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**NATIONAL EMISSION STANDARDS FOR  
HAZARDOUS AIR POLLUTANTS: OIL  
AND NATURAL GAS PRODUCTION -  
BACKGROUND INFORMATION FOR  
FINAL STANDARDS**

**SUMMARY OF PUBLIC COMMENTS AND  
RESPONSES**



National Emission Standards for Hazardous Air Pollutants: Oil and Natural Gas Production  
Facilities

Background Information for Promulgated  
Standards - Summary of Public Comments  
and Responses.

Sector Policies and Programs Division

U.S. Environmental Protection Agency  
Office of Air and Radiation  
Office of Air Quality Planning and Standards  
Research Triangle Park, NC 27711



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## 1.0 SUMMARY

The U.S. Environmental Protection Agency (EPA) placed in the *Federal Register* on July 8, 2005 (70 FR 39441), a supplemental notice of proposed rulemaking to the February 6, 1998 (63 FR 6288) proposed national emissions standards for hazardous air pollutants (NESHAP) to limit emissions of hazardous air pollutants (HAP) from oil and natural gas production facilities that are area sources. The final NESHAP for major sources was promulgated on June 17, 1999 (64 FR 32610), but final action with respect to area sources was deferred. This July 8, 2005 action proposed changes to the 1998 proposed rule for area sources, proposed alternative applicability criteria, and reopened the public comment period to solicit comment on the changes proposed. The public comment period closed on September 6, 2005. The purpose of this document is to present a summary of the public comments received on the supplemental proposal as well as the February 6, 1998 proposal and the responses developed by EPA.

The electronic docket for the July 8, 2005 supplemental proposal contains 18 comment letters from 14 separate organizations. The commenters represent the following affiliations: industry (5 companies), industrial trade associations (7 organizations), state agencies (1 agency), and an industry consultant (1 company). Some of these commenters supported by reference the substantive comments made by others. Table 1 presents a listing of all persons submitting written comments, their affiliation, and the docket item number for their comments. The docket number for this action is EPA-HQ-OAR-2004-0238. Comments for the February 6, 1998 proposed rule are addressed in section 2.9 of this document (Comments Received on February 6, 1998, Proposed Rule).

**Table 1. List of Commenters on the Supplemental Notice of Proposed Rulemaking on National Emission Standards for Hazardous Air Pollutants: Oil and Natural Gas Production Facilities**

<b>Document Docket ID</b>	<b>Commenter, Addressee, Title, or Description</b>
<b>0019</b>	Stephanie R. Meadows Upstream Coordinator American Petroleum Institute 1220 L Street, NW Washington, DC 20005
<b>0020</b>	Stephanie R. Meadows Upstream Coordinator American Petroleum Institute 1220 L Street, NW Washington, DC 20005
<b>0021</b>	G.H.Holliday, Ph.D., P.E., DEE Holliday Environmental Services, Inc. P.O. Box 2508 Bellaire, TX 77402
<b>0022</b>	Robert J Sandilos Senior Government Relations Advisor Chevron North America Exploration and Production 1500 Louisiana St. Houston, TX 77002
<b>0023</b>	Lisa C. Moerner Manager - Environmental Policy Dominion Resources Services, Inc. 5000 Dominion Blvd Glen Allen, VA 23060
<b>0024</b>	Pamela F. Faggart Vice President and Chief Environmental Officer Dominion Resources Services, Inc. 5000 Dominion Blvd Glen Allen, VA 23060
<b>0025</b>	Margaret Young Koch Exploration Company LLC 9777 Pyramid Court, Suite 210 Englewood, CO 80112
<b>0026</b>	Joel D. Howard Manager - Health, Environment & Safety Services Marathon Oil Company P.O. Box 3128 Houston, TX 77253

**Table 1. List of Commenters on the Supplemental Notice of Proposed Rulemaking on National Emission Standards for Hazardous Air Pollutants: Oil and Natural Gas Production Facilities (continued)**

<b>Document Docket ID</b>	<b>Commenter, Addressee, Title, or Description</b>
0027	Gregory D. Russell Vorys, Sater, Seymour, and Pease LLP 52 East Gay Street Columbus, OH 43216 on behalf of the Ohio Oil and Gas Association
0028	Larry Lashley Louisiana Department of Environmental Quality 318-676-5088
0029	Robert Radabaugh Chairman Independent Oil and Gas Association of West Virginia 405 Capitol Street, Suite 507 Charleston, WV 25301
0030	Barry Russell President Independent Petroleum Association of America
0031	Angie Burckhalter V.P. of Regulatory Affairs Oklahoma Independent Petroleum Association 3555 N.W. 58th Street, Suite 400 Oklahoma City, OK 73112
0032	Lisa Beal Director Environment and Construction Policy Interstate Natural Gas Association of America 10 G Street, N.E., Suite 700 Washington, DC 20002
0033	Lisa Beal Director Environment and Construction Policy Interstate Natural Gas Association of America 10 G Street, N.E., Suite 700 Washington, DC 20002
0034	Nicholas DeMarco Executive Director West Virginia Oil and Natural Gas Association P.O. Box 3231 Charleston, WV 25332

**Table 1. List of Commenters on the Supplemental Notice of Proposed Rulemaking on National Emission Standards for Hazardous Air Pollutants: Oil and Natural Gas Production Facilities (continued)**

<b>Document Docket ID</b>	<b>Commenter, Addressee, Title, or Description</b>
0035	Stephanie R. Meadows Upstream Coordinator American Petroleum Institute 1220 L Street, NW Washington, DC 20005
0036	Stephanie R. Meadows Upstream Coordinator American Petroleum Institute 1220 L Street, NW Washington, DC 20005
0043	Don Scott Wallace Sr. Environmental Specialist Devon Energy Corporation 20 North Broadway Oklahoma City, Oklahoma 73102

## 2.0 SUMMARY OF PUBLIC COMMENTS

### 2.1 General Comments on Proposal

#### 2.1.1 Complexity

Comment: One commenter (0021) stated that the proposal was too complex. The commenter (0021) stressed that many TEG dehydrators are operated by small independent Exploration and Production (E&P) operators. The commenter (0021) was concerned that the format of the proposal (i.e., amendatory text) precluded small independent operators from providing comments. The commenter (0021) maintained that cutting/pasting the amendatory language into subpart HH is a daunting task not only for an experienced person, but it would be an impossible task for an independent E&P operator who is not subject to the major source rule. The commenter (0021) recommended that EPA withdraw the proposed rule and prepare a more understandable rule for only area sources.

Response: While this is our standard method of amending rules that have been published in the code of federal regulations (CFR), we agree with the commenter that reading this amendatory language may be difficult. Therefore, we have added a copy of the entire rule (in redline/strikeout format) to the oil and natural gas production website (<http://www.epa.gov/ttn/atw/oilgas/oilgaspg.html>). Since the control requirements for area source TEG dehydrators are similar to the requirements for major source dehydrators contained in 40 CFR part 63 subpart HH, we believe it is more efficient to amend subpart HH to incorporate area source provisions rather than create a separate area source rule as suggested by the commenter.

Comment: One commenter (0021) referred to the applicability options for the location criteria. Specifically, the commenter (0021) stated that by offering two options for area source control implementation when an area source changes from Rural to Urban-1 or Urban-2 status, EPA has increased the difficulty of understanding the proposed rule. The commenter (0021) also referred to EPA's using census data from 2010 and later as a criterion for the conversion of rural to urban dehydrators as adding complexity.

Response: We recognize that proposing two options with different compliance dates for rural sources made the proposed rule more complicated to evaluate, however, this was the only

approach that allowed us to provide the same compliance period for sources regulated under the two options (i.e., three years). We believe that it is necessary to use the most current data from the Bureau of Census since it recognizes where people are located. We plan to use notice and comment rulemaking through the *Federal Register* to amend the rule's applicability criteria to reflect the latest decennial Census data.

### **2.1.2 Lag Time between Proposals**

Comment: Commenter 0031 asked why there has been such a long lag time between the original 1998 proposal and the 2005 proposal. Has EPA evaluated current data and information that justifies the need for additional requirements on upstream oil and gas production TEG units?

Response: As stated in the July 8, 2005, preamble (70 FR 39443), the basis for regulating area source oil and natural gas production facilities shifted from the 1998 proposed rule's area source finding (a proposed finding of adverse human health effects from benzene emissions from TEG dehydration units) to the 2005 proposed rule which fulfills a portion of our obligation under section 112(c)(3) to regulate stationary sources of benzene that are area sources. We deferred final action on the 1998 proposed rule pending issuance on the Urban Air Toxics Strategy (UATS). Although the UATS was finalized in July 1999 (64 FR 38706), we set our future plans based on court-ordered deadlines. The court ordered deadline for regulating area source oil and gas production facilities is December 2006.

### **2.1.3 Request for Comment Extension**

Comment: Three commenters (0019, 0020, 0031) requested an extension to the public comment period. Two commenters (0019, 0020) requested a 30-day extension in order to thoroughly evaluate the notice and provide helpful comments to EPA. The third commenter requested a 60-day extension so that smaller oil and gas operators could evaluate the impacts of the proposed rule on their oil and gas sites.

Response: We denied requests to extend the public comment period. Given that we are beyond the statutory deadline for promulgating the area source NESHAP and because this is a supplement to the February 6, 1998, proposed rule, we believe that 60 days was a reasonable public comment period.

Further, because the proposed rule potentially applied on a national basis, we believe that 60 days was an adequate period of time to determine whether or not a facility has a TEG dehydration unit and whether the unit operates above the 3-MMscf/day and 1-tpy benzene cutoffs and to draft comments.

## **2.2 Compliance Date**

Comment: Several commenters (0022, 0023/0024, 0025, 0026, 0030, 0031, 0032/0033, 0034, 0035/0036, 0043) requested that EPA modify the compliance date. One commenter (0023/0024) suggested that the date used to differentiate new from existing dehydrators should be July 8, 2005. The commenter (0023/0024) stated that EPA's reasoning for using February 6, 1998 to differentiate between existing and new sources was that the July 8, 2005 proposed rule is a supplement to the 1998 proposed rule, which had a new source threshold date of February 6, 1998. However, when the final rule was published on June 17, 1999, it did not regulate area sources. Therefore, according to the commenter (0023/0024), it is unreasonable for dehydrators installed between February 6, 1998 and July 8, 2005 to be treated as new dehydrators in the area source rule.

Five commenters (0022, 0026, 0030, 0035/0036, 0043) requested that the compliance date be adjusted to accommodate the delay between the original proposal and the supplemental proposal and because of confusion in the applicability determinations in the proposed rule. The commenters (0022, 0026, 0030, 0035/0036) argued that the 1998 proposal did not clearly communicate the proposed geographic scope of the proposed area source standard. According to the commenters (0022, 0026, 0030, 0035/0036), the definition of Urban-1 was clear, but because the Urban-2 definition was unclear, E&P operators would not be able to adequately determine whether the standard would apply outside of Urban-1 areas. Therefore, the commenters (0022, 0026, 0030, 0035/0036) argued that due to the delay between the two proposals, and the significant confusion in the applicability of the 1998 proposal, it was unreasonable for EPA to adopt a schedule for implementing the area source rule since E&P operators were not provided reasonable notice regarding area source control requirements outside of Urban-1 areas. The commenters (0022, 0026, 0030, 0035/0036) recommended that EPA grant area sources outside of Urban-1 counties three years to achieve compliance if their

construction or reconstruction began after the date of the 1998 proposal (i.e., treat them as existing sources). The commenters (0022, 0026, 0030, 0035/0036) suggested the following revision to proposed paragraphs (f)(3) through (6) to accommodate that change:<sup>a</sup>

(f) The owner or operator of an affected major source shall achieve compliance with the provisions of this subpart by the dates specified in paragraphs (f)(1) and (2) of this section. The owner or operator of an affected area source shall achieve compliance with the provisions of this subpart by the dates specified in paragraphs (f)(3) through (6) of this section.

(1) The owner or operator of an affected major source, the construction or reconstruction of which commenced before February 6, 1998, shall achieve compliance with the applicable provisions of this subpart no later than June 17, 2002 except as provided for in § 63.6(i).

\* \* \*

(2) The owner or operator of an affected major source, the construction or reconstruction of which commences on or after February 6, 1998, shall achieve compliance with the applicable provisions of this subpart immediately upon initial startup or June 17, 1999, whichever date is later.

\* \* \*

(3) The owner or operator of an affected area source located in an urban area, as defined in § 63.761, the construction or reconstruction of which commences before February 6, 1998, shall achieve compliance with the provisions of this subpart no later than 3 years after the date of publication of the final rule in the **Federal Register** except as provided for in § 63.6(i).

