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August 18, 1999

VIA TELECOPY

John Reynolds
Department of Environmental
Protection
Bureau of Air Regulation
2600 Blair Stone Road
Twin Towers Office Building
Tallahassee, Florida 32399

Re: AmeriSteel Corporation;
OGC Case No. 99-1155;
PSD-FL-261;
DEP File No. 0310157-004-AC

Dear Mr. Reynolds:

This law firm assists AmeriSteel Corporation with various environmental law issues, including AmeriSteel's pending application for a permit to modify AmeriSteel's steel mill in Baldwin, Florida. On behalf of AmeriSteel, we filed a request for an extension of time to file a petition for a formal administrative hearing concerning the Department's draft permit (DEP Permit No. PSD-FL-261) for the Baldwin mill. The Department subsequently issued an order (OGC Case No. 99-1155) granting AmeriSteel's request and extending the deadline for filing a petition until September 7, 1999.

Based on our discussion today with Mr. Leuck at AmeriSteel, it is our understanding that AmeriSteel's concerns about the draft permit have been resolved. Accordingly, AmeriSteel hereby waives its right to file a petition for an administrative hearing concerning the draft permit. AmeriSteel now respectfully requests the Department to issue the permit for the modification of the Baldwin mill.

Thank you for your assistance and cooperation with this issue. Please call me if you have any questions.

Sincerely,

David S. Dee

cc: Scott Goorland
Mike Leuck
Luis Nieves

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NUMBER OF PAGES, (INCLUDING COVER PAGE) 3

DATE: 8/18, 1999

TO: John Reynolds Fax No. 922-6979
Scott Hoorland Fax No. 921-3000
Mike Rench Fax No. 904/266-2996
Lisa Nieves Fax No. 813/207-2269
Fax No.

FROM: David Dee

MESSAGE:

IF ANY PROBLEMS, PLEASE CALL (850) 681-0311

LANDERS & PARSONS, P.A.
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Based on our discussion today with Mr. Leuck at AmeriSteel, it is our understanding that AmeriSteel's concerns about the draft permit have been resolved. Accordingly, AmeriSteel hereby waives its right to file a petition for an administrative hearing concerning the draft permit. AmeriSteel now respectfully requests the Department to issue the permit for the modification of the Baldwin mill.

Thank you for your assistance and cooperation with this issue. Please call me if you have any questions.

Sincerely,

David S. Dee

cc: Scott Goorland
Mike Leuck
Luis Nieves

AMERI

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JUL 30 1999

BUREAU OF AIR REGULATION

July 29, 1999

A. A. Linero, P.E., Administrator
New Source Review Section
Florida Department of Environmental Protection
Division of Air Resources Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee FL 32399-2400

RE: DEP File No. 0310157-004-AC, PSD-FL-261; AmeriSteel's comments concerning draft PSD permit for Baldwin Mill.

Dear Mr. Linero,

This letter discusses AmeriSteel's comments and concerns about some of the specific conditions in the referenced draft permit. AmeriSteel's comments are presented in the same sequence as the Specific Conditions in Section III of the draft permit.

Project and Location:

First sentence (clarity) ... steel mill that produces reinforcing bars and rod from scrap steel.

Second sentence (clarity) ... 720,000 tons per year (TPY) for both the Electric Arc Furnace (EAF) and Billet Reheat Furnace (BRF). This includes a production rate for the EAF of up to 100 tons per hour (TPH)(24 hour maximum average), and up to 120 TPH (24 hour maximum average) for the BRF.

Facility Description:

AmeriSteel Corporation operates scrap steel recycling facility near Baldwin, Duval County, Florida, producing steel reinforcing bars and rod. The company has applied to increase the production rate from 600,000 to 720,000 TPY at its Baldwin Plant. The modifications will consist of installing larger current conducting arms for the electric arc furnace, construction of a new scrap building, installation of a new ladle metallurgy furnace, extension of the tapping pit, replacement of four oxy-fuel burners, modifications to the existing scrap loading crane, and enhancements to operating and maintenance

Jacksonville Steel Mill Division
Hwy 217 Yellow Water Road • P.O. Box 518 • Baldwin • Florida 32234 (904) 266-4261 Fax (904) 266-4244

practices.

Condition 2: The subject emission units (001, 004, and 006) shall comply.....

Condition 3: The monthly steel production limit should be removed, or it should be determined by multiplying the daily liquid steel production limit of 2400 tons by the number of days in the month. The draft permit states that the monthly average is based on a 90 tons/hour production rate. The dispersion modeling and BACT analyses are based on worst case emissions rates using maximum short term (including monthly) steel production rate of 100 tons/hour.

Suggested language for condition 3 – The EAF shall not produce more than 100 TPH (24 hour maximum average), 2400 TPD, and 720,000 TPY. The BRF shall not produce more than 120 TPH (24-hour maximum average), 130 TPH (2-hour maximum average), 2880 TPD, and 720,000 TPY. Slag processing shall not exceed 100 TPH, 500 TPD, and 85,000 TPY.

Condition 4: limits the operation of the two baghouses (Emission Units 001 and 004) to 8000 hours per year. This limitation on the operation of the baghouses is inappropriate because the baghouses may continue running when the associated steelmaking processes – the EAF and (possibly) the future LMF - are out of service. For the purposes of this permit, operating hours should only be times when the emission source (EAF) is in the process of producing steel. The 8000 hour-per-year restriction should not apply to those times when the steelmaking processes are not running and no emissions are being generated.

Suggested language for condition 4 – The EAF and ladle metallurgy furnace (LMF) shall not operate more than 8000 hours per year. The BRF shall not operate more than 8500 hour per year. The slag processing plant shall not operate more than 2000 hours per year.

Condition 5A: presents a serious concern for AmeriSteel for several reasons. (Also refer to our related comments under Condition 11.) Condition 5A limits the baghouse PM grainloading to 0.0034 gr/dscf for the average of both baghouses in accord with 40 CFR 60.275a(e)(2), which explains how to average the two baghouses' grainloadings. The Florida DEP's proposed limit of 0.0034 gr./dscf is far below the 0.0052 gr/scf limit that AmeriSteel originally proposed as BACT in our January 1999 application. In AmeriSteel's detailed April 8, 1999, letter to the Department, AmeriSteel voluntarily lowered the grainloading from 0.0052 to 0.0042 grains to reduce allowable mass emissions and to resolve a minor modeling issue.

Despite the extensive verbal and written comments and analysis presented by AmeriSteel, the Department proposed a BACT of 0.0034 gr./dscf, based on the Departments "usual procedure." In AmeriSteel's case, the Department simply doubled the lowest actual average grainloading to obtain the 0.0034 gr/dscf. This means that the new BACT limit is based the lowest available particulate test results submitted to the Florida DEP.

The Department's "procedure" is not described in any DEP rules. AmeriSteel have found no DEP guidance memoranda describing this procedure. This procedure does not appear to be consistent with the guidelines in 40 CFR Part 52 and the NSR Workshop Manual, which is what AmeriSteel followed to set the original BACT at 0.0052 gr./scf.

(Please note that page 9 of the BACT Appendix BD – and at other sections of the draft permit - incorrectly states that the baghouse grainloading limit proposed by AmeriSteel is 0.0052 gr/scf, but the correct proposed level is 0.0042 gr./scf, as discussed in AmeriSteel's April 8, 1999, letter to the Department.)

In effect, the Florida DEP's approach to setting BACT means that AmeriSteel's exemplary baghouse maintenance program allows the agency to "ratchet down" the limit to a level that is much more stringent than the BACT level arrived at by the federal and state guidelines. This ratcheting procedure weakens a company's incentive to maintain control equipment in a manner that would result in lowest possible emissions.

