

CKRC Comments on the Proposed Expansion of RCRA Comparable Fuel Exclusion

Docket ID No. EPA-HQ-RCRA 2005-0017

INTRODUCTION

The Cement Kiln Recycling Coalition (CKRC) is a national trade association representing all US cement manufacturers who recover energy from hazardous waste derived fuels, companies involved in the collection, processing, management, and marketing of such fuels for use in cement kilns, and providers of services to this industry sector. Cement kilns provide an important beneficial recycling service by recovering valuable energy in the cement manufacturing process from approximately 1 million tons per year of hazardous waste. Our members also contribute significantly to solving the nation's waste management needs by recovering energy and material values from millions of tons per year of energy-rich non-hazardous secondary materials such as scrap tires.

STATEMENT OF INTEREST

CKRC's interest in the proposed Expansion of the RCRA Comparable Fuel Exclusion, hereinafter referred to as the Emission-Comparable Fuel (ECF) rule, dates back to our participation in EPA's Stakeholder Meeting of December 15, 2005. CKRC submitted comments, in the form of a letter to Mr. James Berlow (hereby incorporated by reference) on December 23, 2005, that expressed several significant preliminary concerns about the Agency's stated intentions regarding expansion of the Comparable Fuel Exclusion (CFE).

EPA responded to those initial comments by dismissing or ignoring CKRC's concerns. For example, in its presentation prepared for the Stakeholder Meeting, the only justification EPA offered for expanding the CFE was that it was "part of the energy conservation component of the Resource Conservation Challenge," clearly indicating its belief that the ECF rule would increase the amount of waste burned for energy recovery. (See attached EPA PowerPoint presentation: "Comparable Fuels Exclusion, Revisions Under Consideration (v3), Stakeholder Meeting, 12-15-05") CKRC noted in its December 23 comments "that we believe the main effect [of expanding the CFE exclusion] will be counterproductive---shifting hazardous waste from fully regulated energy recovery units toward significantly less regulated devices." We observed that while "EPA has claimed that the impetus for expanding the comparable fuels exclusion is that it advances the energy recovery goals of the Resource Conservation Challenge [RCC]...CKRC disagrees that expanding the comparable fuels exclusion would produce that result;" and noted the fact that "Currently, many of the wastes being considered for exclusion are being burned for energy recovery in cement kilns and other units;" and that

“Shifting waste fuels from one energy recovery unit to another via deregulation does not advance energy recovery.”

Apparently recognizing the truth of CKRC’s criticism, EPA has changed its justification for expanding the CFE. In its Response to Comments document, EPA claims a new angle, that promoting the energy conservation goals of the RCC is no longer “the primary impetus for the rulemaking;” but that now the “primary purpose of the rule is to correct market distortions associated with unnecessary regulatory constraints that prevent the most efficient use of waste fuels.”¹ (The Agency’s new rationale apparently charts a new course for EPA, which now is more concerned with correcting “market distortions” than with its historic mission of protecting human health and the environment.)²

With respect to CKRC’s concern that “Expanding the comparable fuels exclusion offers no environmental benefits” and that “it would increase the risk of harm to human health and the environment for the apparent sole purpose of granting modest economic relief to certain waste generators,” EPA has simply asserted that “The storage and burner conditions of the exclusion would ensure that the excluded fuel is managed and burned in a manner that is protective of human health and the environment.”

Now that the ECF rule has been formally proposed, it is obvious that CKRC’s early concerns were fully warranted. In yet another attempt to elicit proper consideration of our position from the Agency, the following comments will substantiate the extent to which the ECF proposal, if finalized, would not only fail to yield environmental benefit, but would significantly harm human health and the environment. These comments also will explain in detail and quantify the large negative net social costs that the ECF rule will impose, in vivid contrast to EPA’s weakly supported and erroneous claims of the proposal’s relatively insignificant positive economic effects.

Finally, CKRC will show that the ECF proposal is illegal. EPA is attempting to craft an exemption from the Subtitle C statutory scheme that is based on the current Administration’s policy goals and not the RCRA statute. In fact, the proposed exclusion blatantly flies in the face of the words of the statute.