(4) The owner or operator of an affected area source located an area classified "Urban-1" in an urban area, as defined in § 63.761, the construction or reconstruction of which commences on or after February 6, 1998, shall achieve compliance with the provisions of this subpart immediately upon initial startup or date of publication of the final rule in the **Federal Register**, whichever date is later.

(5) The owner or operator of an affected area source located in ~~rura~~ an area classified "Urban-2" in an urban area,<sup>b</sup> as defined in § 63.761, the construction or reconstruction of which commences before July 8, 2005 shall achieve compliance with the provisions of this subpart no later than 3 years after the date of publication of the final rule in the **Federal Register** except as provided for in § 63.6(i).

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<sup>a</sup> The commenter has marked up the suggested language for Option 1.

<sup>b</sup> If EPA extends the area source requirements to rural areas, API would insert "or in a rural area," here.

(6) The owner or operator of an affected area source located in ~~a rural area~~ classified "Urban-2" in an urban area,<sup>c</sup> as defined in § 63.761, the construction or reconstruction of which commences on or after July 8, 2005 shall achieve compliance with the provisions of this subpart immediately upon initial startup or date of publication of the final rule in the **Federal Register**, whichever date is later.

The commenters (0022, 0026, 0030, 0035/0036) further stated that by adopting a standard that imposes controls where none were anticipated, EPA would be imposing controls that are more stringent than its proposed controls. The commenters (0022, 0026, 0030, 0035/0036) stated that they believe that the CAA authorizes EPA to defer the compliance date for area sources outside of Urban-1 areas, because the final rule would be more stringent than the proposed rule. According to the commenters (0022, 0026, 0030, 0035/0036) 40 CFR §63.6(b)(3) provides EPA the authority to adjust the implementation schedule.

Response: We agree with the commenters that the confusion related to the definition merits a change in how we classify existing and new sources, which then changes the compliance date for certain sources. We believe that area sources not located in counties classified as Urban-1 should be considered existing sources if constructed/reconstructed before July 8, 2005.

Therefore, the final rule defines existing and new sources as follows:

- Sources located in counties classified as Urban-1 based on the 1990 Census and were constructed or reconstructed before February 6, 1998 are considered *existing* sources.
- Sources that are not located in a county classified as Urban-1 based on the 1990 Census and were constructed or reconstructed before July 8, 2005 are considered *existing* sources.
- Sources located in a county classified as Urban-1 based on the 1990 Census and were constructed on or after February 6, 1998 are considered *new* sources.
- All sources constructed or reconstructed on or after July 8, 2005 are considered new sources.

In addition, since the final rule requires add-on controls for certain sources and management practices at others, the compliance period differs based on the emission reduction requirements for existing sources [discussed in more detail in section 2.5 of this document (Control Requirements)]. Existing sources installing add-on controls must achieve compliance no later than three years after the final rule's effective date in the *Federal Register*. Existing

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<sup>c</sup> If EPA extends the area source requirements to rural areas, API would insert "or in a rural area," here.

sources implementing management practices must achieve compliance no later than one year after the effective date.

The commenters' statements regarding 40 CFR 63.6(b)(3) are not relevant since the July 8, 2005 supplemental notice informed all area sources that they could be required to install add-on controls, and therefore the final rule is not more stringent than the proposed rule.

## **2.3 Applicability**

### **2.3.1 *Applicability to TEG Units Only***

Comment: One commenter (0025) supported EPA's conclusion that the standards should only apply to TEG dehydration units. They stated that this is the only approach authorized at this time based on the fact that oil and gas production facilities were listed as an area source under the Urban Air Toxics Strategy solely because TEG dehydration units were deemed to be a significant source of benzene, and benzene is one of the 30 pollutants regulated under this strategy. Therefore, the commenter (0025) concluded that these TEG dehydration units are the only units that can be subject to control requirements under this strategy.

Response: As stated in the preamble to the supplemental proposal (70 FR 39443), oil and natural gas production facilities were listed in the Urban Air Toxics Strategy solely because the TEG dehydration units located at these facilities contributed approximately 47 percent of the national urban emissions of benzene from stationary sources at area sources. We continue to believe that it is appropriate to define the affected source as each TEG dehydration unit located at oil and natural gas production facilities and we have not changed the definition of affected source in the final rule.

### **2.3.2 *Transmission of Oil and Natural Gas***

Comment: Commenters (0032/0033, 0034) seek confirmation of the applicability of these rules to only production units, not transmission of oil and natural gas. The table on page 39442 refers to units with NAICS Codes 211111 and 211112, but also directs one to the Subpart HH applicability criteria. The commenters requested a clear exclusion of transmission facilities so that no mistakes will be made by regulated entities.

Response: The commenters' concerns about the applicability of subpart HH to transmission and storage units are not clear. The NAICS Code for natural gas transmission and

storage facilities is 486210. Both the NAICS Codes listed in the table on page 39442 of the preamble to the supplemental proposed rule (NAICS Codes 211111 and 211112) and subpart HH refer to oil and natural gas production facilities.

Further, we do not believe that a specific exclusion for natural gas transmission and storage facilities is necessary. As we discussed in our response to a similar comment on the 1998 proposed rule,<sup>1</sup> we believe that the definitions in subparts HH (§63.761) and HHH (§63.1271) delineate the boundaries of the oil and natural gas production and natural gas transmission and storage source categories. The key points in this delineation are (1) the point of custody transfer, which is a commonly understood definition within industry, and (2) the natural gas processing plant, which is a clearly defined facility within the production source category. Applicability to the area source rule for oil and natural gas production facilities is specified in §63.760(a), which states that "facilities that process, upgrade, or store natural gas prior to the point at which natural gas enters the natural gas transmission and storage source category or is delivered to a final end user" are subject to subpart HH [§63.760(a)(3)]. Section 63.760(a)(3) further specifies that "for the purposes of [subpart HH], natural gas enters the natural gas transmission and storage source category after the natural gas processing plant, when present. If no natural gas processing plant is present, natural gas enters the natural gas transmission and storage source category after the point of custody transfer." Therefore, based on this applicability criterion, no specific exemptions for natural gas transmission and storage facilities have been added to subpart HH.

### ***2.3.3 Outer Continental Shelf***

Comment: Commenters (0022, 0026, 0030, 0035/0036) said EPA should confirm that the area source proposal is not intended to apply to Outer Continental Shelf (OCS) facilities. Commenters disagreed with EPA's statement in the proposal that these sources should be excluded solely because they are assumed to already have controls. Instead, EPA should also recognize that the authority for controlling emissions from facilities in the OCS in the central and western Gulf of Mexico is specifically reserved to the Secretary of the Interior and that in areas where EPA does have authority over OCS sources, it only extends to emissions of criteria

pollutants, not HAP. Excluding OCS sources from area source controls conforms to these precedents.

Response: This area source rule applies to OCS facilities. As we stated in our response to comments received on OCS for the major source rule, section 328 of the CAA provides us the authority to regulate OCS sources to attain and maintain Federal and state ambient air quality standards and to comply with the provisions of the CAA title I, part C.<sup>2</sup> EPA's implementing regulation at 40 CFR § 55.13(e) specifies that "provisions promulgated pursuant to section 112 of the Act shall apply [to OCS sources] if rationally related to the attainment and maintenance of federal or state ambient air quality standards ...." This area source rule regulates benzene, a volatile organic compound (VOC). VOCs react with nitrogen oxides to form ozone, one of the criteria pollutants for which EPA is required to set national air ambient air quality standards. Accordingly, this rule applies to OCS sources because its regulation of benzene is rationally related to the "attainment and maintenance" of ambient air quality standards for ozone.

Our statement that none of the sources on the OCS are uncontrolled area sources that would be impacted by the final rule was in reference to the assumptions that were made to estimate impacts and was not intended to imply that this area source rule does not apply to OCS sources. The commenters did not provide additional data contradicting our assumption that offshore platforms located on the OCS are generally controlled by a flare for safety purposes. Therefore, our assumption and impact analysis remain unchanged.

#### ***2.3.4 Geographic Applicability Criteria***

Comment: EPA proposed two options for the geographic applicability criteria: (1) all TEG dehydration units would be subject to area source standards (referred to throughout this document as Option 1) ; and (2) area source standards would apply to TEG dehydration units located in Urban-1 and Urban-2 counties (referred to throughout the remainder of this document as Option 2). EPA specifically requested comments on Options 1 and 2. Fourteen commenters (0021, 0022, 0023/0024, 0025, 0026, 0027, 0028, 0029, 0030, 0031, 0032/0033, 0034, 0035/0036, 0043) responded to EPA's request for comments.

One commenter (0028) supported Option 1. In support of Option 1, the commenter (0028) stated that rules should not be different for facilities located in urban counties than those

for facilities located in rural counties. According to the commenter, who works with small businesses, a common theme was that small businesses want a level playing field. The commenter (0028) further stated that it puts additional burden on environmental inspectors if different rules are applicable in different counties.

Twelve commenters (0022, 0023/0024, 0025, 0026, 0027, 0029, 0030, 0031, 0032/0033, 0034, 0035/0036, 0043) were opposed to Option 1. The commenters were opposed to EPA's imposing control requirements on area sources in rural areas for two primary reasons: (1) EPA did not have the authority to regulate rural sources and (2) low exposure risks from rural or remote sources. Several of the commenters (0023/0024, 0026, 0029, 0030, 0032/0033, 0034, 0035/0036, 0043) supported Option 2, with changes to the definition of urban areas (see section 2.3.5 for specific comments regarding the definition of urban areas).

Several commenters (0022, 0025, 0026, 0029, 0030, 0031, 0032/0033, 0034, 0035/0036, 0043) stated that EPA did not have the authority under the Clean Air Act (CAA) to regulate area sources in rural areas. One commenter (0043) stated that Option 2 better meets the intent of the area source rules. Two commenters (0032/0033, 0034) stated that nationwide applicability is contrary to the plain language of the CAA which intends for the area source to address HAP in urban areas. Six commenters (0022, 0026, 0029, 0030, 0031, 0035/0036) agreed that the purpose of the area source program was to reduce "...ambient concentrations [of HAP] characteristic of large urban areas to levels substantially below those currently experienced."

Several commenters (0022, 0023/0024, 0026, 0029, 0030, 0035/0036), specifically referred to section 112(k) of the CAA which, according to the commenters, makes it apparent that the concern to be addressed was unique to urban areas. One commenter (0023/0024) stated that regulating rural dehydrators provides limited health benefit since populations in these areas are sparse. According to the commenter (0023/0024), the impact of benzene emissions beyond facility fencelines would be minimal since the number of other sources of benzene emissions are few. In addition, the commenter stated that many States have air toxics regulations which limit the emissions of HAP based on impact on the health of populations beyond the fenceline. Three commenters (0022, 0023/0024, 0029) further stated that it is clear that the remote, small, or sparsely populated rural areas which characterize the majority of the dehydrators potentially

subject to the rural area applicability option are not within the scope of section 112(k)(1). One commenter (0025) referred to EPA's decision to regulate area sources based on the fact that the oil and natural gas production source category was listed in the Urban Air Toxics Strategy, which focuses on urban air toxics emissions as directed by section 112(k)(3)(A) and that nothing in the CAA authorizes extending the Urban Air Toxics program to rural areas. The commenter further stated that even if section 112(k)(3) did allow regulation of area sources in rural counties, EPA has not made the necessary findings to justify extending the proposed rule to rural locations.

Several commenters (0022, 0025, 0026, 0029, 0030, 0031, 0035/0036, 0043) referred to exposure risks from facilities located in rural or remote areas. One commenter (0031) stated that exposure risks in remote areas are low or nonexistent. Two commenters (0032/0033 and 0034) stated that there is no clear indication that emissions from remote sources provide a meaningful contribution to ambient air toxic levels in urban areas. One commenter (0029) stressed that the foundation for the area source program was based on regulating area sources in a manner that would result in a public health benefit. The commenter stated that regulating dehydration units in rural areas would not yield the same public health benefits that were "contemplated" by the statute.

Five commenters (0022, 0026, 0030, 0034, 0035/0036) stated that regulating rural sources would not have the effect intended by the CAA. The commenters (0022, 0026, 0030, 0034, 0035/0036) cited section 112(c) of the CAA, where Congress directed EPA to list for controls "...area source categories representing 90 percent of the area source emissions of the 30 hazardous air pollutants that present the greatest threat to public health in the largest number of urban areas." According to the commenters, the focus of the area source program is those smaller sources of HAP that create unacceptable exposures in concentrated urban areas. According to one commenter (0034), the purpose of regulating area sources under section 112 of the CAA was to specifically reduce health risks to the environment and people in urban areas (i.e., considered to be densely populated). Four commenters (0022, 0026, 0030, 0035/0036) stated that most of EPA's estimated 38,000 dehydrators in the E&P sector are in remote, rural

locations and do not present the risk of exposure that the area source controls are meant to address.