The difference in particulate emissions and ambient impact between the two BACT methods is negligible. The Department's BACT would reduce *allowable* grainloading by 0.0008 grains/dscf, which is less than 2 lbs/hour. (One grain is 1/7000 of a pound). AmeriSteel emphasizes that the Department's proposed BACT limit is a "paper" reduction; *actual emissions from the baghouses would not be affected.*

AmeriSteel's application followed the PSD top-down procedures to arrive an appropriate BACT emission rate. Therefore, the rate proposed in our application should be AmeriSteel's April 8 letter quoted page 3 of the Florida DEP's Approval of Permit dated July 7, 1995. The Florida DEP stated: *"The [AmeriSteel] baghouse will meet an emission standard of 0.0052 grains/scf, the new source performance standard for steel works. The BACT Clearinghouse document lists similar determinations for steel mills in other states [it still does]. The cost of replacing the filters in these baghouses with ones that may resulting lower emissions of particulate matter (0.0018 gr/dscf) is estimated at $15,690 per ton of particulate matter removed. This cost is above the guidelines used by the Department to justify the additional air pollution control."*

In determining the combined BACT rate for both baghouses, the Department's 1995 determination and the BACT analysis in AmeriSteel's permit application were apparently not given sufficient consideration by the Department. The Department simply doubled the lowest grainloadings that was ever measured at these two baghouses. The tested grainloading of 0.0011 at baghouse 1-2 is well below the most stringent BACT limit ever set, but was used in the equation to further reduce our grainloading limit to 0.0034.

Condition 5B and C: of the draft permit contains emission factors that AmeriSteel proposed to use in calculating emission rates. However, the factors in lbs/ton for CO and NOx, are proposed as emission *limits* in the draft permit, which is unacceptable to AmeriSteel. Our January 21, 1999 PSD application specifically addressed this issue at the end of section 3.0, which contains our proposed BACT emission limits. In part, section 3.0 of our application states,

"The emission limiting condition in the new PSD permit would be a mass emission rate derived from the product of the gas emission factor times the maximum steel production

per unit of time (tons/hour, tons/year)."

AmeriSteel also discussed its' position on this crucial issue at our November 1998 meeting with the Department. Any steel mill with processes that have variable emissions for criteria gases, CO and NOx, cannot agree to a factor as a limit without incurring substantial legal risk. Since steelmakers cannot control an emission factor for EAF criteria gases CO and NOx simultaneously, imposing a factor as a limit only serves to increase the company's risk of a "violation" when the mass emission rate is within limits.

As shown in AmeriSteel's 1995 and 1999 permit applications, no technically or economically feasible add-on devices can control EAF gases. If an active control device is feasible, then some sort of performance standard may be appropriate, although it may not be directly related to a mass emission rate. For example, a baghouse may have a performance *standard* of 0.0052 gr/scf, but the emission *limit* at 0.0032 gr/scf may be higher than the mass limit for the 0.0052 gr/scf baghouse. This is because the baghouses' volumetric flow rates could be different. Nevertheless, the grainloading performance standard insures that the baghouse, regardless of the flow rate, will meet minimum design efficiency criteria. The baghouse grainloading standard was established by EPA using test results for many baghouses that were obtained by standardized reference methods (Method 5). EPA has never subjected EAFs to NSPS for gases, thus no systematic standardized test method has been developed to test for those gases.

Page B.56 of EPA's 1990 draft New Source Review Workshop Manual states that a design, equipment, work practice, operation standard should not be prescribed for an emission unit if an emission *limit* is feasible. For EAF CO, AmeriSteel Steel has determined – through the NSR/PSD process – that a CO mass emission limit of 300 lbs/hr is feasible and achievable. The modeled ambient impact using that new mass emission limit is not significant, as discussed in the current1999 application. The same page of the NSR draft workbook also states that "BACT emission limits or conditions must be met on a continual basis *at all levels of operation*...and be enforceable as a practical matter (contain appropriate averaging times..." As discussed above, the EAF gases varies widely during the different phases of the scrap melting cycle.

According to many agencies including the Florida DEP, emission factors reflect the average emissions of a group of sources, they are not intended to be a limit. According to many agencies, including the Florida DEP, emission factors reflect the average emissions of a group of sources, they are not intended to be used as a limit. Please refer to the attachment to the July 25, 1995, Florida DEP memo titled, "Guidance on Utilization of AP-42 Factors," which was taken from EPA telecourse T-045. "There are two basic problems inherent in the use of AP-42 emission factors for making applicability determinations. One is the paucity of emission data on which some emission factors are based. The other problem is that emission factors are not well suited to the task of determining the potential emissions of individual sources." The attachment goes on to quote AP-42's introduction, "Because emission factors are averages obtained from data of wide range and varying degrees of accuracy, emissions calculated from such factors for a given facility are likely to be different from that facility's actual emissions." And,

"Factors are more appropriately used to estimate, collectively, the emissions of a number of sources, such as is done in emission inventory work." Therefore, factors are appropriate for emission inventories, which require an estimate of average emissions for a source category such as steel mills.

As discussed, if a limit is set in terms of lbs/ton, it may not be met at all levels of production at a steelmaking furnace. AmeriSteel's review of EPA's guidance from 40 CFR Part 52, the 1990 NSR Workshop Manual, hundreds of guidance documents, and discussions with the Office of Air Quality Planning and Standards (OAQPS), the Florida DEP and other state agencies all support AmeriSteel's position that EAF gas emission factors should not be used as BACT limits in this case

Condition 5D: As discussed in AmeriSteel's application, lead will not exceed 2.9 percent of our EAF particulate emissions, based on the baghouse hopper dust analyses. So if combined baghouse emissions are 95.6 tons/year, lead emissions will not exceed 2.8 tons/year. Refer to Tables 1-1 and 1-3 of our application.

Condition 5E: The allowable VOC emission rate will be the product of our maximum production times the emission factor in Table 1-1 (0.295 lbs/ton) or 29.5 lbs/hr. Condition 5E incorrectly lists 10.8 lbs/hr as the allowed emission rate. Refer to the Department's August 12, 1997 Notice of Intent to Issue Air Construction Permit Modification, which supports the revised VOC emission rate. The emission rate was agreed upon between the Department and AmeriSteel after VOC emissions were measured during a compliance test.

Condition 6: refers to particulate, gas, and visible emissions from the reheat and ladle furnaces, however, no ladle furnace allowable emission rates were proposed in the application. These comments assume that paragraphs A through D of Condition 6 apply to only the reheat furnace. AmeriSteel will provide the projected emission rates for the ladle furnace as soon as an estimate can be made. Generally, a ladle metallurgy furnace emits a small fraction of the gases that are emitted from an EAF. The added ladle metallurgy furnace emissions will not affect the modeling results.

Condition 6C: of the draft permit limits NOx emissions from the reheat furnace (Emission Unit 002) to 0.10 lbs./Mt. The January 21, 1999 permit application proposed 0.20 lbs/MMBtu/mmcf or 0.20 lbs NO/MMBtu. AmeriSteel's proposed limit is based on the potential for additional thermal NOx formation during higher production rates. Published data suggests that for every 200 degree farenhiet increase, above 2300 degrees farenheit, the potential for thermal NOx formation doubles. The proposed emission rate of 0.20 lbs/MMBtu is comparable with factors used at recently-permitted mills like Chaparral Steel (0.210 lbs/MMBtu), and older reheat furnaces like the one at AmeriSteel's Knoxville Mill, which has been permitted at 0.300 to 0.475 lbs/MMBtu. The proposed BACT technology is discussed and supported in our application starting at page 3-9. The Florida DEP's BACT review in Appendix BD, page 13, notes that no

reheat furnaces in attainment areas have been required to install SCR. In view of the fact that AmeriSteel's rate of billet reheating may increase, and considering the variables associated with the formation of NOx_x, the agency should accept our proposed emission limit properly arrived at using the PSD top down guidelines.

Condition 10: Testing periods for compliance with the NOx and VOC mass emission limits should be determined, up to, a 24-hour averaging basis, as is the case with CO. For visible emissions from the baghouse during the particulate emissions tests, only one hour of visible emissions are needed for each of the three runs as provided by 40 CFR 60.8.

Condition 11: While Condition 5.A. of the draft permit clearly sets the 0.0034 gr/scf as a limit, Condition 11 suggests that 0.0034 gr./scf is not a limit, but some sort of correctable rate. The City of Jacksonville RESD has confirmed that they will take enforcement action if the 0.0034 grain loading limit is exceeded, regardless of what the permit intended. AmeriSteel also believes that third parties could also file suit if 0.0034 is exceeded.