The best way to cure the multiple defects of the ECF proposal is to permanently rescind it, thereby avoiding the waste of Agency resources it will require to try to go forward with and defend a rule that offers no prospect of providing either environmental or economic benefit and is plainly illegal.

On the other hand, there are opportunities for EPA to consider regulatory actions in this same conceptual context, where the Agency could provide needed relief from excessive regulation by proposing to exclude from the definition of solid waste secondary materials

¹ [Response to Comments on the December 15, 2005 Stakeholder Meeting Regarding Expanding the Comparable Fuel Exclusion, May 2007, Docket ID EPA-HQ-RCRA-2005-0017-0009]

² RCRA confers no authority on EPA to issue regulations for the purpose of correcting “market distortions.”

that really are comparable to the fossil fuels they will actually replace. We hope EPA will be receptive to applying the ECF concept to situations where it can actually produce positive environmental and economic results.³

SUMMARY OF KEY POINTS

CKRC's comments include this 15-page document as well as the following two attachments, both of which are intended to be fully incorporated into CKRC's comments and should be considered as such by EPA:

Attachment 1: *Comments on the Expansion of RCRA Comparable Fuel Exclusion; Proposed Rule* prepared by Schreiber, Yonley & Associates; and

Attachment 2: *Comments on EPA's Assessment of the Potential Costs, Benefits, and Other Impacts of the RCRA Comparable Fuel Exclusion – Proposed* prepared by Environomics.

CKRC's comments (including Attachments 1 & 2) will show that:

1. The ECF proposal will reduce energy recovery in cement kilns and will reduce safe energy recovery nationally; and that diverting ECF wastes away from cement kilns will cause very significant negative environmental and economic effects.
2. No. 2 fuel oil is not the appropriate benchmark fuel for comparison to ECF.
3. EPA's analysis of the effects of the proposed rule is fatally flawed.
4. The ECF proposal is arbitrary and is not a product of reasoned decision making. In addition, the ECF proposal is illegal and unlikely to survive challenge.

³ For example, the use of scrap tires as fuel in cement kilns is the single most important part of the nation's capacity for productively reusing scrap tires and eliminating the serious solid waste disposal problem they pose. A recent court decision affecting the applicability of Section 129 of the Clean Air Act to combustion units that recover energy from solid waste threatens to impair the use of scrap tires as fuel in industrial units such as cement kilns. (*NRDC v. EPA*, 489 F.3d 1250, DC Cir., June 8, 2007) In contrast to the current ECF proposal, it would make sense both technically and from a policy perspective for EPA to consider excluding from the definition of solid waste those secondary materials that have the requisite properties to be used as fuel in industrial processes that can demonstrate conclusively true emissions comparability with the fossil fuel they actually replace (as opposed to a "benchmark fuel" that is only a convenient straw-man and not a fuel that is actually in common use in the devices or processes of interest).

PRINCIPAL ARGUMENTS

I. The ECF Proposal Does Not Promote Resource Conservation and Would Deliberately Diminish Recovering Energy from Waste to Produce Cement --- a Proven Recycling Technology that Protects Human Health and the Environment and Yields Significant Economic Benefits

Very early in the June 15, 2007 Federal Notice, EPA describes the development of the proposed rule, claiming that “*Independently, in 2003,*” the Agency “*began examining the effectiveness of the current comparable fuel program as part of an effort to promote the energy conservation component of the Resource Conservation Challenge to determine whether other hazardous wastes could be appropriately excluded as comparable fuel.*” (72 FR, p. 33287) On the immediately preceding page, however, EPA admits its finding that “*the expanded comparable fuel exclusion may not substantially increase the amount of hazardous waste burned for energy recovery because high Btu wastes, even though not currently excluded from RCRA, are currently burned in industrial furnaces and incinerators for their fuel value.*” (72 FR, p. 33286) After that stark contradiction, the Agency resorts to a new theme, saying that “*continuing to regulate these waste-derived fuels as hazardous wastes would treat a potentially valuable fuel commodity (especially considering the increasing value of fuels) as a waste without a compelling basis.*”⁴ The Agency’s statements also make clear that energy recovery from “high Btu wastes” is not constrained by their regulatory status under RCRA, which fairly calls into question the basic legitimacy of whatever purpose ostensibly underlies this proposal.