Two commenters (0031, 0043) stated that regulating area sources under Option 1 was unnecessarily costly and burdensome on sites located in these remote areas and had little or no effect on human health.

Response: We believe that the CAA provides the Agency with the authority to regulate area sources nationwide. CAA section 112(k)(1) states that “It is the purpose of this subsection to achieve a substantial reduction in emissions of hazardous air pollutants from area sources and an equivalent reduction in the public health risks associated with such sources including a reduction of not less than 75 per centum in the incidence of cancer attributable to emissions from such sources.” Consistent with this expressed purpose of CAA section 112(k) to reduce both emissions and risks, CAA section 112(k)(3)(i) requires that we list not less than 30 HAP that, as a result of emissions from area sources, present the greatest threat to public health in the largest number of urban areas. CAA sections 112(c)(3) and (k)(3)(ii) require that we list area source categories that represent not less than 90 percent of the area source emissions of each of the listed HAP. CAA section 112(c) requires that we issue standards for listed categories under CAA section 112(d). These relevant statutory provisions authorize us to regulate listed area source categories and not just sources located in urban areas.

In both the UATS and our July 8, 2005 supplemental proposal, we identified the reasons supporting a national rule (e.g., benzene’s toxicity and carcinogenicity, a level playing field, the 75 percent cancer incidence reduction goal) (64 FR 38724 and 70 FR 39446). Furthermore, by requiring management practices rather than control requirements on sources outside the UA plus

offset and UC boundary, we believe that we have appropriately addressed commenters' concern with respect to remote sources being subject to unnecessary or costly requirements.

Comment: Several commenters (0022, 0026, 0030, 0035/0036) stated that extending area source controls to those remote, rural sources far exceeds the Congressional mandate to control potential threats to public health in urban areas from diverse sources of HAP emissions that do not qualify as major sources, as expressed in sections 112(c), 112(k), and 112(n)(4)(B) of the CAA (42 U.S.C. §§7412(c), 7412(k), and 7412(n)(4)(B)). The commenters further stated that Congress clearly recognized that rural E&P operations presented a low risk of public exposure to HAP. In support of their argument, the commenters pointed to section 112(n)(4)(A) and (B), where the commenters stated that Congress provided express direction to EPA on the treatment of E&P operations. According to the commenters, based on these sections in the CAA, it was clear that Congress recognized that the remote, rural nature of most E&P operations presented a decreased risk of public exposure to HAP emissions. The commenters stated that it prohibited the aggregation of emissions from similar equipment in a contiguous area, and it limited the listing of E&P area sources outside of truly urban areas.

Response: As stated in a previous response, we believe that sections 112(c) and 112(k) do not prohibit us from issuing area source rules of national applicability. We also disagree with the commenters' statement that sections 112(n)(4)(A) and (B) of the CAA limits the listing of E&P area sources outside truly urban areas. First, section 112(n)(4)(A) does not address area sources. Secondly, section 112(n)(4)(B) states that we "...shall not list oil and gas production wells (with its associated equipment) as an area source category...except that (we) may establish an area source category for oil and gas production wells located in any metropolitan statistical area or consolidated metropolitan statistical area with a population in excess of 1 million...." In the February 1998 proposal preamble, we addressed the definition of "associated equipment" and determined that glycol dehydration units and storage vessels with flash emissions are not associated equipment (63 FR 6300). Therefore, section 112(n)(4)(B) does not apply to TEG dehydration units at oil and natural gas production facilities.

Comment: Several commenters (0022, 0026, 0030, 0035/0036) stated that EPA did not suggest in the 1998 proposal (63 FR 6300, 6306, and 6309) that it was considering imposing area source controls on rural TEG dehydrators.

Response: The commenter is correct that we did not indicate in the 1998 proposal that we were considering imposing area source controls on rural TEG dehydrators. It is for this reason (among others) that we published the July 2005 supplemental proposed rule and accepted comments on Option 1.

Comment: One commenter (0021) stated that they felt that Option 1 (i.e., regulating all TEG dehydration units) is more favorable to operators. Regarding Option 2, the commenter stated that it presented a technically correct method of dealing with rural areas as they mature into urban areas with time, but that it imposes more severe time constraints. According to the commenter (0021), Option 2 mandates:

1. "pre 6 February 1998" rural area sources comply with 40 CFR subpart HH within three years of the publication of the rule;
2. "pre 6 February 1998" area sources which later become rural as the result of census update comply with subpart HH within three years of publication of the census update; and
3. "post 5 February 1998" rural area sources comply with subpart HH upon publication of the rule.

The commenter stated that this would result in many "post 5 February 1998" facilities being forced to "shut in" while locating and installing controls.

Response: The compliance schedule for new sources is dictated by the statute (i.e., section 112(i) of the CAA). While new sources must comply with the final rule on the date of publication of the final rule or upon startup (whichever is later), the final rule specifies that sources not located in Urban-1 counties are only considered new sources if they were constructed on or after July 8, 2005. Therefore, fewer sources constructed after February 1998 are considered new sources in the final rule.

Comment: One commenter (0025) pointed out that the proposal did not include an evaluation of the hazards TEG units pose in rural areas, and, according to the commenter, by definition rural areas involve much lower exposure risks than urban areas. The commenter noted that in the 1998 proposal, EPA was careful to quantify the cancer risks that it believed were

posed by area source TEG units (63 FR 6288, 6299) but EPA did not update these figures in the July 2005 proposal, instead relying on "general" statements to justify extending the rule to rural areas (70 FR 39446). According to the commenter (0025), EPA's general statements did not provide an adequate legal basis for extending control requirements to rural areas.

Response: As stated in the July 8, 2005, preamble to the supplemental proposal (70 FR 39443), the February 6, 1998 proposed area source rule was based on a proposed finding of adverse human health effects from TEG dehydration units at area source oil and natural gas production facilities. The basis for the July 2005 supplemental proposal and the final rule is to fulfill a portion of our obligation under sections 112(c)(3) and 112(k)(3)(B) to regulate area source categories accounting for 90 per centum or more of emissions of 30 identified HAP that present the greatest threat to public health in the largest number of urban areas ("area source HAP"). Accordingly, listing of area source categories under these provisions was based on the categories' contributions to area source HAP emissions and not on a risk finding. TEG dehydration units at oil and gas production facilities were listed because they contributed significantly to emission of benzene, one of the 30 area source HAP.

### **2.3.5 Urban Definition**

Comment: Several commenters (0022, 0024, 0026, 0027, 0029, 0030, 0031, 0032/0033, 0034, 0035/0056) opposed EPA's definition of "urban areas." According to the commenters (0022, 0024, 0026, 0029, 0030, 0031, 0032/0033, 0034, 0035/0056), by defining urban area as county-wide areas, EPA has expanded urban areas to include large expanses of rural territories. One commenter (0034) stated that a comparison of land area to population on a county basis shows that the target population for protection is very thinly distributed. Four commenters (0022, 0026, 0030, 0035/0056) referred to maps (included in comment 0036 as Exhibit A). The commenters noted that the maps show vast areas of the United States that would be classified as urban areas based on the proposed definition, but have very low population. The commenters specifically referred to the State of Wyoming, in which half of the State is classified as "urban" using EPA's proposed definition. One commenter (0026) also pointed out that in Utah, six of the twelve counties designated as "urban" using EPA's definition have a population density of less than ten persons per square mile.

Other commenters (0032/0033, 0034) stated that some counties with a total population of less than 5,000 and an average population density of less than 2 people per square mile would be classified as urban under the Urban-2 designation. In order to illustrate the broad geographical applicability that includes remote locations, the commenters stated that based on the Urban-2 definition, urban designations would be applied to:

- 14 of 23 counties in Wyoming;
- 20 of 33 counties in New Mexico;
- 10 or 17 counties in Nevada; and
- 17 of 56 counties in Montana.

One commenter (0031) stated that EPA's proposed definition of urban areas would be unnecessarily costly and burdensome on sites located in rural or remote areas but classified as urban.

Three commenters (0031, 0032/0033, 0034) maintained that EPA does not have the authority under section 112(k) to regulate area sources in non-urban, rural areas. One commenter (0031) stated that regulating these sources is outside the scope of the law. Two commenters (0032/0033, 0034) stated that by classifying many geographical areas as urban areas is beyond a reasonable interpretation of the intent of section 112(k) of the CAA. The commenters argued that the intent of section 112(k) was to regulate "urban" or "large urban areas" and that a number of areas that are included are not "urban" or "large urban areas." The commenters stated that it is apparent that the intent of the CAA and the Urban Strategy is to affect change in urban areas and EPA should identify the rationale for including remote areas in the standard.

One commenter (0022) acknowledged that there have been and will continue to be instances of energy production and population encroachment. However, according to the commenter, most of the known conventional or unconventional gas supply basins are likely to remain rural for the foreseeable future.

Response: The statute does not define urban, thus, leaving us the discretion to define the term. We proposed and took comments on our definition of the term urban as part of our 1999 UATS. The definition was the basis for the listing of area source categories pursuant to section 112(c)(3) and (k)(3)(B)(ii) of the CAA. We are currently under court-ordered deadlines to

complete issuing standards for all listed area source categories. Changing the definition of urban would mean recreating an area source category list, which may differ significantly from the current list and, thus, greatly hinders our effort to complete our obligation by the court-ordered deadlines. Therefore, we believe that revisiting the definition of urban is inappropriate at this time. However, we have tailored this rule to address the unique circumstances associated with this source category, as described above. Moreover, in response to comments regarding the nature of remote sources, we modified this final rule and are only requiring the add-on control requirement for sources in areas of higher population densities, which we have identified as areas within the UA plus offset and UC boundaries. This rule imposes the less costly management practice requirements on sources outside the UA plus offset and UC boundaries.

Comment: Several commenters (0022, 0024, 0026, 0027, 0029, 0030, 0032/0033, 0034, 0035/0056) recommended that EPA redefine "urban areas." Two commenters (0029, 0034) suggested that the definition of urban area should at most be limited to Urban-1 counties based on the 2000 census. According to one of the commenters (0034), emission reductions would not have the effect intended by and directed through the CAA, but would instead be reductions in open countryside where few, if any, will have a benefit.

Two commenters (0032/0033, 0034) stated that EPA should not be compelled to use the Census Bureau-based definition of urban areas and that other viable options are available. The commenters (0032/0033, 0034) stated that alternative definitions are available from other agencies and from recent Federal Register releases. The commenters (0032/0033, 0034) stated that they believe that EPA should revise the definition such that it does not include remote or sparsely populated regions. According to the commenters (0032/0033, 0034), several notices have been published in the Federal Register related to defining "urban" versus "rural" and Metropolitan Statistical Area (MSA). As an example, the commenters (0032/0033, 0034) referred to one notice which indicates that there are at least six definitions of "urban" in use within federal agencies (65 FR 82229). The commenters (0032/0033, 0034) recommended that EPA define an alternative option for geographic applicability that does not use the Urban-2 definition and considers 2000 census information. For example, the commenters referred to "Urban Area Criteria for Census 2000" (67 FR 11663) which includes the following definition:

"For Census 2000, a UA [urbanized area] consists of contiguous, densely settled census block groups (BGs) and census blocks that meet minimum population density requirements, along with adjacent densely settled census blocks that together encompass a population of at least 50,000 people."

The commenters also referred to the Census Bureau's online glossary definition of "urbanized area:"

"An area consisting of a central place(s) and adjacent territory with a general population density of at least 1,000 people per square mile of land area that together have a minimum residential population of at least 50,000 people. The Census Bureau uses published criteria to determine the qualification and boundaries of UAs."

According to the commenters, the Census Bureau published a list of 453 urbanized areas in the U.S. (based on the 2000 census) with populations over 50,000, which comprise about 70 percent of the total U.S. population (67 FR 21962). The commenters stated that the areas and population covered using this definition appear more than adequate to address the intent of section 112(k) of the CAA (i.e., to reduce ambient levels of air toxics for urban areas and populations).