The 0.0034 gr./scf would be acceptable if it was an "action level," and 0.0042 gr./scf established as an enforceable limit. If 0.0034 gr./scf was exceeded, AmeriSteel would evaluate the use of additional compartments and/or enhanced bag maintenance or other measures, but AmeriSteel would not be subject to enforcement actions unless 0.0042 was exceeded. AmeriSteel's consultant worked with an EAF shop that was subject to a similar "action level" provision.

AmeriSteel's consultant sent the Department a document prepared by the Memphis and Shelby County Health Department concerning Birmingham Steel's BACT limit of 0.0052 gr/scf for their new baghouse. The document stated in part: *"[t]he applicant has extensively presented the case that the existing lower grain loading limits have not for the most part been proven to be sustainable. Additionally, it has been demonstrated that proposed lower limits are not economically justifiable. There is a distinct trend to have each new installation agree to yet a little lower limit than the last applicant permitted." Also, the Department must and did balance the factors of energy, economics, environmental impacts and other costs, on a case-by-case basis... The Department was also aware of the unique features of the proposed Memphis mill and significant differences from the mills in other states. Some of these more important differences include: inclusion of the emissions from the arc furnaces, the ladle [refining] furnaces, the melt shop fugitive emissions..."*

The Memphis agency set BACT by considering the mill being proposed, not by simply using a published limit or some other system.

Condition 13: refers to the opacity monitors in the baghouse stacks. Please refer to section 2.1 of our application that proposes an option to read visible emissions in accord with Method 9 and NSPS Subpart AAa (see paragraph 60.273a(3). AmeriSteel noted

previously that NSPS AAa requires visible emissions readings in accord with Method 9 to establish an opacity violation. Data from transmissometers are to be used to assess the performance of the control devices (baghouses), but not as basis for enforcement.

Condition 14A: requires monitoring of static pressure in the EAF. With canopy hoods, this NSPS requirement never served any monitoring purpose. As of May 3, 1999, EPA's final rule allows an option to read visible emissions at the meltshop roof in lieu of recording EAF static pressure.

Condition 20: reference to EAF static pressure should be deleted.

Modernization program delay. Our modernization program is being delayed several months. So far, these delays should not affect the dates in the permit. However, the construction of a new scrap handling building next to our meltshop may be delayed longer. The new scrap handling building will not affect our potential to emit as described in our January 1999 application.

Project description. Section I "Facility Description and Section B "Project Description" of the Department's Technical Evaluation and Preliminary Determination describe the physical and operational changes at the time we submitted the new permit application. Refer to the underlined portion of Project Description on pages 1 & 2.

Please not that these possible equipment replacements and other minor changes would not cause exceedences of any proposed limit in the draft permit..

As with the case of the currently planned improvements, our modernization program will result in lower downtime. (This is also true of our Partners in Performance incentive program.) As we understand the PSD exemptions, emissions resulting from increased steel production due to more hours of operation (up to the permit limit) are exempt from any future potential netting calculation. To simplify our January 1999 application, we included all potential emissions in our netting calculus.

Replacement of the existing oxy-fuel (compressed air and oxygen/fuel fired) with new oxy-fuel (pure oxygen only /fuel) burners should not affect emission rates since it will be designed to use pure oxygen, thus reducing the potential for the current burners to dissociate and form thermal NOx. One of the new burners will also have the capability of injecting carbon more efficiently than the current system. This theoretically could minimize CO and uncontrolled particulate.

AmeriSteel is also considering replacing the trolley/hoist system on the scrap-handling crane inside the melt shop building. This replacement would allow the crane to operate at a faster hoisting speed, and thus not for long continuous periods of time. The replacement could decrease downtime observed with the existing configuration.

Expiration date. Section II – Administrative Requirement No. 6 should list a construction permit expiration date 18 months after the effect date of the new PSD permit.

As agreed, AmeriSteel will inform the Department of any details and changes as soon as they become available.

Questions or comments may be directed to my office at (904) 266-4261 ext. 133.

Sincerely,

Michael A. Leuck

Environmental Manager

CC: J. Reynolds, BAR
NED
Duval Co. - Haskell
EPA
NPS

RECEIVED
JUL 30 1999
BUREAU OF AIR REGULATION

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

AMERISTEEL CORPORATION,

Petitioner,

vs. OGC CASE NO. 99-1155

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION,

Respondent.

_____/

ORDER GRANTING REQUEST FOR EXTENSION OF TIME TO FILE PETITION FOR HEARING

This cause has come before the Florida Department of Environmental Protection (Department) on receipt of a request made by Petitioner AmeriSteel Corporation to grant an extension of time to file a petition for an administrative hearing on Draft Permit No. PSD-FL-261, DEP File No. 0310157-004-AC. See Exhibit 1. Because the request shows good cause for the extension of time,

IT IS ORDERED:

The request for an extension of time to file a petition for administrative proceeding is granted. Petitioner shall have until September 7, 1999, to file a petition in this matter. Filing shall be complete on receipt by the Office of General Counsel, Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000.

DONE AND ORDERED on this 29th day of July 1999 in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

F. PERRY ODOM, General Counsel
3900 Commonwealth Boulevard. M.S. 35
Tallahassee, Florida 32399-3000

CERTIFICATE OF SERVICE

I CERTIFY that a true copy of the foregoing Order Granting Request for Extension of Time to File Petition for Hearing was mailed to David S. Dee, Esquire, LANDERS & PARSONS, P.A., 310 West College Avenue, Post Office Box 271, Tallahassee, Florida 32302, on this 30th day of July 1999.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Scott A. Goorland
Senior Assistant General Counsel

3900 Commonwealth Boulevard
Mail Station 35
Tallahassee, FL 32399-3000
Telephone: (850) 488-9314

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

AMERISTEEL CORPORATION,	)	
	)	
Petitioner,	)	
	)	
v.	)	DEP File No. 0310157-004-AC
	)	
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION,	)	
	)	
Respondent.	)	
	)	

AMERISTEEL'S REQUEST FOR EXTENSION OF TIME TO FILE PETITION FOR FORMAL ADMINISTRATIVE HEARING

Petitioner, AmeriSteel Corporation ("AmeriSteel"), by and through its undersigned counsel, and pursuant to Rule 28-106.111(3), Florida Administrative Code, hereby requests the Respondent, Florida Department of Environmental Protection ("Department"), to grant an extension of time for filing a petition for a formal administrative hearing under Section 120.569(1) and 120.57(1), Florida Statutes. In support of this request, AmeriSteel says:

1. On or about June 30, 1999, AmeriSteel received a copy of the Department's notice of intent to issue a permit (DEP Permit No. PSD-FL-261) for the modification of AmeriSteel's steel mill in Baldwin, Florida. The Department's notice of intent was attached to a draft permit ("Draft Permit") which contains

EXHIBIT 1

several general and specific conditions that would govern AmeriSteel's proposed activities.

2. AmeriSteel believes that certain provisions in the Draft Permit should be clarified or revised. Consequently, AmeriSteel would like to have an adequate opportunity to work with the Department so that AmeriSteel's concerns about the Draft Permit can be resolved in a manner that is mutually acceptable to AmeriSteel and the Department. AmeriSteel is prepared to work in a diligent and cooperative manner with the Department, but AmeriSteel believes it will not be possible to complete its joint efforts with the Department before AmeriSteel's deadline for filing a petition for an administrative hearing.

3. Although AmeriSteel expects to resolve its concerns by working informally with the Department, AmeriSteel does not wish to waive its right to a formal administrative hearing. Accordingly, AmeriSteel would like the Department to grant an extension of time to AmeriSteel for filing a petition for a formal administrative hearing. Granting an extension of time would enable the parties to work together on their mutual concerns about the Draft Permit, while avoiding unnecessary litigation and conserving the parties' resources.

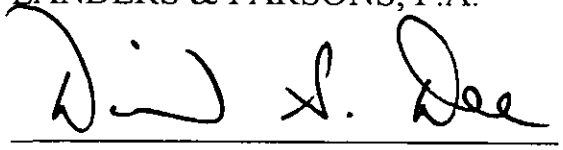
4. The undersigned counsel for AmeriSteel has discussed this request with Mr. Douglas Beason, an attorney representing the Department. Undersigned

counsel is authorized to represent that Mr. Beason has no objection to AmeriSteel's request for an extension of time.