EPA’s shifting and contradictory justifications reveal the significant confusion and lack of conviction behind this deregulatory attempt. Upon finding that its “independently” motivated attempt to “promote energy conservation” by tinkering with the comparable fuels exclusion would not “substantially increase the amount of hazardous waste burned for energy recovery,” EPA simply abandoned its original rationale. And instead of reexamining the merits of the obviously flawed idea, the Agency opted to devise a completely different (and far less plausible) rationale for the pre-ordained path it was determined to take.

The unfortunate fact, which EPA openly discloses, is that the ECF rule proposes measures that will discourage safe and beneficial recycling in cement kilns, will discourage the recovery and reuse of resources to produce a vital commercial product, and will thereby penalize entities that currently use sustainable technologies to efficiently reuse resources. In the ECF proposal, EPA no longer even claims that its action will advance the goals of the Resource Conservation Challenge or the RCRA statute, instead claiming it will correct “market distortions.” We can recall no instance in the past 27

⁴ EPA appears unaware of the fact that “these waste-derived fuels,” even though fully regulated, currently are regarded as a valuable fuel commodity by the cement kiln operators who have been using them to replace coal in cement kilns for the past 20 years. The ECF that EPA now seeks to exclude from RCRA is beyond “potentially valuable” in its current regulated form as its value is already fully utilized by the cement industry. EPA determined long ago that the hazards posed by the hazardous wastes it now proposes to exempt were a “compelling basis” for regulating their transportation, storage, and combustion. Nothing about these wastes has changed since EPA first made that decision and no change in the value of these secondary fuels will occur simply by diverting them from one type of combustor to another.

years of RCRA regulation where the Agency has felt compelled to concern itself with perceived irregularities in commercial markets and we challenge EPA to explain how interfering in markets is compatible with its mission to protect human health and the environment.

US cement kilns have recovered energy from hazardous waste on a large commercial scale for over 20 years. During that time cement kiln operators and their fuel blender partners have built an extensive and fully integrated network that has beneficially and safely used over 20,000,000 tons of energy-bearing hazardous waste as a direct substitute for fossil fuel in the production of Portland cement, the key ingredient in concrete, which is a valuable commodity essential to the development and maintenance of the nation's infrastructure. The cement industry's energy recovery program is a textbook example of "sustainability" through the "efficient use of resources" and is a premier model of how US industry can "recover and reuse valuable resources as an alternative to land disposal," all laudable goals that EPA cited as important components of its recent proposal to revise the Definition of Solid Waste (DSW). (72 FR, p. 14175)

Furthermore, and as the Agency is well aware, combustion of hazardous waste in cement kilns is the most highly regulated form of combustion in the US (and probably the world). EPA has compiled huge databases of cement kiln emissions, extensively studied cement kilns' energy recovery technologies, and exhaustively analyzed the associated risks, concluding that none of the 14 US cement plants that currently burn hazardous waste for energy recovery pose an unacceptable risk to human health or the environment. Simply stated, energy recovery in cement kilns has been proven to be protective of human health and the environment.

EPA's development over the past 27 years of a body of comprehensive regulations governing the disposition of hazardous secondary materials and the means by which they can be safely and effectively treated has given rise to the current well-functioning system for hazardous waste management that meets RCRA's premier objective of ensuring that wastes are properly managed "cradle-to-grave." Yet in this rulemaking the Agency is proposing to adopt regulations and policies that are specifically intended to have a negative impact on the cement plants that use hazardous waste as fuel, thereby promoting the exact opposite effect that EPA originally claimed as the principal intent of this rulemaking, and causing the many negative consequences explained below and in Attachments 1 and 2.

It is interesting to recall EPA's decision in the very recent DSW proposal to regard "burning of materials for energy recovery" as a "recycling practice that involves discard," which therefore could never be eligible for exclusion from regulation under RCRA under the revised definition of solid waste. (72 FR p. 14173) Yet in its ECF proposal EPA states that "*continuing to regulate these waste-derived fuels as hazardous wastes would treat a potentially valuable fuel commodity...as a waste without a compelling basis;*" and that "*The basic structure of the proposal is that ECF is no longer a solid (and hazardous) waste.*" Somehow, with a mere wave of a rhetorical wand, EPA has deemed that burning certain hazardous wastes for energy recovery in certain units would no longer be a "recycling practice that involves discard." (72 FR p. 33286) EPA's action is plainly arbitrary and obviously not the product of reasoned decision making.