The two commenters (0032/0033, 0034) also referenced the definition of "urban cluster," a densely settled territory that has at least 2,500 people but fewer than 50,000, which delineates urban and rural areas by census blocks. The commenters noted that census blocks are much smaller than counties and provide a more precise urban-rural partitioning than counties. According to the commenters (0032/0033, 0034), using this definition would add to the urban category over 3,000 additional areas and about an additional 10 percent of the U.S. population. The commenters (0032/0033, 0034) also stated that including the "urban cluster" definition could add complexity and extend beyond highly populated, larger urban areas. The commenters (0032/0033, 0034) did state that including Core Based Areas, Urban Clusters, and Micropolitan Areas (which are detailed in the Census Bureau releases) did not seem necessary to address the intent of the area source program.

Five commenters (0022, 0024, 0026, 0030, 0035/0056) provided an alternative definition for urban areas which includes Census-defined MSA and "urbanized areas," as follows:

*Urban area* for the purposes of the area source determination is defined by use of the U.S. Department of Commerce's Bureau of Census statistical data to classify all land area in the U.S. into one of three classifications as follows:

- (1) Urban-1 areas, which consist of metropolitan statistical areas (MSA) with a population greater than 250,000.
- (2) Urban-2 areas, which are defined as all other areas designated as "urbanized" by the Bureau of Census (areas which comprise one or more central places and the adjacent densely settled surrounding fringe that together have a minimum of 50,000 persons. The urban fringe consists of contiguous territory having a density of at least 1,000 persons per square mile); or
- (3) Rural areas, which are all areas that are not designated as Urban-1 or Urban-2.

The five commenters (0022, 0024, 0026, 0030, 0035/0056) claimed that by revising the definition, EPA would create a more appropriate focus for applying the regulation. According to the commenters, their definition more closely approximates the target cited in the Integrated Urban Strategy, which was urban areas with "populations of more than 50,000."<sup>3</sup> The commenters further argued that their recommended definition would more clearly implement the purpose of the area source program, to address HAP exposure in urban areas.

Two commenters (0032/0033, 0034) supported the use of the "urbanized area" definition as providing an appropriate basis to identify areas that should be regulated under the proposed standards and is consistent with the intent of the CAA. At a minimum, the commenters (0032/0033, 0034) stated that EPA should evaluate the range of alternatives that are available from other Federal agencies (e.g., urbanized area, urban cluster) to redefine the urban area definition.

One commenter (0027) suggested that EPA redefine urban area or consider other mechanisms for determining appropriate population densities based on the risks presented. For example, the commenter suggested a mechanism analogous to the U.S. Department of Transportation's use of the Potential Impact Circle concept when regulating high pressure natural gas transmission lines for purposes of pipeline safety.

Several commenters (0022, 0026, 0030, 0035/0056) also pointed out that EPA noted in the Integrated Urban Strategy states that "the determination of the area in which standards apply should be made separately for each source category." According to the commenters, EPA does not need to impose uniform definitions of urban areas for all area sources.

Response: As previously stated, our long-standing definition of “urban” is the product of public notice and comment and the foundation of the Agency’s area source program. Because the definition applies to all listed area source categories, we do not believe that it is appropriate to change the definition within any specific area source rule. However, we would find ways to address any specific concern with the application of the definition when warranted. In this case, because TEG dehydration units are more likely located in remote areas, we have differentiated between TEG dehydration units located in densely populated areas (i.e., those located within the UA plus offset and UC boundary) and those located outside those areas.

Comment: One commenter (0028) said that the definition of urban area should be based on the most recent census data. As the census data are updated and sources change from a rural to an urban classification, those sources should be considered existing sources. To classify them as new would be confusing to small businesses.

Response: Under the final rule, the definitions of UA and UC are based on the most recent data from the Bureau of Census, which currently are the 2000 Census data. When census data are updated, we will propose to amend this rule to reflect the new data if necessary.

## **2.4 Exemptions**

### **2.4.1 Define Low-Risk Subcategory**

Comment: Several commenters (0023/0024, 0032/0033, 0034) asked that EPA consider creating a source category that can be exempted from the regulations if the facilities can demonstrate insignificant health risk. The commenters (0023/0024, 0032/0033, 0034, 0043) cited such "low-risk" subcategories in other MACT rules such as the Plywood and Composite Wood Products MACT (40 CFR 63, subpart DDDD). They believe that such an exemption would be especially important if EPA adopts either of the geographical applicability options in the proposed rule. Two commenters (0032/0033) indicated that an appendix is also needed for the proposed rule that identifies the methodology and criteria for demonstrating that an affected source is part of the low-risk subcategory – analogous to Appendix B for subpart DDDD. One of the commenters (0034) suggested that these provisions include a simple look-up chart of criteria for exclusion based on risk.

Response: We interpret the commenters' primary concerns to be the regulation of TEG dehydration units in truly remote locations due to the broad applicability that a county-based approach and a national approach would require. We believe that we have addressed the commenters' concerns by requiring use of control devices only on sources located within UA plus offset and UC boundaries and management practices (i.e., optimized glycol circulation rate) for sources located outside of UA plus offset and UC boundaries.

#### **2.4.2 Distance Exemption**

Comment: Commenters (0032/0033, 0034) said if the U-1/U-2 approach is retained, provisions should be added that allow an affected unit to be excluded based, for example, upon the filing of a certification and map showing that the unit is not located within any municipality boundaries or incorporated area, and is geographically distant from occupied residences; or based upon the approaches suggested by INGAA and used in other EPA rules, which take low risk into account based upon a simple look-up chart of criteria for exclusion. Such approaches will allow sources in rural areas which are not contributing to any problem to be excluded easily without the need for site-specific demonstrations or modeling or the use of expensive consulting services.

One commenter (0043) suggested a risk-based approach that looks at emissions and the distance to the nearest receptor. They supported this position by stating that the area source rules are meant to protect human health, therefore controlling offsite impacts where human health could actually be affected is the most sensible option.

Several commenters (0022, 0026, 0030, 0035/0036) requested that EPA consider (and adopt) a risk-distance calculation to impose controls only on those area sources that could be seen to present an unacceptable risk of exposure to nearby receptors. Specifically, these commenters suggested that, instead of applying area source controls nationwide or in rural areas of counties that contain isolated urbanized areas, EPA adopt a risk-distance approach calculation outlined in API publication, API 4644, "A Methodology for Estimating Incremental Benzene Exposures and Risks Associated with Glycol Dehydrators." A copy of this publication was provided (0036).

The commenters (0022, 0026, 0030, 0035/0036) pointed out that there is a history of discussions between the industry and EPA on this approach. Commenters recommended that EPA adopt this screening method, which uses the PC-based "SimRisk" model, during discussions surrounding the 1998 proposal, and EPA raised objections to using this method due to its complexity. The commenters indicated a willingness to address the perceived problem and to make implementation of this risk-distance method more user-friendly. The commenters also pointed out that EPA also objected in 1998 to the risk-distance calculation because the method focused solely on protection of the most exposed individual rather than the general population. The commenters said that this objection contradicts EPA's own risk analyses, which generally use risk to the most exposed individual as a key measure in risk assessment.

Further, the commenters cited various examples of other regulations and programs where similar approaches are utilized. These include the NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters, the NESHAP for Plywood and Composite Wood Products, the California Air Toxic Hot Spots program, and the California Air Resources Board land-use handbook.

Response: As we stated in the previous response, we do not believe that we have authority to exempt from regulation sources that have been identified as necessary to reach the statutory 90% target. However, we believe that we have addressed the commenters' concern by requiring control devices on sources in densely populated areas.

#### **2.4.3 Size Cutoffs**

Comment: Four commenters (0025, 0026, 0028, 0034) supported the proposed provisions that exempt sources with gas throughputs less than 85,000 standard cubic meters per day (3 million cubic feet per day) or actual average emissions of benzene from the TEG dehydration unit process vent to the atmosphere less than 0.9 Mg/yr (1 ton/year). One of the commenters (0028) indicated that they think it is a good idea to base applicability on flow rate, as it is easy to measure and is already done for sales purpose. They assumed that the 3 million cubic feet per day gas flow rate was equivalent to the 1 ton/year benzene emissions level, and pointed out that stack testing to determine the emissions rate would be much more expensive than flow rate measurement. One of the commenters (0025) stated their belief than any lower

cutoff threshold would not be authorized by law, based on the fact the Agency has not demonstrated either that controls exist for these types of sources or that any such controls would be cost-effective.

Response: We appreciate the commenters' support regarding the Agency's decision not to impose control equipment requirements on sources with flow rate or benzene emissions below the cutoffs. The commenter is incorrect in assuming that the 3-MMscf/day cutoff is equivalent to the 1-tpy benzene emissions cutoff. These cutoffs are the points below which we have not found control equipment being used and have also determined that it would not be cost effective to control. It should be noted that sources may determine emissions using the GLYCalc<sup>TM</sup> program in lieu of emissions testing.

Comment: While they supported the concept, one commenter (0027) stated their belief that the 3 million cubic feet per day gas throughput exemption level was too low. They wrote that, because of the typical upstream aggregation of streams in the Appalachian Basin, these levels will make many marginal streams subject. As evidence, they cited that the average production for an Ohio well is only 5 million cubic feet per day. To guard against making these small aggregated sources subject to the rule, the commenter (0027) suggested that this exemption level be changed to 5 million cubic feet per day.

Response: We evaluated the difference between controlling only TEG dehydration units with natural gas throughputs greater than 5 MMscf/day and those with throughputs greater than 3 MMscf/day. We determined that the cost effectiveness associated with the 3 MMscf/day option (\$2,400/ton) was reasonable.<sup>4</sup> Further, the commenter did not provide us with additional information showing no TEG units below 5 MMscf/day are controlled. Therefore, the final rule retains the 3-MMscf/day throughput exemption.

Comment: Another commenter (0030) supported the retention of the proposed exemptions based on facility-level throughput thresholds in the current rule that exempt facilities with annual average natural gas throughput of 18,400 standard cubic meters per day (650 cubic feet per day) or hydrocarbon liquid throughput of 39,700 liters per day (250 barrels per day). The commenter (0030) stated that this exemption allows small production facilities that are incremental contributors to HAP emissions to easily understand whether they need to further

assess their operations to determine whether an associated TEG dehydrator has an actual annual average flow rate of natural gas exceeding 85,000 standard cubic meters per day or actual average benzene emissions of more than one ton/yr.

Response: The intent of the exemption in §63.760(e)(2) was to provide a cutoff so that very small facilities would not have to perform an evaluation to determine whether or not they were major sources. Therefore, section only applies to major sources and we have clarified this in the final rule. (Note: the exemption in 760(e)(2) requires that natural gas throughput be below 18,400 standard cubic meters per day and 39,700 liters per day, rather than or as stated by the commenter.

#### **2.4.4 Decline Rates**

Comment: Commenters (0022, 0026, 0030, 0031, 0035/0036, 0043) said EPA should allow the facility operator to establish a true measure of emissions for area sources prior to installation of controls. Such a provision would recognize that production in oil and gas operations typically declines significantly over a short period of time after initial startup. Some commenters (0031, 0043) said that for dehydrators with a design capacity of 10 MMscf/day or less that the operator should be allowed 1 year to establish actual annual average flow rates to determine if controls under the area source rule are required. Commenter 0031 added that the use of actual throughput volumes is recommended because it is easy to determine. This is a factor at small independent operators who lack the personnel or expertise to conduct complex emission calculations.

Commenters (0022, 0026, 0030, 0035/0036) said determining whether a new source is an affected source should be based on a known decline curve in a producing field. The commenters noted the NESHAP currently applicable to major sources in the E&P industry allows facility operators to take the decline in production into account in determining potential to emit (PTE) for certain existing facilities. EPA should extend this philosophy to new wells by allowing PTE and exemption calculations to incorporate representative historical data from existing wells within the same field as new wells. Specifically, EPA should add a new subparagraph (iv) to §63.760(a)(1) to allow an operator placing a new well online to make the determination using the daily average production rate for the first year of operation of other representative wells within

the same field as the new well. The rule would incorporate the same conservative multiplier (1.2) that applies in §63.760(a)(1)(i)(A) to existing wells. To qualify, the TEG dehydrator would have to be installed within an oil and gas production field with a demonstrated history of production decline. If the facility operator can demonstrate, to the satisfaction of the Administrator, that the TEG dehydrator is reasonably likely to meet the exemption levels in Subpart HH during the first year of operations (i.e., annual average flowrate of less than 3 million standard cubic feet per day (85 thousand cubic meters per day) or actual average emissions of benzene of less than one ton per year (0.90 megagrams per year)), based on that demonstrated history of production decline and the first year production rates of the other representative wells in the field, the new TEG dehydrator would not be an affected major source or area source .