WHEREFORE, Petitioner, AmeriSteel Corporation, respectfully requests the Department to grant a 60 day extension of time for filing a petition for a formal administrative hearing concerning the Draft Permit.

Submitted this 9th day of July, 1999.

LANDERS & PARSONS, P.A.



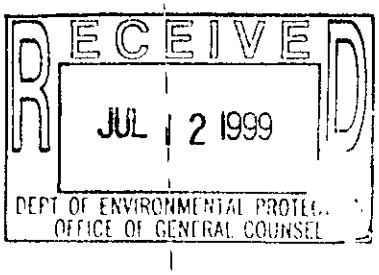
David S. Dee
Florida Bar No. 281999
310 West College Avenue (32301)
P.O. Box 271
Tallahassee, Florida 32302
Phone: 850/681-0311
FAX: 850/224-5595

Attorneys for Petitioner, AmeriSteel

CERTIFICATE OF SERVICE

I hereby certify that the original and one copy of the foregoing document was furnished by hand delivery to the Clerk, Department of Environmental Protection, Douglas Building, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399; and a copy by U.S. Mail to Douglas Beason, Assistant General Counsel, Department of Environmental Protection, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32399 on this 9th day of July, 1999.

Attorney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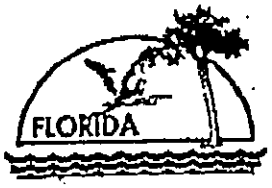
OFFICE OF GENERAL COUNSEL



Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Jeb Bush
Governor

David Struhs
Secretary

FAX COVER SHEET

TO: Kim Taber

TELEPHONE NUMBER: 921-9533

FAX NUMBER: 922-6979

FROM: Marjane Monahan

FAX NUMBER: 921-3000

DATE OF TRANSMISSION: 7/29/99

NUMBER OF PAGES INCLUDING COVER: 5

If there are problems with this transmission, please contact Marjane at (850) 488-9314 or 921-9720.

COMMENTS:

Ameristeel's Request for Extension of Time to File Petition for Formal Administrative Hearing follows. Scott Goorland is the DEP attorney handling air extension requests currently.

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

AMERISTEEL CORPORATION, Petitioner, v. FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, Respondent.	DEP File No. 0310157-004-AC

AMERISTEEL'S REQUEST FOR EXTENSION OF TIME TO FILE PETITION FOR FORMAL ADMINISTRATIVE HEARING

Petitioner, AmeriSteel Corporation ("AmeriSteel"), by and through its undersigned counsel, and pursuant to Rule 28-106.111(3), Florida Administrative Code, hereby requests the Respondent, Florida Department of Environmental Protection ("Department"), to grant an extension of time for filing a petition for a formal administrative hearing under Section 120.569(1) and 120.57(1), Florida Statutes. In support of this request, AmeriSteel says:

1. On or about June 30, 1999, AmeriSteel received a copy of the Department's notice of intent to issue a permit (DEP Permit No. PSD-FL-261) for the modification of AmeriSteel's steel mill in Baldwin, Florida. The Department's notice of intent was attached to a draft permit ("Draft Permit") which contains

several general and specific conditions that would govern AmeriSteel's proposed activities.

2. AmeriSteel believes that certain provisions in the Draft Permit should be clarified or revised. Consequently, AmeriSteel would like to have an adequate opportunity to work with the Department so that AmeriSteel's concerns about the Draft Permit can be resolved in a manner that is mutually acceptable to AmeriSteel and the Department. AmeriSteel is prepared to work in a diligent and cooperative manner with the Department, but AmeriSteel believes it will not be possible to complete its joint efforts with the Department before AmeriSteel's deadline for filing a petition for an administrative hearing.

3. Although AmeriSteel expects to resolve its concerns by working informally with the Department, AmeriSteel does not wish to waive its right to a formal administrative hearing. Accordingly, AmeriSteel would like the Department to grant an extension of time to AmeriSteel for filing a petition for a formal administrative hearing. Granting an extension of time would enable the parties to work together on their mutual concerns about the Draft Permit, while avoiding unnecessary litigation and conserving the parties' resources.

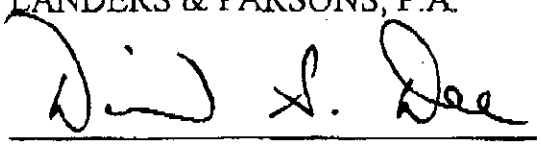
4. The undersigned counsel for AmeriSteel has discussed this request with Mr. Douglas Beason, an attorney representing the Department. Undersigned

counsel is authorized to represent that Mr. Beason has no objection to AmeriSteel's request for an extension of time.

WHEREFORE, Petitioner, AmeriSteel Corporation, respectfully requests the Department to grant a 60 day extension of time for filing a petition for a formal administrative hearing concerning the Draft Permit.

Submitted this 9th day of July, 1999.

LANDERS & PARSONS, P.A.



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Attorneys for Petitioner, AmeriSteel

CERTIFICATE OF SERVICE

I hereby certify that the original and one copy of the foregoing document was furnished by hand delivery to the Clerk, Department of Environmental Protection, Douglas Building, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399; and a copy by U.S. Mail to Douglas Beason, Assistant General Counsel, Department of Environmental Protection, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32399 on this 9th day of July, 1999.

Attorney

AMERISTEEL®

HWY 217 YELLOW WATER ROAD
P.O. BOX 518
BALDWIN, FL 32234

DATE: 7-28-99

TO: AL LINERO / JOHN REYNOLDS FAX: (850) 922-6979

PHONE: (850) 448-1344

FROM: MICHAEL CELICK FAX: (904) 266-2996

PHONE: (904) 266-4261 EXT. 133

PAGES (INCLUDING COVER PAGE) 9

COMMENTS:

AMENDED COMMENTS @ JOHN REYNOLD'S REQUEST. PLEASE FILE AS COMMENTS.

THANKS,

MICHAEL CELICK

AMERISTEEL

July 22, 1999

A. A. Linero, P.E., Administrator
New Source Review Section
Florida Department of Environmental Protection
Division of Air Resources Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee FL 32399-2400

RE: DEP File No. 0310157-004-AC, PSD-FL-261; AmeriSteel's comments concerning draft PSD permit for Baldwin Mill.

Dear Mr. Linero,

This letter discusses AmeriSteel's comments and concerns about some of the specific conditions in the referenced draft permit. AmeriSteel's comments are presented in the same sequence as the Specific Conditions in Section III of the draft permit.

Project and Location:

First sentence (clarity) ... steel mill that produces reinforcing bars and rod from scrap steel.

Second sentence (clarity) ... 720,000 tons per year (TPY) for both the Electric Arc Furnace (EAF) and Billet Reheat Furnace (BRF). This includes a production rate for the EAF of up to 100 tons per hour (TPH)(24 hour maximum average), and up to 120 TPH (24 hour maximum average) for the BRF.

Facility Description:

AmeriSteel Corporation operates scrap steel recycling facility near Baldwin, Duval County, Florida, producing steel reinforcing bars and rod. The company has applied to increase the production rate from 600,000 to 720,000 TPY at its Baldwin Plant. The modifications will consist of installing larger current conducting arms for the electric arc furnace, construction of a new scrap building, installation of a new ladle metallurgy furnace, extension of the tapping pit, replacement of four oxy-fuel burners, modifications to the existing scrap loading crane, and enhancements to operating and maintenance

practices.

Condition 2: The subject emission units (001, 004, and 006) shall comply.....

Condition 3: The monthly steel production limit should be removed, or it should be determined by multiplying the daily liquid steel production limit of 2400 tons by the number of days in the month. The draft permit states that the monthly average is based on a 90 tons/hour production rate. The dispersion modeling and BACT analyses are based on worst case emissions rates using maximum short term (including monthly) steel production rate of 100 tons/hour.

