September 14, 2004

N3615 (2350)

Gerardo Rios
Chief, Permits Office
U.S. EPA Region 9
75 Hawthorne Street
San Francisco, California 94105-3901

Dear Mr. Rios:

On July 6, 2004,we wrote to you concerning your determinationthat the application for the Steag Desert Rock Project in the Navajo Nation is complete.Please send us a copy of that completeness determination. Based upon our ongoing analyses, we continueto believe that the application is both incomplete and inadequate, and that thereare several important outstanding issues that must first be addressed.In this letter we shall focus on the issues of Class I cumulative increment and visibility analyses.

Steag/ENSR predicted that SO_2 concentrations from the Steag project would exceed Significant Impact Levels (SILs) at 12 Class I areas, thus triggering the requirement for cumulative Class I increment analyses at those Class I areas. However, despite our repeated requeststo EPA Region 9 that Steag should first determine if and when Minor Source Baseline Dates (MiSBD) were triggered for any of those 12 Class I areas,1we have not yet received a response from Steag/ENSR regarding MiSBDs. On the other hand, we have recently received preliminary information on this issuefrom WESTAR2 with the caution that it is a "draft". WESTAR is requesting states review the information and verify that it is accurate for their respective state. We believe that it is essential that the MiSBDs be identified before any cumulative analysis is begun, and we support Scott Bohning's and WESTAR's efforts in this respect.

An overarching issue with respect to any cumulative increment analysis that includes emissions reductions is an understanding of just which reductions are creditable. Steag/ENSR must demonstrate that the emission reductions claimed were not required in order to alleviate a violation of an emission limit, NAAQS, or increment. Reductions intended to meet NAAQS (or to comply with enforceable emission limits) cannot expand the increment. The NAAQS are the ceiling and, in some cases where the baseline concentration is high, the full amount of the increment may not be available. Regarding sources out of compliance with allowable emission limits, any emission reductions intended to comply with enforceable requirements also cannot expand the available increment. To support that, one only needs to look at the definition of actual emissions (which is the term used in the definition of baseline concentration, which essentially defines increment consuming and expanding emissions) which cannot be higher than

allowable emissions.

We have also raised questions about the validity of the sources contained in the inventory, and the methods usedby Steag/ENSR to conduct the cumulative analysis presented in its May 2004application.We believe that Steag/ENSR should explain how the sources in its Table 6-16 were selected and how the stack parameters presented there were derived. For example, our review of the first entry in the table, Cholla Unit #2, indicates that SO_2 emissions were significantly underestimated. Our review of 2002 EPA Acid Rain data indicates that the maximum three-hour SO_2 emissions rate was 621 gm/sec, and the maximum 24-hour SO_2 emissions rate was 176 gm/sec—this is much greater than the 41 gm/sec modeled by Steag/ENSR and indicates that Steag/ENSR's results significantly underestimate increment consumption. It appears that Steag/ENSR is using annual average emissions to estimate short-term impacts. We believe this is inappropriate when short-term CEM data are available and contravenes guidance provided by EPA in its New Source Review Workshop Manual (NSRWM) and in its 12/10/01 letter from John Seitz to North Dakota advising that "we believe that you should use two consecutive years of CEM data to determine the maximum, or near maximum, emission rate, just as you would if you were using permitted potential emissions." This position was confirmed by Scott Bohning of your office in his 3/31/04 e-mail which stated that "Short-term emission rates should be used to evaluate impacts upon short-term standards." We agree with Scott and therefore conclude that the cumulative increment analysis presented by Steag/ENSR is seriously flawed.

Furthermore, our initial review of emission reductions claims for the San Juan and Four Corners power plants finds them to be unsupported and possibly seriously in error. For example, based upon information provided in 1973 by PSCNM to the NM Environmental Improvement Agency, Steag/ENSR have estimated that pre-baseline SO_2 emissions from San Juan #1 & #2 were each 5404 lb/hr. Steag/ENSR contends that, since these emissions occurred prior to the 1/6/75 Major Source Baseline Date (MaSBD), they were part of the SO_2 baseline. However, we have the following observations and questions about Steag/ENSR's analysis:

- If one applies the AP-42 emission factor for uncontrolled SO_2 from a boiler burning the sub-bituminous coal described in the 1973 letter, the uncontrolled emission rate is 1.43 lb SO_2 /mmBtu. At the 3307 mmBtu/hr firing capacity stated in the letter, this would indicate a maximum uncontrolled SO_2 emission rate of 4724 lb/hr (596 gm/sec), not the 5404 lb/hr estimated by Steag/ENSR.
- Federally enforceable restrictions on allowable emissions were in place prior to the major source baseline date for both Four Corners and San Juan #1 and #2. Specifically, on 3/23/73 EPA promulgated a FIP requiring at least 67.4% SO_2 control. EPA later rescinded its FIP pursuant to approval of the New Mexico regulation (that required more than 70% control), although parts of that NM regulation later became invalidated due to a successful challenge in state court by Arizona Public Service. Since 1976, the federally enforceable requirement was never any less than 65% SO_2control and, ultimately, 72% SO_2control at these plants. Because only emission reductions below the required limits can be credited as expanding increment, Steag/ENSR cannot take credit for all reductions since 1973, as they appear to have done.
    1. As of 1/6/75, actual emissions from San Juan #1 were prescribed by the FIP because this unit had not yet begun operation. Thus, "actual SO_2 emissions" from Unit #1 would have been controlled to at least 67.4% efficiency.
    2. In the 1973 applications for "Certification of Registration," both

Units #1 and #2were to be designed with scrubbers to meet 79.2% SO_2 control. The unitswere approved for construction with these SO_2 controls. In the absence of actual emissions data, it must be assumed that actual emissions on 1/6/75 were equal to those specified in the applicationswhich would include the scrubbers at 79.2% SO_2 control.