Response: New sources are required under section 112(i) of the CAA and the General Provisions [40 CFR 63.6(b)] to be in compliance with applicable regulations upon startup or upon the effective date of the regulation (whichever is later). Therefore, it is not appropriate to include a provision in the final rule that would provide new sources an extension of the compliance date. Further, we believe that new sources have options at their disposal to take the decline in production into account. For example, since the 3-MMscf/day cutoff is an annual average, not an instantaneous value, once it becomes apparent that the dehydration unit's throughput could exceed the 3-MMscf/day cutoff, a source has the option to regulate the flow to either maintain a throughput less than 3 MMscf/day or to install controls. Thus, the final rule does not contain a provision for incorporating decline rates.

#### **2.4.5 Transition Policy On "Potential To Emit"**

Comment: Commenters (0022, 0026, 0030, 0035/0036) asked EPA to verify the continued effect of the Potential to Emit transition policy until the completion of the PTE rulemaking process. The commenters stated that they understand that the provisions of the transition policy that recognize state-enforceable limits are still in effect and that EPA personnel have indicated that EPA intends to revive its pursuit of resolution on this issue. The commenters were particularly interested in the continuing ability of a source to rely on a "practically enforceable, state-enforceable limit" to restrict PTE. Commenter 0022 said this is important for

the great number of small oil and gas dehydration units that will clearly be able to demonstrate actual compliance with the proposed flow rate or annual benzene emissions cutoff limits by being "subject to state-enforceable limits that are enforceable as a practical matter."

Response: The PTE transition policy expired on December 31, 2000, with a six-month extension for air permitting agencies that demonstrated the need for the extension. However, the state-enforceable provision of the transition policy, which allows a source to rely on a practically enforceable, state-enforceable limit to restrict its PTE, will remain in effect until we have completed rulemaking on the term "potential to emit."<sup>5</sup>

#### ***2.4.6 Documentation to Prove Control Equipment Exemptions***

Comment: One commenter (0031) said EPA should minimize documentation for sources to prove they are not subject to the requirements in the final rule. Emission calculations on all well sites would be costly and burdensome. Instead, basic data such as actual annual average flow rate of natural gas should be sufficient documentation.

Response: The proposed rule does not require emission calculations on all well sites. First, only well sites that have a TEG dehydration unit onsite are subject to the emission reduction requirements in the area source standard. Second, to qualify for the exemption, benzene emission calculations are only necessary for TEG dehydration units with an actual annual throughput greater than or equal to 3 MMscf/day. Any TEG dehydration unit with an actual annual throughput less than 3 MMscf/day is exempt from emission reduction requirements. Therefore, we believe that our documentation requirements are sufficiently minimized and we have not made any changes to the final rule in response to this comment.

### **2.5 Control Requirements**

#### ***2.5.1 Controls for Remote/Unmanned Sources***

Comment: Commenters (0022, 0023/0024, 0026, 0030, 0032/0033, 0034, 0035/0036) said if EPA imposes controls on TEG dehydrators outside of Urban-1 areas, it should adopt a separate (lesser) control standard for those remote area sources for the following reasons:

- It is not justified based on health effects
- Practical considerations prevent operators from achieving the 95% control efficiency on remote, unmanned TEG dehydrators.

Commenters (0022, 0026, 0030, 0035/0036) said that in order to meet the 95% control efficiency or the outlet concentration, an operator generally has to install a system with a forced draft fan for the condenser and a flare or vapor recovery system. Many remote sources do not have an electric power supply, which precludes using a forced draft fan. Routing the vapors to the firebox or fire-tube is not practical in all situations because the high water vapor content can extinguish the fire. While flares and vapor recovery systems address this problem, they require frequent monitoring, which is a problem at unmanned sites that are only visited infrequently. The lack of electric power supply would make certain automated monitoring systems impossible.

Commenters (0022, 0026, 0030, 0035/0036) said EPA should adopt a separate GACT standard for facilities outside of "Urban-1" areas and "urbanized areas." The 95-percent control efficiency standard could still apply in Urban-1 areas and "urbanized areas," but it would not otherwise apply to area source TEG dehydrators. The commenters recommended that EPA set GACT for facilities that are not located in Urban-1 or urbanized areas as a reduction of benzene to a level of less than 1 tpy, and remove the 95-percent control efficiency requirement. Commenter 0022 added that GACT could also be considered as the installation of a flash tank/condenser or incinerator process.

Response: We agree with the commenters that it is reasonable to require a higher level of emission reductions for TEG dehydration units located in more densely populated areas. We also recognize that the oil and natural gas source category is unique because there are many area sources that are located in remote or rural areas. For these reasons and the reasons discussed above, we have subcategorized to differentiate between those sources above the cutoff levels identified above that are located inside UA plus offset and UC boundaries and those located outside such boundaries. We require installation of control equipment for TEG dehydration units located inside UA plus offset and UC boundaries and management practices (i.e., optimized glycol circulation rate) for units located outside UA plus offset and UC boundaries. We believe that this approach addresses the commenters' concerns regarding the control of remote or rural facilities.

Comment: Commenters (0032/0033, 0034) said EPA should conduct additional analysis associated with the burden and cost imposed, and also the potential for unique technical issues associated with control effectiveness, for implementing a standard at remote sites.

Response: Because we are not requiring add-on controls at sources located outside a UA plus offset and UC boundary, it is not necessary to revise the costs for the installation of add-on controls to address burden at remote sites. However, we have estimated impacts associated with applying management practices (i.e., optimizing the TEG circulation rate) for sources located outside of UA plus offset and UC boundaries. In order to be conservative in our analysis, we assumed that half of the area sources located outside of UA plus offset and UC boundaries would need to replace their glycol pump to achieve the optimum circulation rate. Because operating at the optimized TEG circulation rate results in a reduction of natural gas losses, the annual cost includes a partial cost savings, which reduces the annualized cost for glycol pump replacement. We estimate an annual cost of approximately \$900 per area source.

Comment: Some commenters (0031, 0043) said the 95-percent control efficiency appears excessive for area sources, especially those that are remote and unmanned. A control efficiency of 80 percent was suggested. Commenter 0043 said achieving a 95-percent removal will require combustion after a condenser, and there are safety issues associated with post combustion. Commenter 0031 said EPA has not justified the 95-percent efficiency rate, and EPA should provide justification for any efficiency rate it proposes.

Response: As we stated in the preamble to the February 1998 proposed area source standard (63 FR 6299), condensers and flares installed on actual area source TEG dehydration units have been observed and we believe that condensers capable of achieving 95 percent emission reduction are technically feasible for area sources. The commenters did not provide any data showing their basis of the 80-percent control efficiency. Therefore, we have not changed the level of control for the area source standards. However, as stated previously, the final rule distinguishes between sources located in densely populated areas and those located in rural or remote areas. TEG dehydration units with an actual annual average throughput of 3 MMscf/day or more and benzene emissions of 1 tpy or more, that are located outside a UA plus offset and UC boundary, are required to implement management practices.

Comment: Commenter (0031) asked EPA to clarify if a flare is required to meet the efficiency rate, would it have to meet the flare standards in 40 CFR 63, subpart A.

Response: The commenter is correct, flares are required to meet the standards in the General Provisions, 40 CFR 63, subpart A [see §63.771(d)(i)(iii)].

### **2.5.2 *Start-up, Shutdown, Malfunction Plans***

Comment: One commenter (0025) supported the decision to not require submittal of malfunction reports as proposed in 1998 and prefers the current proposal's requirements. This would have been burdensome and impractical, especially in remote locations that do not have full-time operators onsite.

Response: We appreciate the commenter's support of the current proposal's startup, shutdown, and malfunction report requirements. No changes to these requirements have been made to the final rule.

## **2.6 Reporting and Recordkeeping**

Comment: Commenters (0022,0023/0024, 0026, 0030, 0032/0033, 0034, 0035/0036) said setting a GACT standard for remote area source TEG dehydrators that eliminates the 95% control efficiency standard should not require the same level of monitoring, recordkeeping, and reporting that applies to major sources in truly urban areas. Commenters (0022, 0026, 0030, 0035/0036) said a remote area source TEG should be required to register the source with the agency implementing the control requirements and demonstrate compliance with the GLYCalc™ calculation. The operator could be required to reconfirm that the source meets the 1-tpy standard through quarterly measurements.

Commenters (0023/0024, 0025, 0032/0033, 0034) added that compliance with the startup, shutdown, and malfunction (SSM) requirements will be difficult for remote, unmanned locations because these requirements normally call for immediate action when there is a failure. Commenters (0032/0033, 0034) added that EPA has not taken into account previous comments on SSM requirements that logging of events and submittal of reports (including time constraints associated with immediate reporting in some instances) impose issues that are difficult to address for remote sites.

Some commenters (0029, 0031) felt that EPA should simplify the reporting and recordkeeping for area sources in general because many of the units covered may be in remote areas and at unmanned facilities. Commenter 0031 added that smaller operators will be greatly impacted if this level of detail is required.

Response: We believe that the recordkeeping and reporting requirements for remote sources under the final rule are simple and reasonable. First, SSM procedures only apply to sources required to install add-on controls, which are only required for sources located within the UA plus offset and UC boundary. Further, only sources with TEG dehydration units with annual average throughput of 3 MMscf/day or more and benzene emissions of 1 tpy or more are required to submit documentation providing their location. Sources with TEG dehydration units with throughputs less than 3 MMscf/day or benzene emissions less than 1 tpy are required to maintain records of the determination of these criteria [§§63.764(e)(1) and 63.774(d)(1)] but are not subject to any reporting requirement.

Comment: One commenter (0021) pointed out that the provisions requiring that records be kept on site or accessible within 2 hours of the dehydrator are impossible for the Rocky Mountain region, where winter prevents access to the well site within 2 hours.

Response: Section 63.774(b)(1)(ii) states that records can be stored in a central location either on computer or other means that provides access within 2 hours after the request. Therefore, records for facilities located in regions that may be inaccessible may be stored at an off-site location provided they are accessible within the 2-hour time period.

## **2.7 Test Methods**

Comment: Commenters (0032/0033, 0034) endorsed the addition of ASTM D6420-99(2004) as an alternative test method to EPA Method 18.

Response: We appreciate the commenters' endorsement of this alternative test method.

## **2.8 Impacts Analyses**

Several commenters (0021, 0027, 0031, 0034) referred to several aspects of EPA's economic impact analysis, including: the TEG dehydrator population estimate, the cost impact analysis, and the impact of the rule on regulated sources. One commenter (0021) stated that EPA's economic impact analysis is based on assumptions that are not "supported by the proposed

rule, references, discussion, or logic." The commenter (0021) recommended that EPA should prepare an accurate estimate of the cost of the rule.

### ***2.8.1 TEG Dehydrator Population Estimate***

Comment: Two commenters (0021, 0031) commented on EPA's estimate of the TEG dehydrator population. One commenter (0021) did not agree with EPA's approach for estimating the number of wells and stated that the number appeared low. The commenter's (0021) arguments had three main points. First, the commenter (0021) noted that EPA relied on a 1996 discussion with representatives of API for the number of wells having specified gas production ranges. According to the commenter (0021), API represents major operators, who typically find small gas sources uneconomical, meaning that the estimates may be biased. The commenter (0021) stated that discussions with representatives of Railroad Commission of Texas show that the State of Texas does not routinely record statistics comparing the number of gas wells as a function of production rate. The commenter (0021) stated that these statistics were available for a fee and suggested that EPA should have contracted for them. In addition, the commenter (0021) stated that they did not believe API worked with 33 State Agencies to prepare the data.

Second, the commenter (0021) referred to the fact that area source statistics were derived from the number of Gas Processing Plants estimated to exist in 2003. The commenter (0021) maintained that the correlation between gas plants and TEG area sources was unsupported. The commenter (0021) stated that according to the Railroad Commission of Texas there was no data to support the assumption.

Third, the commenter (0021) stated that EPA provided no insight into how the TEG/Gas Plant correlation was derived. Specifically, the commenter (0021) stated that the table of Area Source TEG Dehydration Units by throughput from 0.1 to 5 MMscf/day was not supported. According to the commenter (0021), EPA's estimate of the number of dehydration units is low. In support of their argument, the commenter (0021) referred to personal communications with the Railroad Commission of Texas engineers, which indicated that EPA's estimate of the number of TEG dehydration units is about the same as the number Texas record show for all E&P dehydrators in Texas in the range from 0.1 to 5 MMscf/day.

The commenter (0021) also referred to EPA's assumption in the current estimate that 10 percent of the TEG dehydrators would use flash tanks. According to the commenter (0021), this assumption was based on the original proposal background information document where EPA did not recommend the use of the 10-percent flash tank estimate, "but simply suggests if 10 percent is used, the results are...." The commenter (0021) maintained that these statements are misrepresentations of the facts and cast doubts on the rulemaking process.