Suggested language for condition 3 – The EAF shall not produce more than 100 TPH (24 hour maximum average), 2400 TPD, and 720,000 TPY. The BRF shall not produce more than 120 TPH (24-hour maximum average), 130 TPH (2-hour maximum average), 2880 TPD, and 720,000 TPY. Slag processing shall not exceed 100 TPH, 500 TPD, and 85,000 TPY.

Condition 4 limits the operation of the two baghouses (Emission Units 001 and 004) to 8000 hours per year. This limitation on the operation of the baghouses in inappropriate because the baghouses may continue running when the associated steelmaking processes – the EAF and (possibly) the future LMF - are out of service. For the purposes of this permit, operating hours should only be times when the emission source (EAF) is in the process of producing steel. The 8000 hour-per-year restriction should not apply to those times when the steelmaking processes are not running and no emissions are being generated.

Suggested language for condition 4 – The EAF and ladle metallurgy furnace (LMF) shall not operate more than 8000 hours per year. The BRF shall not operate more than 8500 hour per year. The slag processing plant shall not operate more than 2000 hours per year.

Condition 5A presents a serious concern for AmeriSteel for several reasons. (Also refer to our related comments under Condition 11.) Condition 5A limits the baghouse PM grainloading to 0.0034 gr/dscf for the average of both baghouses in accord with 40 CFR 60.275a(e)(2), which explains how to average the two baghouses' grainloadings. The Florida DEP's proposed limit of 0.0034 gr./dscf is far below the 0.0052 gr/scf limit that AmeriSteel originally proposed as BACT in our January 1999 application. In AmeriSteel's detailed April 8, 1999, letter to the Department, AmeriSteel voluntarily lowered the grainloading from 0.0052 to 0.0042 grains to reduce allowable mass emissions and to resolve a minor modeling issue.

Despite the extensive verbal and written comments and analysis presented by AmeriSteel, the Department proposed a BACT of 0.0034 gr./dscf, based on the Departments "usual procedure." In AmeriSteel's case, the Department simply doubled the lowest actual average grainloading to obtain the 0.0034 gr/dscf. This means that the new BACT limit is based the lowest available particulate test results submitted to the Florida DEP.

The Department's "procedure" is not described in any DEP rules. AmeriSteel have found no DEP guidance memoranda describing this procedure. This procedure does not appear to be consistent with the guidelines in 40 CFR Part 52 and the NSR Workshop Manual, which is what AmeriSteel followed to set the original BACT at 0.0052 gr./scf.

(Please note that page 9 of the BACT Appendix BD – and at other sections of the draft permit - incorrectly states that the baghouse grainloading limit proposed by AmeriSteel is 0.0052 gr/scf, but the correct proposed level is 0.0042 gr./scf, as discussed in AmeriSteel's April 8, 1999, letter to the Department.)

In effect, the Florida DEP's approach to setting BACT means that AmeriSteel's exemplary baghouse maintenance program allows the agency to "ratchet down" the limit to a level that is much more stringent than the BACT level arrived at by the federal and state guidelines. This ratcheting procedure weakens a company's incentive to maintain control equipment in a manner that would result in lowest possible emissions.

The difference in particulate emissions and ambient impact between the two BACT methods is negligible. The Department's BACT would reduce *allowable* grainloading by 0.0008 grains/dscf, which is less than 2 lbs/hour. (One grain is 1/7000 of a pound). AmeriSteel emphasizes that the Department's proposed BACT limit is a "paper" reduction; *actual emissions from the baghouses would not be affected.*

AmeriSteel's application followed the PSD top-down procedures to arrive an appropriate BACT emission rate. Therefore, the rate proposed in our application should be AmeriSteel's April 8 letter quoted page 3 of the Florida DEP's Approval of Permit dated July 7, 1995. The Florida DEP stated: *"The [AmeriSteel] baghouse will meet an emission standard of 0.0052 grains/scf, the new source performance standard for steel works. The BACT Clearinghouse document lists similar determinations for steel mills in other states [it still does]. The cost of replacing the filters in these baghouses with ones that may resulting lower emissions of particulate matter (0.0018 gr/dscf) is estimated at $15,690 per ton of particulate matter removed. This cost is above the guidelines used by the Department to justify the additional air pollution control."*

In determining the combined BACT rate for both baghouses, the Department's 1995 determination and the BACT analysis in AmeriSteel's permit application were apparently not given sufficient consideration by the Department. The Department simply doubled the lowest grainloadings that was ever measured at these two baghouses. The tested grainloading of 0.0011 at baghouse 1-2 is well below the most stringent BACT limit ever set, but was used in the equation to further reduce our grainloading limit to 0.0034.

Condition 5B and C of the draft permit contains emission factors that AmeriSteel proposed to use in calculating emission rates. However, the factors in lbs/ton for CO and NOx, are proposed as emission *limits* in the draft permit, which is unacceptable to AmeriSteel. Our January 21, 1999 PSD application specifically addressed this issue at the end of section 3.0, which contains our proposed BACT emission limits. In part, section 3.0 of our application states,

"The emission limiting condition in the new PSD permit would be a mass emission rate derived from the product of the gas emission factor times the maximum steel production

per unit of time (tons/hour, tons/year)."

AmeriSteel also discussed its' position on this crucial issue at our November 1998 meeting with the Department. Any steel mill with processes that have variable emissions for criteria gases, CO and NOx, cannot agree to a factor as a limit without incurring substantial legal risk. Since steelmakers cannot control an emission factor for EAF criteria gases CO and NOx simultaneously, imposing a factor as a limit only serves to increase the company's risk of a "violation" when the mass emission rate is within limits.

As shown in AmeriSteel's 1995 and 1999 permit applications, no technically or economically feasible add-on devices can control EAF gases. If an active control device is feasible, then some sort of performance standard may be appropriate, although it may not be directly related to a mass emission rate. For example, a baghouse may have a performance *standard* of 0.0052 gr/scf, but the emission *limit* at 0.0032 gr/scf may be higher than the mass limit for the 0.0052 gr/scf baghouse. This is because the baghouses' volumetric flow rates could be different. Nevertheless, the grainloading performance standard insures that the baghouse, regardless of the flow rate, will meet minimum design efficiency criteria. The baghouse grainloading standard was established by EPA using test results for many baghouses that were obtained by standardized reference methods (Method 5). EPA has never subjected EAFs to NSPS for gases, thus no systematic standardized test method has been developed to test for those gases.

Page B.56 of EPA's 1990 draft New Source Review Workshop Manual states that a design, equipment, work practice, operation standard should not be prescribed for an emission unit if an emission *limit* is feasible. For EAF CO, AmeriSteel Steel has determined – through the NSR/PSD process – that a CO mass emission limit of 300 lbs/hr is feasible and achievable. The modeled ambient impact using that new mass emission limit is not significant, as discussed in the current1999 application. The same page of the NSR draft workbook also states that "BACT emission limits or conditions must be met on a continual basis *at all levels of operation*... and be enforceable as a practical matter (contain appropriate averaging times..." As discussed above, the EAF gases varies widely during the different phases of the scrap melting cycle.

According to many agencies including the Florida DEP, emission factors reflect the average emissions of a group of sources, they are not intended to be a limit. According to many agencies, including the Florida DEP, emission factors reflect the average emissions of a group of sources, they are not intended to be used as a limit. Please refer to the attachment to the July 25, 1995, Florida DEP memo titled, "Guidance on Utilization of AP-42 Factors," which was taken from EPA telecourse T-045. "There are two basic problems inherent in the use of AP-42 emission factors for making applicability determinations. One is the paucity of emission data on which some emission factors are based. The other problem is that emission factors are not well suited to the task of determining the potential emissions of individual sources." The attachment goes on to quote AP-42's introduction, "Because emission factors are averages obtained from data of wide range and varying degrees of accuracy, emissions calculated from such factors for a given facility are likely to be different from that facility's actual emissions." And,

"Factors are more appropriately used to estimate, collectively, the emissions of a number of sources, such as is done in emission inventory work." Therefore, factors are appropriate for emission inventories, which require an estimate of average emissions for a source category such as steel mills.