Applying a type of ‘logic’ reminiscent of George Orwell’s *Animal Farm*, EPA has deemed some types of energy recovery “more equal” than others---arbitrarily deciding that burning ECF in water-tube boilers deserves exclusion from RCRA regulation while all other hazardous wastes burned in all other types of combustors deserve no such consideration.⁵

CKRC has never agreed with EPA that burning for energy recovery involves discard or elements of discard. In our comments on the DSW rule, however, CKRC acknowledged that an energy-bearing material can be considered discarded if it is burned without productive purpose. But we firmly stated that the concept of discard cannot be legitimately extended to recycling practices such as the burning of secondary materials for energy recovery in a process such as Portland cement manufacturing, which is in complete accordance with EPA’s definition of recycling, very plainly involving “*a series of activities, including storage and other steps that culminate in the production of a valuable end product of some kind.*” (72 FR p. 14173, footnote 1) Thus, CKRC reiterates its position that materials that are recycled via bona fide energy recovery should not be regulated as a solid or hazardous waste under RCRA. And we object most strenuously to EPA’s efforts—as reflected in the ECF proposal—to unfairly discriminate against CKRC’s member companies by excluding some forms of energy recovery and not others.

EPA’s decision in the DSW rule to continue treating burning for energy recovery as a second-rate form of recycling is wrong and we have urged the Agency to seriously reconsider and reexamine the technical basis and policy rationale that led to such an acutely flawed and counterproductive position. CKRC demonstrated in its DSW comments that EPA’s position on burning for energy recovery leads to perverse outcomes: (1) a completely legitimate and beneficial form of recycling such as energy recovery in cement kilns is being discriminated against by its exclusion from the purported benefits of the deregulatory aspects of the DSW rule; and (2) a well-established, safe, and inexpensive recycling technology that is conducted on a national scale is being actively discouraged while other recycling practices with no track record of environmental or economic performance are being encouraged, with no assurance that anything beyond mere deregulation will be achieved.

In the ECF rule, EPA is poised to exacerbate these perverse and negative effects. As we note later in these comments, the Agency is obligated to examine the aggregate effects of its regulatory actions and, in this instance, we urge EPA to conduct a more thorough and more accurate analysis and assessment of the combined negative effects the proposed DSW and ECF rules will have on the cement industry’s energy recovery programs, on the economy, and on human health and the environment. In doing so, we hope the Agency will become more aware of the counterproductive and harmful outcomes that would be

⁵ After the farm animals of *Manor Farm* overthrew their human masters, their leaders declared the equality of all the animals. After a time, however, the leaders elevated themselves over the other farm animals and issued a new declaration, announcing that “...all animals are equal, but some animals are more equal than others.”

produced by promulgation of these rules as proposed, and will take steps to avoid or mitigate them.

II. EPA’s Approach to Selecting a “Benchmark Fuel” is Inappropriate – It is Arbitrary and is Not a Product of Reasoned Decision-Making. The Only Legitimate “Benchmark Fuel” is Natural Gas.

EPA asserts that “*Given that ECF (including the hydrocarbon and oxygenate portion) would have legitimate energy value and that emissions from burning ECF are comparable to fuel oil when burned in an industrial boiler under the good combustion conditions typical of such boilers, classifying such material as a fuel product and not as a waste promotes RCRA’s resource recovery goals without creating a risk from burning greater than those posed by fossil fuel*” and proclaims a belief that “*emissions from burning ECF in an industrial boiler operating under good combustion conditions are likely not to differ from emissions from burning fossil fuels under those same conditions.*” (72 FR p. 33290, emphasis added) In fact, EPA has presented no information whatsoever about the emissions from burning ECF in boilers and has relied merely on surrogate data. EPA also has offered nothing to justify its conclusion that good combustion conditions are “typical” in industrial boilers. The Agency therefore has no basis for concluding that burning ECF in boilers can be done without creating a risk greater than burning fossil fuel in those units. Attachment 1 describes in detail the inadequacy of EPA’s assumptions and quantifies the negative consequences the Agency has overlooked or ignored.