The commenter (0021) stated that they have attempted to obtain TEG dehydration unit population without success. According to the commenter (0021), the Independent Petroleum Producers Association (IPPA) do not collect these data. Further, the commenter (0021) stated that representatives of the Railroad Commission of Texas have demonstrated that they do not have a means of distinguishing TEG dehydration units, regardless of throughput capacities.

The commenter (0021) supported EPA's emission estimates based on GRI-GLYCalc, but stated that using these emission estimates with unsupported population estimates appears questionable.

One commenter (0031) questioned where EPA's impact estimate came from. The commenter (0031) clarified that they did not understand how EPA estimated that 2,200 sources would be impacted by applicability Option 1 (national applicability) and 1,050 sources would be impacted by Option 2 (Urban-1/Urban-2 applicability). The commenter stated that EPA needed to justify its data and assumption.

One commenter (0021) stated that EPA's estimates of TEG dehydrator population are questionable, and therefore any cost/benefit analysis based on these population estimates is in question.

Response: According to the Railroad Commission of Texas, they do not maintain information about the glycol dehydration unit population in the State of Texas. The Commission does maintain data on the number of active wells in the State.<sup>6</sup> We believe that the commenter may have confused the number of wells with the number of dehydration units.

Our estimate of the population of TEG dehydration units was based on a procedure developed by a consultant to the American Petroleum Institute (API)<sup>7</sup> and reasonable apportioning of the number of TEG dehydration units with actual natural gas throughputs

ranging from 0.1 to 5 MMscf/day. Throughput sizes were apportioned across the size ranges based on the number of wells, the number of processing plants and the volume of gas produced. We used this estimate to compare control options. No additional information regarding the population of TEG dehydration units was provided by the commenters. Therefore, we have not adjusted our estimates of the TEG dehydration unit population.

### **2.8.2 *No New Area Source Assumption***

Comment: Commenter (0043) disagreed with EPA's assumption that any new sources would be major sources. The commenter said the opposite is true because industry tries to avoid the title V process by limiting emissions below major source thresholds. Therefore, the impact of the proposal is much greater than assumed.

Commenter (0031) questioned the new source assumption and asked for clarification regarding the resulting title V impacts. The commenter was concerned that all sources subject to GACT would be required to obtain title V permits, which would be burdensome and costly.

Response: In response to this comment, we reevaluated our assumptions related to the number of new sources that would be subject to the area source rule. We estimate that there will be 423 new area sources constructed in the first three years after promulgation of the final rule, based on the trend in the number of new wells drilled from 2002 to 2005<sup>8</sup> that we used to estimate future well drilling activity. Of these 423 new sources, we estimate that 6 sources will be located within UA plus offset and UC boundaries. We believe that the resulting costs and burden of complying with the area source standards for these sources are reasonable. Area sources are not required to get Title V permits under subpart HH.

### **2.8.3 *Unmanned Facilities Use of Flares***

Comment: Commenters (0032/0033, 0034) said many remote, unmanned sources in West Virginia use flares rather than condensers due to gas characteristics in the area. Therefore, controls here may prove to be more costly than assumed by EPA for sources in remote areas that are actually having less impact than for most other areas.

Response: We believe that the final rule, which only requires management practices for sources outside of UA plus offset and UC boundaries, addresses the commenters' concerns regarding the costs of add-on controls (i.e., flares) for remote sources.

#### **2.8.4 Sensitivity To Operating Costs**

Comment: Commenter 0027 was concerned that the increased regulatory costs associated with the proposal will result in the premature abandonment and permanent loss of a significant source of U.S. natural gas supplies. The vast majority of production in the Appalachian Basin states is economically marginal, and these natural gas streams are extremely sensitive to any increases in operating costs, including increased regulatory costs. These streams are often aggregated from hundreds and thousands of wells behind a TEG dehydration unit. Applying standards to the TEG dehydration unit will push the regulatory costs upstream, resulting in the premature loss of otherwise viable domestic marginal natural gas supplies.

One commenter (0031) said small independent operators, which are prevalent in the industry, do not have the personnel or the expertise to evaluate or implement the proposed rules if they become final. Smaller operators will have to hire consultants to address the additional requirements, which create an additional cost burden. EPA needs to reconsider the impacts to smaller operators.

Response: As a part of the rulemaking process, we are required to evaluate the impact a rule may have on small businesses. Our evaluation was based on the maximum level of control required at a single source, and the associated costs incurred, in comparison to the minimum revenue realized from that source. This analysis is presented in section V.C (Regulatory Flexibility Act) of the preamble to the July 8, 2005 supplemental proposal (70 FR 39449). We estimated that the proposed area source standards would have costs significantly less than 1 percent of revenues. Based on this estimate, we determined that the annual cost of control for facilities affected by the proposed rule is not sufficient to generate a significant impact on a substantial number of small entities.

#### **2.9 Comments Received on February 6, 1998, Proposed Rule**

In addition to the public comments received on the July 8, 2005, supplemental proposal, we also received comments on the original February 6, 1998, proposal related to the area source standards. These comments were not addressed since final action with respect to area sources was deferred. This section provides a summary of the comments received on the February 6, 1998 proposed area source standards and our responses to these comments. The legacy docket

for these comments is Docket No. A-94-04. Table 2 presents a listing of only the persons submitting written comments on the area source standards (i.e., commenters making comments on the major source rule are not shown), their affiliations, and the docket item number for their comment.

**Table 2. List of Commenters on Proposed Standards for Oil and Natural Gas Production Industry<sup>a</sup>**

Docket Item Number <sup>b</sup>	Commenter and Affiliation
IV-D-1	G. Von Bodungen Louisiana Department of Environmental Quality Office of Air Quality P.O. Box 82135 Baton Rouge, Louisiana 70844
IV-D-4	R. Gow Questar Corp. P.O. Box 45433 Salt Lake City, Utah 84145
IV-D-5	T. LaSalle, HLP Engineering, Inc. barryh@linknet.net (Via e-mail)
IV-D-6	S. Knis The Dow Chemical Company Midland, Michigan 48675
IV-D-7	V. Lajiness The Coastal Corporation 500 Renaissance Center Detroit, Michigan 48243
IV-D-8	W. Ebarb Hi Trading and Transportation Group
IV-D-10	T. Hutchins El Paso Energy Company
V-D-11	R. Metcalf Louisiana Mid-Continent Oil and Gas Association 801 North Boulevard, Suite 201 Baton Rouge, Louisiana 70802
IV-D-14	T. Horn Harding Lawson Associates 202 Central SE, Suite 200 Albuquerque, New Mexico 87102

**Table 2. List of Commenters on Proposed Standards for Oil and Natural Gas Production Industry (continued)<sup>a</sup>**

<b>Docket Item Number<sup>b</sup></b>	<b>Commenter and Affiliation</b>
IV-D-15	J. Cantrell Gas Processors Association 6526 East 60th Street Tulsa, Oklahoma 74145
IV-D-16	B. Price Phillips Petroleum Company Bartelsville, Oklahoma 74004
IV-D-19	W. Airey Vorys, Sater, Seymour, and Pease LLP 52 East Gay Street P.O. Box 1008 Columbus, Ohio 43216
IV-D-20	K. Beckett Jackson & Kelly 1600 Laidley Tower P.O. Box 553 Charleston, West Virginia 25322
IV-D-22	R. Jones American Petroleum Institute 1220 L Street, Northwest Washington, District of Columbia 20005
IV-D-23	W. Flis Exxon Company, U.S.A. P.O. Box 2180 Houston, Texas 77252
IV-D-24	S. Waisley U.S. Department of Energy Washington, District of Columbia 20585
IV-D-26	W. Doyle Marathon Oil Company 539 South Main Street Findlay, Ohio 45840

**Table 2. List of Commenters on Proposed Standards for Oil and Natural Gas Production Industry (continued)<sup>a</sup>**

<b>Docket Item Number<sup>b</sup></b>	<b>Commenter and Affiliation</b>
IV-D-27	M. Atherton Columbia Energy Group Service Corporation 12355 Sunrise Valley Drive, Suite 300 Reston, Virginia 20191
IV-D-29	M. Chytilo Environmental Defense Center 906 Garden Street Santa Barbara, California 93101
IV-D-30	A. Lee Texaco, Inc. P.O. Box 509 Beacon, New York 12508
IV-D-31	L. Beal Interstate Natural Gas Association of America L. Traweek, American Gas Association (This comment letter contains a printing error in the topical report, please see item IV-G-13 for the correction to this problem.)
IV-D-32	M. Lev-On ARCO 444 S. Flower Street Los Angeles, California 90071
IV-D-34	W. Sellars Chevron U.S.A. Production Company P.O. Box 1635 Houston, Texas 77251
IV-D-35	M. Blair Colorado Department of Public Health and Environment 4300 Cherry Creek Drive, South Denver, Colorado 80246
IV-D-38	M. Fish Enron Oil & Gas Company P.O. Box 4362 Houston, Texas 77210

**Table 2. List of Commenters on Proposed Standards for Oil and Natural Gas Production Industry (continued)<sup>a</sup>**

<b>Docket Item Number<sup>b</sup></b>	<b>Commenter and Affiliation</b>
IV-G-02	J. Ives Rocky Mountain Oil & Gas Association 1900 Grant Street, Suite 510 Denver, Colorado 80203
IV-G-3	C. Matthews Interstate Oil and Gas Compact Commission P.O. Box 53127 Oklahoma City, Oklahoma 73152
IV-G-9	P. Bennett KN Energy Inc. One Allen Center 500 Dallas Street, Suite 500 Houston, Texas 77002
IV-G-12	M. Fox New Century Energies P.O. Box 840 Denver, Colorado 80202

<sup>a</sup> Only those commenters that submitted comments on the area source standard are included in this table.

<sup>b</sup> The docket number for this project is A-94-04. Dockets are on file at EPA Headquarters in Washington, D.C.

### 2.9.1 Definition of Urban Area

Several commenters responded to EPA's request for comments on EPA's proposed definition of urban area. The major comments received about the definition of urban area were on the following issues: (1) the interpretation of the language in section 112(n)(4); (2) the distinction between "urban" and "urbanized"; (3) the classification of entire counties as urban; (4) the classification of counties as urban that are truly rural, and (5) the inclusion of an option for a "risk-distance" approach.

#### 2.9.1.1 Interpretation of Section 112(n)(4)

Comment: Nine commenters (IV-D-04, IV-D-08, IV-D-15, IV-D-19, IV-D-20, IV-D-22, IV-D-26, IV-D-34, and IV-D-38) stated that EPA's definition of urban area was inconsistent with the statutory language in section 112(n)(4)(B). The commenters stated that the language in section 112(n)(4)(B) prohibits EPA from listing "oil and gas production wells (with its associated equipment)" as area sources except those located in a MSA with a population of one million or more. The commenters stated that EPA's proposed definition is too broad because it includes county-wide MSAs with a population of more than 250,000, Census-defined "urbanized areas," and apparently Census-defined small-town "urban areas" with a population of at least 2,500. One commenter (IV-D-15) noted the proposed definition is unclear on the status of small-town "urban areas," but the preamble (63 FR 6293 through 6294) and docket materials suggest that EPA intends to include them. Another commenter (IV-D-08) recommended that EPA make the following revision to the area source location applicability criteria such that:

...only TEG area sources located within metropolitan statistical areas or consolidated metropolitan statistical areas with a population in excess of 1 million are subject to the finding.

The commenter stated that this revision reflects Congress' intent in section 112(n)(4) and focuses on congested areas.

One commenter (IV-D-38) also requested that a modification to §63.764(e) be made if EPA finds the risk of adverse effects to public health to be more than negligible. According to the commenter, Congress intended that glycol dehydration units should be included as associated equipment. Therefore, the commenter recommended the following change:

(e) . . . In addition, the owner or operator is exempt from the requirements of paragraph (d) of this section if the glycol dehydration unit is not located in a metropolitan statistical area (MSA) with a population in excess of 1 million.

The commenter also stated that the definition of urban area in the proposed regulation is unnecessary and should be eliminated.

Response: As we indicated in section 2.3.4 of this document (Geographic Applicability Criteria), the provisions in section 112(n)(4)(B) of the Clean Air Act as Amended in 1990 apply to "oil and gas production wells (with its associated equipment)." Based on our interpretation of *associated equipment*, glycol dehydration units are not considered as part of a well and its *associated equipment*. The final rule does not incorporate the changes suggested by the commenters.