As discussed, if a limit is set in terms of lbs/ton, it may not be met at all levels of production at a steelmaking furnace. AmeriSteel's review of EPA's guidance from 40 CFR Part 52, the 1990 NSR Workshop Manual, hundreds of guidance documents, and discussions with the Office of Air Quality Planning and Standards (OAQPS), the Florida DEP and other state agencies all support AmeriSteel's position that EAF gas emission factors should not be used as BACT limits in this case

Condition 5D. As discussed in AmeriSteel's application, lead will not exceed 2.9 percent of our EAF particulate emissions, based on the baghouse hopper dust analyses. So if combined baghouse emissions are 95.6 tons/year, lead emissions will not exceed 2.8 tons/year. Refer to Tables 1-1 and 1-3 of our application.

Condition 5E. The allowable VOC emission rate will be the product of our maximum production times the emission factor in Table 1-1 (0.295 lbs/ton) or 29.5 lbs/hr. Condition 5E incorrectly lists 10.8 lbs/hr as the allowed emission rate. Refer to the Department's August 12, 1997 Notice of Intent to Issue Air Construction Permit Modification, which supports the revised VOC emission rate. The emission rate was agreed upon between the Department and AmeriSteel after VOC emissions were measured during a compliance test.

Condition 6 refers to particulate, gas, and visible emissions from the reheat and ladle furnaces, however, no ladle furnace allowable emission rates were proposed in the application. These comments assume that paragraphs A through D of Condition 6 apply to only the reheat furnace. AmeriSteel will provide the projected emission rates for the ladle furnace as soon as an estimate can be made. Generally, a ladle metallurgy furnace emits a small fraction of the gases that are emitted from an EAF. The added ladle metallurgy furnace emissions will not affect the modeling results.

Condition 6C of the draft permit limits NOx emissions from the reheat furnace (Emission Unit 002) to 0.10 lbs./Mt. The January 21, 1999 permit application proposed 0.20 lbs/MMBtu/mmcf or 0.20 lbs NO/MMBtu. AmeriSteel's proposed limit is based on the potential for additional thermal NOx formation during higher production rates. Published data suggests that for every 200 degree farenhiet increase, above 2300 degrees farenheit, the potential for thermal NOx formation doubles. The proposed emission rate of 0.20 lbs/MMBtu is comparable with factors used at recently-permitted mills like Chaparral Steel (0.210 lbs/MMBtu), and older reheat furnaces like the one at AmeriSteel's Knoxville Mill, which has been permitted at 0.300 to 0.475 lbs/MMBtu. The proposed BACT technology is discussed and supported in our application starting at page 3-9. The Florida DEP's BACT review in Appendix BD, page 13, notes that no

reheat furnaces in attainment areas have been required to install SCR. In view of the fact that AmeriSteel's rate of billet reheating may increase, and considering the variables associated with the formation of NO_x, the agency should accept our proposed emission limit properly arrived at using the PSD top down guidelines.

Condition 10: Testing periods for compliance with the NOx and VOC mass emission limits should be determined, up to, a 24-hour averaging basis, as is the case with CO. For visible emissions from the baghouse during the particulate emissions tests, only one hour of visible emissions are needed for each of the three runs as provided by 40 CFR 60.8.

Condition 11. While Condition 5.A. of the draft permit clearly sets the 0.0034 gr/scf as a limit, Condition 11 suggests that 0.0034 gr./scf is not a limit, but some sort of correctable rate. The City of Jacksonville RESD has confirmed that they will take enforcement action if the 0.0034 grain loading limit is exceeded, regardless of what the permit intended. AmeriSteel also believes that third parties could also file suit if 0.0034 is exceeded.

The 0.0034 gr./scf would be acceptable if it was an "action level," and 0.0042 gr./scf established as an enforceable limit. If 0.0034 gr./scf was exceeded, AmeriSteel would evaluate the use of additional compartments and/or enhanced bag maintenance or other measures, but AmeriSteel would not be subject to enforcement actions unless 0.0042 was exceeded. AmeriSteel's consultant worked with an EAF shop that was subject to a similar "action level" provision.

AmeriSteel's consultant sent the Department a document prepared by the Memphis and Shelby County Health Department concerning Birmingham Steel's BACT limit of 0.0052 gr/scf for their new baghouse. The document stated in part: *"[t]he applicant has extensively presented the case that the existing lower grain loading limits have not for the most part been proven to be sustainable. Additionally, it has been demonstrated that proposed lower limits are not economically justifiable. There is a distinct trend to have each new installation agree to yet a little lower limit than the last applicant permitted." Also, the Department must and did balance the factors of energy, economics, environmental impacts and other costs, on a case-by-case basis... The Department was also aware of the unique features of the proposed Memphis mill and significant differences from the mills in other states. Some of these more important differences include: inclusion of the emissions from the arc furnaces, the ladle [refining] furnaces, the melt shop fugitive emissions..."*

The Memphis agency set BACT by considering the mill being proposed, not by simply using a published limit or some other system.

Condition 13 refers to the opacity monitors in the baghouse stacks. Please refer to section 2.1 of our application that proposes an option to read visible emissions in accord with Method 9 and NSPS Subpart AAa (see paragraph 60.273a(3). AmeriSteel noted

previously that NSPS AAa requires visible emissions readings in accord with Method 9 to establish an opacity violation. Data from transmissometers are to be used to assess the performance of the control devices (baghouses), but not as basis for enforcement.

Condition 14A requires monitoring of static pressure in the EAF. With canopy hoods, this NSPS requirement never served any monitoring purpose. As of May 3, 1999, EPA's final rule allows an option to read visible emissions at the meltshop roof in lieu of recording EAF static pressure.

Condition 20's reference to EAF static pressure should be deleted.

Modernization program delay. Our modernization program is being delayed several months. So far, these delays should not affect the dates in the permit. However, the construction of a new scrap handling building next to our meltshop may be delayed longer. The new scrap handling building will not affect our potential to emit as described in our January 1999 application.

Project description. Section I "Facility Description and Section B "Project Description" of the Department's Technical Evaluation and Preliminary Determination describe the physical and operational changes at the time we submitted the new permit application. Refer to the underlined portion of Project Description on pages 1 & 2.

Please not that these possible equipment replacements and other minor changes would not cause exceedences of any proposed limit in the draft permit..

As with the case of the currently planned improvements, our modernization program will result in lower downtime. (This is also true of our Partners in Performance incentive program.) As we understand the PSD exemptions, emissions resulting from increased steel production due to more hours of operation (up to the permit limit) are exempt from any future potential netting calculation. To simplify our January 1999 application, we included all potential emissions in our netting calculus.

Replacement of the existing oxy-fuel (compressed air and oxygen/fuel fired) with new oxy-fuel (pure oxygen only /fuel) burners should not affect emission rates since it will be designed to use pure oxygen, thus reducing the potential for the current burners to dissociate and form thermal NOx. One of the new burners will also have the capability of injecting carbon more efficiently than the current system. This theoretically could minimize CO and uncontrolled particulate.

AmeriSteel is also considering replacing the trolley/hoist system on the scrap-handling crane inside the melt shop building. This replacement would allow the crane to operate at a faster hoisting speed, and thus not for long continuous periods of time. The replacement could decrease downtime observed with the existing configuration.

Expiration date. Section II – Administrative Requirement No. 6 should list a construction permit expiration date 18 months after the effect date of the new PSD permit.

As agreed, AmeriSteel will inform the Department of any details and changes as soon as they become available.

Questions or comments may be directed to my office at (904) 266-4261 ext. 133.

Sincerely,

Michael A. Leuck

Environmental Manager

North Carolina - Department of
Environment, Health and Natural Resources
Division of Air Quality
Planning Section - Attainment Branch
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fax

DEHNR

To: See list below

Company:

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FAX:

Date: 7-28-99

Pages including this cover page: 10

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Diane Andrews 502-573-3187

If you have problems receiving this FAX call Vickie Woods at (919)733-1115.

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF AIR QUALITY

To: Interested Parties

From: Sheila Holman

Subject: Uniform 36 km Proposal

I am enclosing a proposal for a uniform 36 km domain for purposes of ozone modeling throughout the eastern United States. The proposal was developed by Brian Timin when he was still here in North Carolina, but he has taken the lead for trying to reach consensus for such a domain while at EPA.