Thus the controlled level of SO_2 would be considered part of the baseline concentration. Only reductions below 79.2% could expand the increment (and only if other applicable requirements for increment expansion are met).3

- If Units #1 & #2 each burned 1,178,000 tons of coal as indicated in the 1973 applications over the operating period indicated in those documents, the average heat input was 2636 mmBtu/hr and the average uncontrolled SO_2 emissions rate was 3765 lb/hr (475 gm/sec). Assuming 79.2% control, the average controlled emission rate would have been 783 lb/hr (99 gm/sec.) In the absence of additional information showing how load and emissions may have varied prior to the MaSBD, we believe that the average emission rate should be used as a surrogate for the pre-baseline emission rate.
- According to the NSRWM, in order to expand increment at a major source prior to the MiSBD, "the reduction will add to the available increment only if the reduction is included in a federally enforceable permit or SIP provision." Steag/ENSR must show that the emission reductions claimed were federally enforceable prior to the MiSBD if they are to expand increment.
- Steag/ENSR should use the most recent available emissions data to determine current emission rates for each averaging period modeled. For example, San Juan #1 reached a maximum 3-hour average emission rate of 3024 lb/hr in 2002, versus the 721 lb/hr that Steag/ENSR used to estimate current SO_2 emissions from this unit.

This is just a sample of issues to illustrate our concerns with the Steag/ENSR increment analysis. We suspect that, were we to carry this analysis further, we would find that these and other problems are so pervasive as to further warrant rejection of Steag/ENSR's cumulative increment analysis. Therefore, we recommend that EPA advise Steag/ENSR of the deficiencies noted and request a new, complete, and correct analysis that contains adequate explanations and justifications.

As discussed in our July 6 letter, our FLAG guidance recommends that a cumulative visibility analysis be conducted if the new source's impact exceeds a 5% change in extinction. Steag/ENSR presented visibility modeling results which showed that the FLAG 5% change in extinction level was exceeded at all 15 Class I areas analyzed. We are currently conducting more refined analyses of impacts from Steag upon visibility and will share those results when they become available. Furthermore, consistent with EPA guidance, our FLAG guidance advises that a cumulative visibility analysis should also be conducted if a cumulative Class I increment analysis has been conducted, as is the case here. Therefore, if Steag/ENSR had followed FLAG and EPA guidance, it would have provided a cumulative visibility analysis for one or more Class I areas—none was provided.(Please note that a cumulative visibility analysis requires the past two years of actual emissions of SO_2, H_2SO_4, NO_x, and PM_{10} for all increment-consuming sources operating and permit potential emissions for sources permitted but not yet operating.)

In summary, in addition to those other issues we discussed in our July 6, 2004, letter, we believe that the Steag application remains incompleteand inadequate because:

- The cumulative increment analysis is seriously flawed.
- No cumulative visibility analysis was provided.

We look forward to working with your office on this project and hope that this letter will facilitate those efforts. If you have any questions, please feel free to contact Don Shepherd of my staff at (303) 969-2075.

Sincerely,

/s/

John Bunyak
Chief, Policy, Planning and Permit Review Branch

bcc:
AZRU: Terry Nichols
BAND: Darlene Koontz, John Mack, Kay Beeley, Stephen Fettig
CANY: Charlie Schelz
CARE: Tom O Clark
CHCU: Brad Shattuck
COLM: Dave Price
CURE: Ken Stahlnecker
ELMA: Herschel Schulz
ELMO: Fred Moosman
GLCA: Mark Anderson
GRCA: Carl Bowman
GRSA: Fred Bunch
GUMO: John Lujan
MEVE: George San Miguel, Patricia Trap, Sylvia Olivia
NAVA: John Laughter
PEFO: Karen Beppler-Dorn, Patricia Thompson
PETR: Mike Medrano
WASO: Julie Thomas
IMRO: John Reber
Navajo EPA: Calvert Curley
USFS: Jeff Sorkin, Debra Potter, Rich Fisher, Pete Lahm
ARD-DEN: Permit Review Group, Blett, Porter, Reading and Project File
ARD-DEN:Don Shepherd:08/30/04:x2075:Steag CompletenessComments.Ltr 2.Doc

1This position was confirmed by Scott Bohning of your office in his 3/11/04 e-mail which stated a "Need to get minor source baseline dates for each pollutant& Class I area from individual states."

2 Scott Bohning received a copy of the WESTAR correspondence on this issue on 9/02/04.

3 Unit 1, being a unit that commenced prior to the major source baseline date but not in operation by the minor source baseline date is subject to the provision in 40 CFR 52.21(b)(13)(i)(b) that its allowable emissions are part of the baseline concentration. These certificate of registrations were approved by NMED under their NSR rules—similar to a construction permit—so it represents allowable emissions.