#### 2.9.1.2 *Distinction between "Urban" and "Urbanized"*

Comment: Five commenters (IV-D-08, IV-D-15, IV-D-22, IV-D-23, and IV-D-24) stated that in its definition of Urban-2 counties, EPA had confused the terms "urban" and "urbanized." According to the commenters, the expression "...areas that comprise one or more central places and the adjacent densely settled surrounding fringe that together have a minimum of 50,000 persons..." appears to apply to urbanized areas, yet the definition of Urban-2 states that the counties are defined as ". . . all other counties designated as *urban* by the Bureau of Census...." Two commenters (IV-D-08 and IV-D-24) stated that if EPA intended to use the term "urbanized" rather than "urban," then the determination of which counties are Urban-2 areas is incorrect. One of the commenters (IV-D-08) noted that the counties included in Figure 1 of the preamble include both urban and urbanized areas. According to two commenters (IV-D-15 and IV-D-22), the preamble and docket materials (Item A-94-04, II-I-9) suggest that EPA may apply area source controls in areas that do not qualify as "urban" under Census classifications. The commenters stated that the preamble and docket materials have a criterion that more than 50 percent of the county population must be considered urban in determining which areas are

Urban-2 areas. The commenters, along with another commenter (IV-D-23), recommended that EPA modify the proposal to limit applicability to large metropolitan statistical areas, "Urban-1" areas, and Census-designated "urbanized areas." The commenters stated that this modification would conform to Congressional intent to limit area source controls to truly urban areas. One commenter (IV-D-22) stated that the Bureau of Census definition of "urbanized areas" is more consistent with a risk finding for the source category:

The Census Bureau delineates urbanized areas to provide a better separation of urban and rural territory, population, and housing in the vicinity of large places. An urbanized area comprises one or more places ("central place") and the adjacent densely settled surrounding territory ("urban fringe") that together have a minimum of 50,000 persons. The urban fringe generally consists of contiguous territory having a density of at least 1,000 persons per square mile.

One commenter (IV-D-24) suggested updating the Urban-2 area definition as follows:

Urban-2 areas which are defined as all other areas designated as urbanized areas by the Bureau of Census (areas which comprise one or more central places and the densely settled surrounding fringe that together have a minimum of 50,000 persons). The urban fringe consists of contiguous territory having a density of at least 1,000 persons per square mile.

Response: The commenters were correct that there was an error in the definition of Urban-2 in the preamble of the February 1998 proposed area source standards. However, the final rule does not utilize the definition of Urban-2. Instead, the final rule refers only to sources that were located in Urban-1 counties and those that are not located in Urban-1 counties (which includes counties that met the February 1998 definition of Urban-2 and rural). This distinction is important when determining new source status and is discussed in more detail in section 2.2 of this document (Compliance Date).

#### 2.9.1.3 *Classification of Entire Counties as Urban*

Comment: Six commenters (IV-D-08, IV-D-15, IV-D-20, IV-D-26, IV-D-27, and IV-D-31) objected to designating entire counties as urban. The commenters stated that several counties in the U.S. that have large geographic areas (e.g., Texas has counties with more than 1,000 square miles) where most of the county area is rural with a small portion that is a small city or metropolitan area. These commenters were concerned that the definition of an entire county as "urban" based on one small population center would transform vast rural areas into

urban areas. The commenters were also concerned that one urbanized center in the center of a sparsely populated county could cause the entire county to be classified as "urban" under the proposed method. One commenter (IV-D-20) mentioned that emissions of remote sources may not affect urban areas because the sources are within a different airshed, given the terrain and distance from the MSA.

One commenter (IV-D-15) also stated that EPA misapplied Census classifications. According to the commenter, MSAs cover entire counties but other Census-designated categories do not: they are limited to Census blocks. The commenter stated that the more heavily populated a metropolitan area is, the broader it's economic influence, making expansion of MSAs to the county line appropriate. The same expanded influence does not apply to the small Census-designated areas.

Two commenters (IV-D-15 and IV-D-22) recommended, and one commenter (IV-D-34) supported, the following modification to the definition of *urban area* to conform to legislative intent:

*Urban area* for the purposes of the area source determination is defined by use of the U.S. Department of Commerce's Bureau of the Census statistical data to classify all land area in the United States into one of the three classifications, as follows:

- i. Urban-1 areas, which consist of metropolitan statistical areas (MSAs) with a population greater than 250,000;
- ii. Urban-2 areas, which are defined as all other areas designated as "urbanized" by the Bureau of Census (areas that comprise one or more central places and the adjacent densely settled surrounding fringe that together have a minimum of 50,000 persons. The urban fringe consists of contiguous territory having a density of at least 1,000 persons per square mile); or
- iii. Rural areas, which are all areas that are not designated as Urban-1 or Urban-2.

For consistency, the commenters also requested that EPA make a conforming amendment to § 63.764(e):

(e) . . . In addition, the owner or operator is exempt from the requirements of paragraph (d) of this section if the glycol dehydration unit is not located in a county classified as an Urban area as defined in Section 63.761.

One commenter (IV-D-27) stated that given the legislative history of section 112 of the CAA, it is unlikely that Congress considers entire counties as urban. Therefore, the commenter, along with another commenter (IV-D-31), recommended that EPA use the following definition

of *urban area* published by the Department of Commerce (Statistical Abstract of the United States, page 4, 1995 ed., "Urban and Rural") as a basis for defining urban areas:

Urban area means (1) a county in a metropolitan statistical area (MSA) with a population greater than 250,000 and (2) those other urban areas in which the urban population comprises all persons living in (a) places of 2,500 or more inhabitants incorporated as cities, villages, boroughs (except in Alaska and New York), and towns (except in the New England States, New York, and Wisconsin), but excluding those persons living in the rural portions of extended cities (places with low population density in one or more large parts of their area); (b) census designated places (previously termed unincorporated) of 2,500 or more inhabitants; and (c) other territory, incorporated or unincorporated, included in urbanized areas. An urbanized area comprises one or more places and the adjacent densely settled surrounding territory that together have a minimum population of 50,000 persons. In all definitions, the population not classified as urban constitutes the rural population.

Thirteen commenters (IV-D-04, IV-D-08, IV-D-10, IV-D-15, IV-D-20, IV-D-22, IV-D-23, IV-D-24, IV-D-30, IV-G-02, IV-G-03, IV-G-09, and IV-G-12) were concerned that the current definition of an Urban-2 area would cause many sources located in areas that are truly rural to be subject to the area source requirement. The commenters recommended that EPA define "urban" to avoid covering large portions of land that are truly "rural" in nature (e.g., largely agricultural land use, undeveloped land, etc.). Three commenters (IV-D-04, IV-D-30, and IV-G-03) requested that EPA modify the definition of urban area not to include, for control purposes, equipment located in rural counties with small urban places. According to three commenters (IV-D-08, IV-D-20, and IV-D-22), subjecting many area sources to control requirements is unjustified by the risk posed and is counter to the stated focus of the area source determination. One commenter (IV-D-10) recommended deleting all references to Urban-2 to avoid including sources that have no potential of impacting urban populations.

Response: As we stated in section 2.3.4 of this document (Geographic Applicability Criteria), we rejected Option 2, which is a county-based scope based on the definitions of Urban-1 and Urban-2. The final rule regulates TEG dehydration units on a national scope, but differentiates the level of control between sources located within UA plus offset and UC boundaries and those outside of these boundaries.

#### 2.9.1.4 *Risk-distance Option*

Comment: Sixteen commenters (IV-D-04, IV-D-08, IV-D-11, IV-D-14, IV-D-16, IV-D-20, IV-D-22, IV-D-24, IV-D-26, IV-D-30, IV-D-32, IV-D-34, IV-G-02, IV-G-03, IV-G-09, and IV-G-12) stated that the gas throughput and benzene emission criteria for TEG dehydrators [3 MMscf/day and 1 tpy, respectively] were appropriate for determining area source applicability. However, the commenters requested that EPA revise the location criteria to include a "risk-distance" approach for determining whether a facility is subject to MACT. The commenters recommended that the definition of urban areas be tailored to address the risk identified - maximum individual risk in areas where persons reside close to TEG dehydration units. In general, the commenters suggested that EPA use the urban area definition to define areas where TEG units are potentially covered by the area source regulation, and allow the operators the option of using a risk-based methodology, such as that described in API Publication 4644, to demonstrate that they pose a negligible risk to nearby residents. The commenters stated that using such a methodology if it is determined that the health risks are negligible (e.g., an most exposed individual cancer risk of less than  $1 \times 10^{-6}$ ), the source would not be subject to control. Two commenters (IV-D-22 and IV-D-34) requested that EPA publish in the *Federal Register*, the risk-distance graphs and equations from API Publication 4644, along with examples, to make the approach easy to apply. The commenters also recommended if such a methodology is allowed, that the owner or operator should be required to maintain, and have readily available, keep documentation of the analysis. Two commenters (IV-D-08 and IV-D-20) proposed a revision to subpart HH to provide a location applicability such that:

"...TEG area sources otherwise subject to the standard (because of gas throughput, benzene emission levels, and location) should not be subject to additional standard requirements if the operator demonstrated that the most exposed individual health risk is negligible."

One commenter (IV-D-16) recommended that EPA consider the population density around the immediate area in which the unit is located, in the same manner implemented in design considerations for pipelines by the Department of Transportation (DOT).

One commenter (IV-D-24) recommended defining area sources as those located in "populous areas" rather than "urban areas" to eliminate confusing language from the definition of area source. The commenter recommended that "populous areas" consist of MSAs greater

than 250,000 people (or some higher threshold) and "urbanized areas" (i.e., areas that comprise one or more central places and the adjacent densely settled surrounding fringe that together have a minimum of 50,000 persons).

Commenter IV-D-08 recommended the following definition for "urban and rural areas:"

Urban and rural areas: For purposes of applicability of the area source requirements of this subpart, portions of every county/parish in the United States that are classified as either "urban" or "rural," based on certain U.S. Department of Commerce Bureau of the Census classifications. Urban areas are: (i) those entire counties, parishes, or equivalent delineated census areas [referred to herein as "counties"] that fall wholly or partially within a consolidated metropolitan statistical areas (CMSA) with a population greater than 1,000,000; and (ii) those specified portions of all other counties which are defined by the Bureau of the Census as "urbanized areas," comprising one or more central places, and the adjacent urban fringe of contiguous territory having a density of at least 1,000 persons per square mile, that together have a minimum of 50,000 persons. Rural areas are all other areas of the United States, which are not classified as urban as defined above.

Response: As we stated in our response in section 2.4.2 of this document (Distance Exemption), we do not believe that we have authority to exempt from regulating sources that have been identified as necessary to reach the statutory 90% target. However, we believe that we have addressed the commenters' concerns by requiring use of control device for sources located within a UA plus offset and UC boundary and management practices (i.e., optimized glycol circulation rate) for sources located outside these boundaries.

Comment: Commenter IV-D-16 recommended that, in subpart HH, EPA publish a list of all counties considered Urban and suggested that a pointer to Table 3 Urban Counties as appropriate. The commenter stated that pointing to other groups' lists is inappropriate since EPA has no control or assurance that the other groups will not discontinue or rename the document being referred to. The commenter referred to the Internal Revenue Service (IRS) Publication 534, which is pointed to by the new source performance standard (NSPS) General Provision, which has been discontinued and is impossible to obtain.

Response: We included a current listing of urban counties in the publicly-available docket to this proposed rulemaking, docket item II-I-9 of EPA Air Docket A-94-04.

### 2.9.2 Area Source Regulation

Comment: One commenter (IV-D-01) stated that if the EPA is to make an urban versus non-urban designation for determining which area sources are to be affected, it should be addressed under § 63.760 (Applicability).

Response: The final rules applies on a national scope, therefore no provisions are necessary stating that area sources in rural areas are not subject to subpart HH.

Comment: One commenter (IV-D-05) suggested that all references to TEG units be removed from the area source requirements. According to the commenter, specifying TEG provides an exemption for other glycol units. The commenter stated that specifying a glycol type was redundant and would create confusion and loopholes allowing units to use other types of glycol to avoid applicability. The commenter stated that the type of glycol should not matter. Another commenter (IV-D-35) stated that they interpreted subpart HH to require area sources to use triethylene glycol and questioned why the regulation does not address units that use ethylene glycol. The commenter was also concerned that the use of ethylene glycol would exempt certain area sources.

Response: As we stated in the July 2005 preamble to the supplemental proposal, the 1999 area source listing in the UATS was based on emissions information showing that TEG dehydration units contributed significantly to nationwide emissions of benzene from area sources in urban areas. Furthermore, TEG dehydration units account for approximately 90 percent of the HAP emissions at oil and natural gas production facilities. Therefore, we focused on regulating benzene emissions from TEG dehydration units, and the final rule regulates only TEG dehydration units located at area sources.