The main benefit for such a common domain is that 4 km gridded surrogates could be developed over the entire domain so that emission inventory development and sharing could be achieved. Also, 108 km and 36 km meteorological modeling runs could be done as well, though this would not conserve that many resources as the 12 km and 4 km met runs are much more computer resource intensive.

The idea is that there is a consistent 36 km domain in which 12 and 4 km domains could be nested. There may actually be 2 or 3 different domains to accommodate Texas and other more central modeling applications.

The purpose of today's memo is to alert you to this proposal and to ask whether you see a benefit for such a common domain. I personally do because of the emissions benefits. The other question is whether your own 8-hour ozone modeling application is too far along for this to be of any benefit to you. Could you please respond to me by August 6 regarding these two questions. If you have questions, I will be back in the office on August 3, 1999, or you can call Brian at (919) 541-1850. You can fax me (919) 715-7476 or e-mail me your answers at sheila_holman@ncair.net. Thanks for your quick response.

Mailing address change to: 1641 Mail Service Center, Raleigh, NC 27699-1641

~~P.O. Box 29580, Raleigh, NC 27626-0580~~ / 2728 CAPITAL BLVD., RALEIGH NC 27604
PHONE 919-715-6232 FAX 919-715-7175 WWW. EHNR.STATE.NC.US/EHNR/

Common Domain Proposal for Ozone and PM Modeling

Brian Timin
EPA/OAQPS/AQMG
RTP, NC

"Common Domain" Proposal

- A common coarse grid domain(s) (36 km) can be used for all modeling projects in the U.S
- All fine grid domains would fit into the same coarse grid
  - Fine grids would consist of 12 km and 4 km domains

Benefits of a Common Domain

- Will (potentially) allow for more sharing of data between States and regions
  - Raw and gridded emissions data
  - Modeled meteorological data
  - Photochemical model inputs and outputs

Common Grid Emissions Modeling

- A single set (or sets) of gridded surrogates can be shared
  - Population, rural/urban, water, airports, etc.
  - Eliminate the need for all States to have GIS software
- Gridded emissions files can be shared
  - If episode years and/or dates are the same
- Allows for more comparisons and QA checks on inventories (gridded to a common area)

Common Grid Met Modeling

- Common grid met modeling may be problematic
  - It is difficult to establish one set of input parameters for a large regional area
    - Vertical layer structure
    - PBL algorithms
  - Multiple model domains and setups may be necessary

Common Grid Photochemical Modeling

- Coarse domain inputs and/or outputs could be shared for common episodes
- Initial and boundary conditions could be provided from modeling by regional groups or neighboring areas (if necessary)
- Model output would be somewhat consistent between regions
  - Comparison of results for overlapping areas

How Will This Work?

- The coordinate systems and map projections must be the same
  - Different models use different coordinate systems
  - Multiple common domains are needed to accommodate most photochemical models

Common Domain Proposal

- One or more common domains should be created with a Lambert conformal projection for use in CMAQ, MAQSIP, SAQM, and RADM (CAMx and UAM-V)
- Another common domain should be created with lat./long. coordinates for use in UAM-V and CAM-X
- The domains will not be compatible, but should satisfy most users

UAM-V/CAM-X Common Domain (East)

- SW corner -99 W, 26 N
- NE corner -67 W, 47 N
- Coarse grid horizontal resolution of 1/3° lat. X 1/2° long. (~36 km)
  - Coarse grid for individual projects could be smaller than the full common domain
- Fine grid resolution of 1/9° lat. X 1/6° long. (~12 km) and 1/27° lat. X 1/18° long. (~4 km)
  - Fine grids defined by individual users
- Domain can easily be expanded to cover the entire continental U.S.

CMAQ/MAQSIP/SAQM/RADM Common Domain (East)

- Center point at 40° N latitude, -90° W longitude
- Standard parallels at 30° N and 60° N
- Assume Earth is a sphere
- Coarse grid horizontal resolution of 36 km
  - Coarse grid for individual projects can be smaller than the full common domain
- Fine grid resolutions of 12 km and 4 km
  - Fine grids defined by individual users

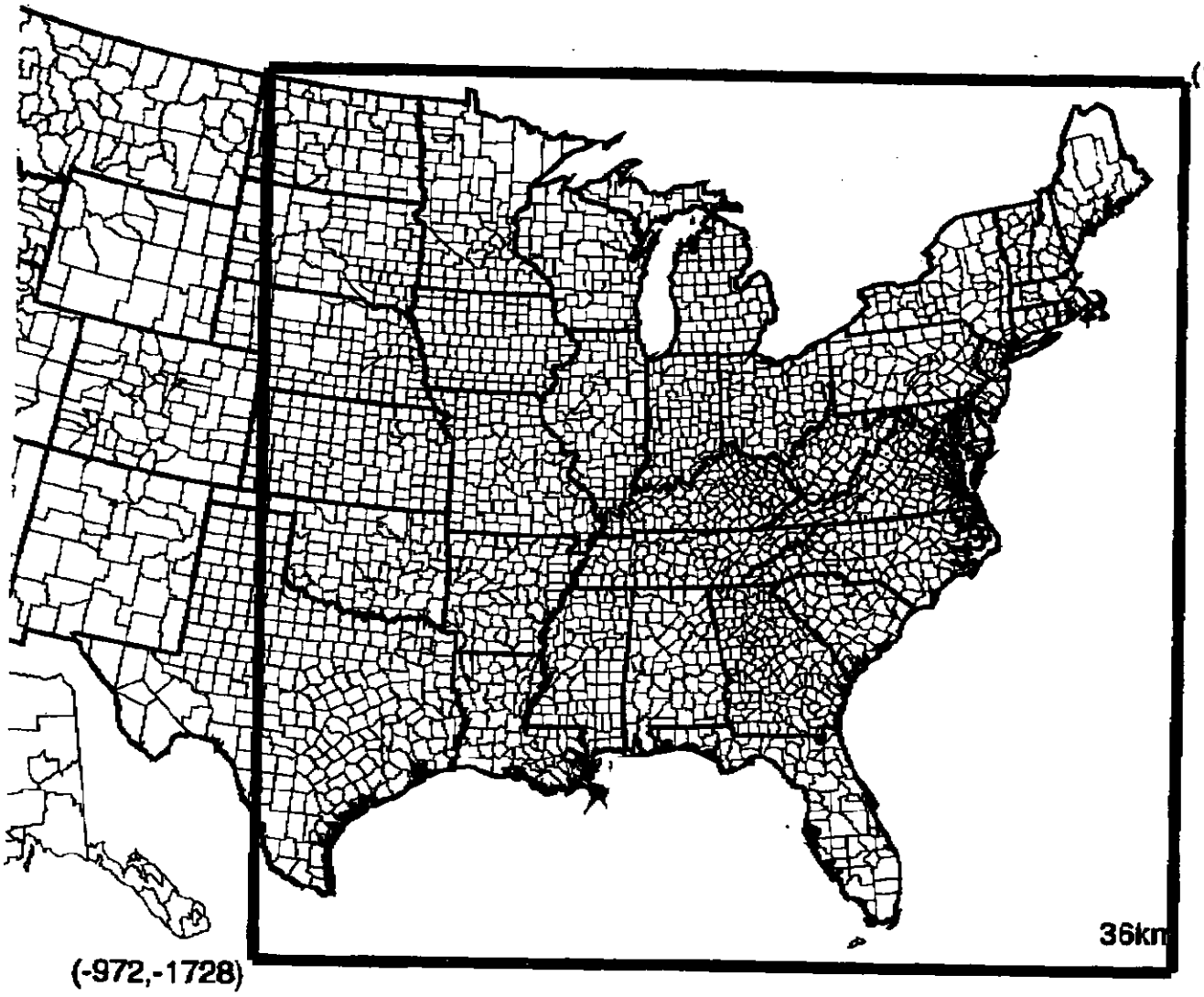
CMAQ/MAQSIP/SAQM/RADM Common Domain

- Multiple Lambert Conformal domains may be needed to cover the entire country
  - EPA is using a 40° , -100° projection for a current continental U.S. MM5 application
  - Can 40°, -100° be used by everybody?
  - Do we need grids projected at -90°, -100°, -110°, or other coordinates to satisfy everyone?

