3 flare is an emergency non-assisted flare and is only required to maintain a minimum net heating value 200 Btu/scf. In reviewing the original spreadsheet sent to EPA, Ticona determined there were 256 events when the Btu heating value was below 200 Btu/scf, compared to the 676 events EPA concluded were below 300 Btu/scf. Upon further investigation Ticona determined the net heating value from the flare pilots gas had not been included in the spreadsheet dated 09/02/2010. When the pilot gas heating value is added, the Btu net heating value never dropped below 200 Btu/scf when vent gas was going to the flare. This is demonstrated in the MO-3 Information Rev 2 spreadsheet, included below.

[INSERT MO-3 FLARE INFORMATION REV3 HERE]

The additional information for the MO-3 Flare provided in this Supplemental Response shows that there were no MO-3 Flare events in which the net heating value of the flare gas being combusted was less than the 200 Btu/scf.

MO-4 Flare

In the attached Flare Analysis Table, EPA identified 83 MO-4 Flare events in which the net heating value of the flare gas being combusted in the MO-4 Flare was less than 300 Btu/scf. The design information included above for MO-3 Flare also pertains to the MO-4 Flare because these two flares are identical in construction and operation.
When the pilot gas net heating value is added to the flare vent stream, the Btu net heating value never drops below 200 Btu/scf when vent gas was going to the flare. This is demonstrated in the MO-4 Information Rev 2 spreadsheet, included below.

[INSERT MO-4 FLARE INFORMATION REV3 HERE]

The additional information for the MO-4 Flare provided in this Supplemental Response shows that, there were no MO-4 Flare events in which the net heating value of the flare gas being combusted was less than the 200 Btu/scf requirement.

Section 114 DOCS
COVER LETTER-MO-3 & MO-4
MS-GUR-4HAP 2/28/11
maxell
CD-R
80 min | 700 MB
COMPACT disc
Recordable