Comment: One commenter (IV-D-06) stated that subpart HHH should not apply to area sources. The commenter provided three reasons for not regulating area sources under subpart HHH:

1. Glycol dehydration units for natural gas transmission and storage are typically located remote areas where there is little potential for harmful levels of HAP exposure. The commenter referred to section 112(c) of the CAA which allows EPA to regulate area sources only if there is “a threat of adverse effects to human health or the environment” warranting regulations. The commenter also pointed to section 112(k) which indicates that Congress was concerned about urban area

sources. Therefore, the commenter stated that it would be unlikely that regulation of area sources would be needed in subpart HHH.

2. Emissions from glycol dehydration units are below the major source levels, which would reduce the likelihood for harmful levels of HAP exposure even if some of these units were located in more heavily populated areas.
3. Regulating all area sources, in order to capture the few that pose an unreasonable risk would be unfair. The commenter explained that a “one size fits all” rule on every area source would be unjustified in the unlikely event that a few area sources present an unreasonable risk. The commenter stated that the regulatory burdens would be for only a limited subset of area sources. The commenter recommended that EPA should address this issue through the “residual risk” provisions of section 112(f) of the Act rather than by setting an area source standard under §§ 112(c) and (d).

Three commenters (IV-D-07, IV-D-31, and IV-G-09) requested that EPA not regulate area sources in the transmission and storage source category until more data could be collected to determine whether an area source regulation is required. One commenter (IV-D-07) stated that if these sources are to be regulated, then one rulemaking addressing both major and area sources is essential. According to two of the commenters (IV-D-07 and IV-D-31), transmission and storage operations tend to be centrally located and are usually much larger in volume but much lower in HAP emissions than production facilities. The commenters stated that, under proposed subpart HHH, very few facilities would qualify as area sources. One commenter (IV-D-07) provided an example of facilities that accepted operating restrictions to qualify as synthetic minor sources. The commenter contended that the need for regulating these facilities is eliminated by the need for operating permits. The commenter strongly recommended that, if EPA decides to include area sources in subpart HHH, EPA should retain the option that area sources be determined solely on the basis of the classification of the county in which it is located. One commenter (IV-D-31) stated that EPA is considering an area source determination for natural gas transmission and storage facilities without providing the industry the benefit of a formalized information collection process and evaluation. The commenter offered to assist EPA in gathering data to confirm that such units do not pose unacceptable risks warranting area source standards.

Although one commenter (IV-G-09) does not presently have data that compares HAP emissions from the initial dehydration to subsequent dehydration after pipeline quality gas is transported and temporarily stored underground, the commenter maintained that, logically, HAP emissions should be less from the subsequent dehydration. The commenter was concerned that there is not enough lead time for operators to gather data requested by EPA on area source dehydration units and that random submission of data may not be representative of the industry and could result in errors in impact estimates. The commenter suggested that EPA work with pipeline operators and their trade associations to collect information about area source dehydration in a uniform manner, and from a statistically significant sample of the transmission industry.

Response: We are not regulating TEG dehydration units located at natural gas transmission and storage facilities under subpart HHH. These units were not included in the July 1999 listing under sections 112(c)(3) and 112(k)(3)(B) of the CAA.

Comment: One commenter (IV-G-09) agreed that control of HAP emissions below stated cutoff levels is not cost effective for oil and gas production area source dehydration units.

Response: We appreciate the commenter's support regarding the cutoffs for area sources (i.e., TEG dehydration units with an actual average annual natural gas throughput less than 3 MMscf/day or actual average benzene emissions less than 1 tpy do not have any control requirements).

Comment: Three commenters (IV-D-22, IV-D-30, and IV-G-03) recommended, and one commenter (IV-D-15) supported, that EPA remove the 95 percent control efficiency from area sources, and adopt a revised GACT standard for area source triethylene glycol dehydration units as an alternative that would protect human health and the environment at lower cost. One commenter (IV-D-08) also requested that EPA revise the GACT standard to eliminate noncompliance instances for area sources. The commenters recommended the following control strategy:

Define GACT as reduction of benzene emissions to a level less than 1 tpy or as installation and operation of a flash tank and glycol dehydrator (or equivalent control device) [Note: The commenter mentioned “glycol dehydrator” but it was assumed that they meant “condenser.”] for area source units subject to the rule. No control efficiency

calculation will be required. An operator would register with the implementing agency to demonstrate that the control equipment operates within unit design standards.

One commenter (IV-D-30) also recommended that the owner or operator would be given further flexibility to monitor any operating parameter appropriate to the unit's characteristics in order to demonstrate compliance. Two commenters (IV-D-08 and IV-G-03) also recommended that EPA implement the following to provide a cost-effective solution and provide the desired level of environmental protection:

- Require monitoring of the condenser exhaust temperature and the use of GLYCalc or equivalent methodology (e.g., a design analysis) to determine the minimum exhaust temperature that will result in a benzene emission level less than 1 tpy.
- Require monitoring to show that the condenser (or other control device) is operating properly. For condensers, the commenter proposed that monitoring should consist of measuring the change in temperature (T) across the condenser. The minimum required T should be determined by design analysis for each unit subject to this GACT standard.
- Add risk-distance as another applicability criterion to the existing criteria (i.e., 3 MMscf/day, 1 tpy benzene, urban-1, urban-2) to define area source TEG units subject to GACT control requirements. Addition of this criterion will control HAP emissions in those situations where HAP emissions could negatively impact offsite receptors.

One commenter (IV-D-05) noted that there were no differences in the requirements for glycol units located at an area source and glycol units located at a major source. Therefore, the commenter suggested that EPA state the following:

“...glycol units that process 3 MMscf/day or more and that emit 1 tpy of benzene and are not located in a Rural area are subject to the control, recordkeeping, monitoring, etc.”

Response: In developing standards for area sources, we evaluated alternative methods for regulating area source TEG dehydration units. Through a review of available information and with support from results using GLYCalc, we believe that the selected control requirements are technically and economically achievable and appropriate for area source TEG dehydration units within the UA plus offset and UC boundaries. However, we have reduced the reporting requirements for these units as compared to major sources to lessen the overall burden on these smaller HAP emission points while still ensuring compliance.

Comment: One commenter (IV-D-29) advocated more stringent requirements for area sources, stating that the proposed requirements were weak and ineffective and would lead to

greater enforcement difficulties and controversy at the local level. The commenter was concerned that industry would fight for area source determinations before local regulatory agencies. The commenter noted that local agencies lack the financial resources and political support to defend against industry. The commenter maintained that strengthening the requirements for smaller HAP sources would force the industry to examine technological control measures for compliance. In order for EPA to meet its legal and substantive requirements under the CAA, the commenter recommended that EPA should:

- require covers, closed vent systems, and control devices with an emission control efficiency of 95 percent or greater on area source storage vessels with the potential for flash emissions and an actual throughput of 500 barrels per day or greater;
- require leak detection and repair programs and necessary equipment modifications for area as well as major sources;
- require the same recordkeeping and reporting requirements for major sources should apply to area sources
- MACT or best available control technology (BACT) should be applied to area sources, instead of GACT; and
- implement TEG dehydration unit controls to area sources with a throughput of 42 thousand m<sup>3</sup>/day, or greater. The commenter stated that EPA offered no real justification for the selected applicability thresholds.

Response: Section 112(d)(5) allows us to set area source standards according to GACT and management practices. We believe that we have properly exercised our discretion and have established appropriate requirements for sources in this category.

In addition, there is no basis to regulate storage vessels and equipment leaks in the final rule, as recommended. The basis for the February 1998 proposal was an area source finding which only included TEG dehydration units. Subsequently, the July 2005 supplemental proposal and the final rule are based on the July 1999 listing of oil and natural gas production facilities under sections 112(c)(3) and 112(k)(3)(B) of the CAA. This listing was based on information showing that benzene emissions from TEG dehydration units at area sources of oil and natural gas production facilities contribute significantly to nationwide benzene emissions. TEG dehydration units emit a large majority of the benzene emissions from oil and natural gas production facilities. Therefore, the area source category listing focused on regulating benzene emissions from TEG dehydration units and we did not include other types of dehydration units or other emission points at area source oil and natural gas production facilities. Because we have

not made a risk finding under section 112(c)(3) regarding the other emission points (i.e., storage vessels and equipment leaks), nor included them in the area source category listing under sections 112(c)(3) and 112(k)(3)(B), we do not have the authority to regulate them in this final rule.

### **2.9.3 Control Efficiency**

Comment: One commenter (IV-D-32) stated that control efficiency requirements for major and area sources do not both have to be 95 percent. The commenter remarked that there is no statutory requirement, nor practical feasibility for such a mandate.

Response: Information available to us suggests that there are area sources that are controlled using condensers. In addition, we modeled area source units and found that they could achieve 95 percent control. Therefore, we determined that the level of control, when required, should be 95 percent.

### **2.9.4 Monitoring, Recordkeeping, and Reporting**

Comment: Two commenters (IV-D-08 and IV-D-22) stated that the area source requirements in § 63.775(c) are burdensome and impractical because some remote locations do not have full time operators onsite. Commenter IV-D-08 recommended the following:

- develop a generic, simplified contingency plan for area source glycol dehydrators subject to subpart HH to replace the startup, shutdown, and malfunction plan codified at §63.10(d)(5);
- enable area sources to adopt the contingency plan, referenced above, or propose their own modifications to it, as part of their notification of compliance status, as discussed above; and
- allow for compilation of all events in which special action was taken that is inconsistent with the plan to be submitted in monthly letter reports.

The commenter expressed appreciation for EPA's effort to reduce burden for area sources by not requiring that they have a complete startup, shutdown, and malfunction plan.

Response: As we stated in the July 2005 preamble to the supplemental proposal (70 FR 39447), in the February 1998 proposal, we proposed only requiring owners and operators to submit reports of any malfunctions that are not corrected within 2 calendar days of the malfunction within 7 days of the subject malfunction(s). It was our intention that owners or operators would only be required to submit the malfunction reports and not develop a startup, shutdown, and malfunction (SSM) plan. However, as we stated in the July 2005 preamble, we

felt that the unique nature of oil and natural gas production facilities was best addressed by having owners and operators prepare a SSM plan that would provide the necessary flexibility in dealing with SSM events at these sites. Therefore, the final rule requires SSM plans for sources located within a UA plus offset and UC boundary. For sources located outside of these boundaries, the final rule requires management practices and does not require startup, shutdown, and malfunction reports for these sources.

### 3.0 REFERENCES

1. National Emission Standards for Hazardous Air Pollutants for Source Categories: Oil and Natural Gas Production and Natural Gas Transmission and Storage – Background Information for Final Standards: Summary of Public Comments and Responses. May 1999. EPA Document No. 453/R-99-004b. Section 2.1.3.
2. National Emission Standards for Hazardous Air Pollutants for Source Categories: Oil and Natural Gas Production and Natural Gas Transmission and Storage – Background Information for Final Standards: Summary of Public Comments and Responses. May 1999. EPA Document No. 453/R-99-004b. Section 2.7.
3. National Air Toxics Program: The Integrated Urban Strategy (64 FR 38705, 38724).
4. Memorandum from Brown, H.P., EC/R Incorporated, to Nizich, G., EPA/OAQPS/ESD/WCPG. June 25, 2005. Revised Impacts for Area Sources in the Oil and Natural Gas Production Source Category. Air Docket No. OAR-2004-0238-0002 and 0003.
5. Letter from Seitz, J. EPA/OAQPS and E. Schaeffer, EPA/ORE to Director, Office of Ecosystem Protection, Region I, et al. December 20, 1999. p. 3. Third Extension of January 25, 1995 Potential to Emit Transition Policy.
6. Memorandum from Nizich, G., U.S. Environmental Protection Agency, to Air and Radiation Docket No. EPA-HQ-OAR-2004-0238. October 18, 2005. Discussion with Representatives of the Railroad Commission of Texas regarding Information Referenced in Comments on the Oil and Natural Gas Production National Emission Standards for Hazardous Air Pollutants (NESHAP) Proposal.
7. JFD Consultancy. Triethylene Glycol Dehydrator Operating Parameters for Estimating BTEX Emissions. Prepared for the American Petroleum Institute. Air Docket Number A-94-04, Item Number II-D-55. February 1996.
8. Memorandum from Brown, H.P., EC/R Incorporated, to Nizich, G., EPA/OAQPS/SPPD/CCG. *Date to be written*. Estimate of the Number of New TEG Dehydration Units.