Working Together

- Reasonable to require all domains to fit inside a common domain
- Not as reasonable to require the same episodes, vertical resolution, PBL scheme, cloud parameterization, etc.
- EPA, States, and regional organizations need to decide how they can work together

Proposed "Common" Eastern Coarse Grid Domain (36km)
Models-3/MAQSIP/SAQM



Common-36
State Boundary
Uscofinal

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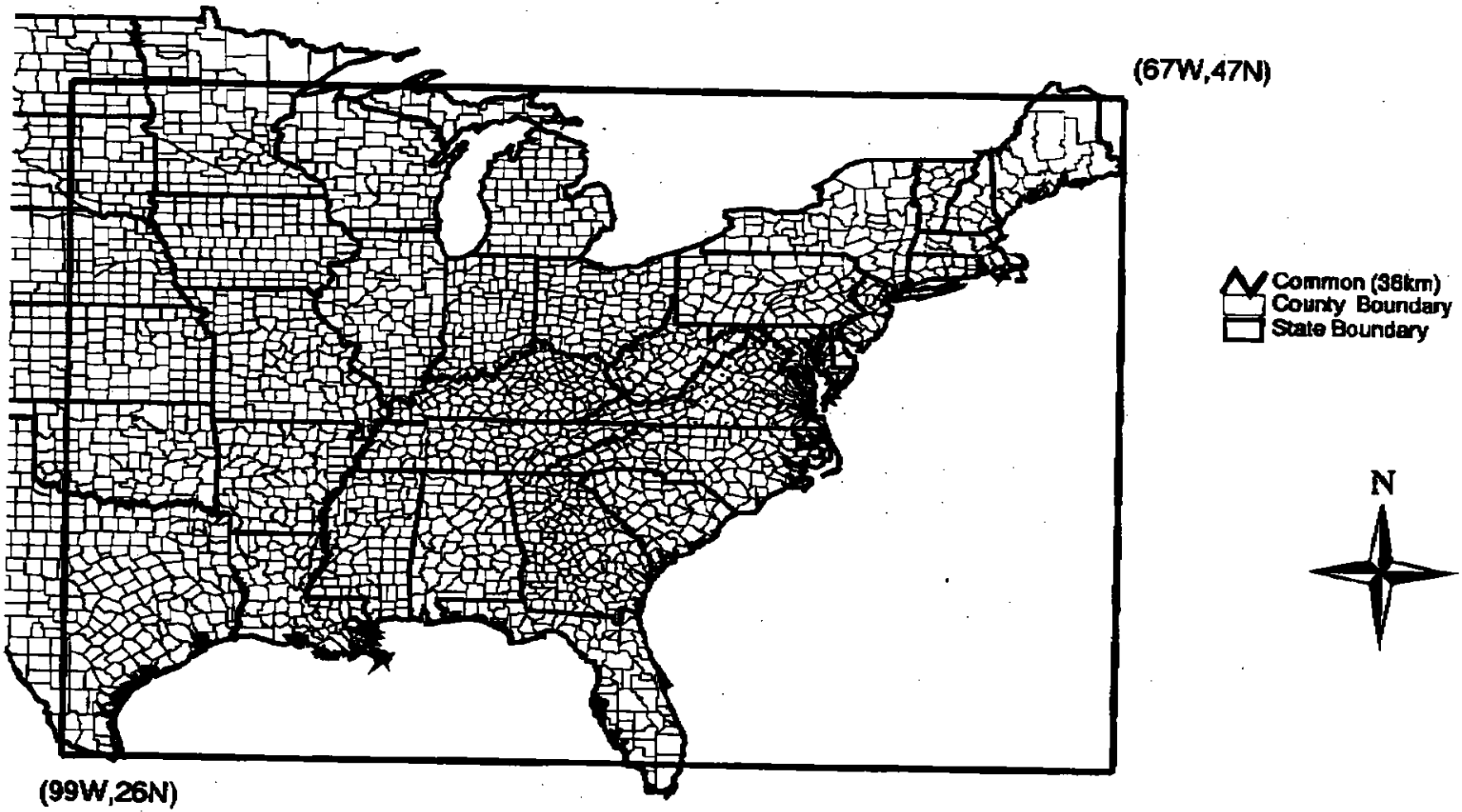
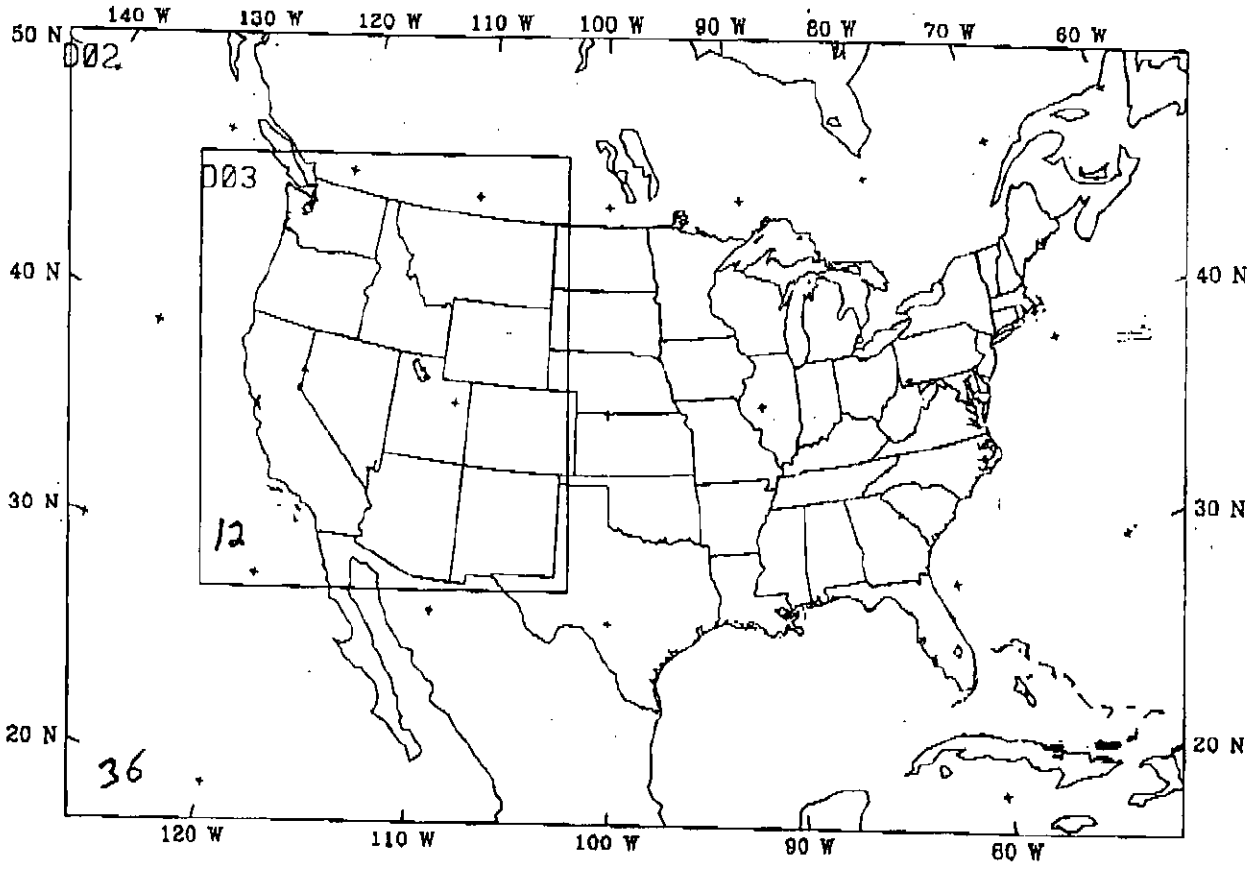
Proposed "Common" Eastern Coarse Grid Domain (36km)

UAM-V/CAMX

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110 W
100 W
90 W
60 W