The means by which EPA selected No. 2 fuel oil as a benchmark against which to compare emissions from combustion of ECF in industrial boilers is puzzling. It apparently has not occurred to EPA that selecting fuel oil as the “closest analogous fuel to ECF” puts the cart squarely in front of the horse. By first considering the parameters of the possible constituents of ECF (based on the information supplied by the *American Chemistry Council*) and then looking for an analogous fossil fuel, EPA was working backwards and, depending on where the arbitrary line is drawn between what is and what is not acceptable as ECF, the Agency easily could have decided that almost any fuel is a benchmark fuel. A more logical, non-arbitrary, and technically appropriate approach would have been simply to establish as the benchmark that fuel which is most commonly used in the subset of industrial boilers that EPA has sought to favor by this rulemaking, and then to derive the specifications of the “comparable” fuel from that real-world benchmark fuel. Starting with ACC’s list of candidates for exclusion as ECF and then casting about for a fossil fuel whose combustion emissions could be deemed “comparable” to emissions from burning ECF (even though no such emissions data exists) is yet another example of EPA backing into a conclusion that is designed to advance a policy goal at odds both with the law and with common sense.

As discussed in greater detail in Attachment 1 to these comments, EPA’s Technical Support Documents state that 80% of industrial boilers and 51% of industrial boiler capacity is fueled with natural gas; and that only 11% of boilers and 8% of capacity is

fired with fuel oils, which includes both residual oil and distillate (No. 2) oil.⁶ It therefore would be logical and factually supportable to select natural gas as the benchmark fuel because it is the fuel that would be most widely replaced by ECF. Of course, if EPA were to use the fuel that actually is the benchmark for industrial boilers based on national usage patterns (natural gas) instead of a fuel that is used only one-tenth as much (fuel oil), there would be no emission-comparability, however fictional, upon which to build the ECF proposal. The Agency's choice of a fuel that is used by less than 10% of the nation's industrial boiler capacity as a "benchmark" for emission-comparable fuels is an arbitrary decision, made without proper reasoning.

III. The Minimum Btu Level for ECF is Too Low and Not Comparable to the Benchmark Fuels

EPA has stated that its "benchmark fossil fuels" for purposes of the ECF rule are "fuel oil and gasoline."⁷ So it is confusing when the Agency admits that "*ECF could have higher concentrations of particular hydrocarbons and oxygenates than the benchmark fossil fuels.*" Later, EPA seeks to justify (or obfuscate) this very non-comparable aspect of ECF by saying that "*the hydrocarbons and oxygenates have a heating value of 10,000 Btu/lb to 18,500 Btu/lb, which is comparable to the range for virgin fuels (e.g., coal and fuel oil).*" (72 FR p. 33290) How, after declaring fuel oil and gasoline to be benchmark fossil fuels, did coal suddenly qualify as a benchmark "virgin fuel?" EPA never tries to argue that burning ECF in a boiler would yield emissions comparable to burning coal. And EPA has acknowledged that about 80% of the boilers targeted by the ECF proposal burn natural gas. (See Attachment 1) Almost none of them burn coal and the proposed rule effectively precludes boilers from replacing coal with ECF. This is a bait-and-switch attempt to bootstrap low-energy-content compounds as "comparable" to "benchmark" fuels which has no technical legitimacy and is unacceptable. And, unfortunately, it is but one of myriad examples in this proposal of EPA overreaching to force a policy goal that is incompatible with both the RCRA statute and over 20 years of the Agency's regulatory decisions regarding hazardous waste combustion.

IV. EPA's Analysis of the Environmental and Economic Effects of the Proposed ECF Rule is Fatally Flawed.

The only way to accurately assess the impact of this proposed rule is to compare the pre- and post-rule environmental and economic effects if the ECF rule were promulgated as proposed. Because EPA neglected to make such an assessment, CKRC has analyzed these effects, vividly showing that burning ECF in industrial boilers would inflict substantial 'collateral damage' by significantly increasing emissions of many important pollutants and producing huge negative environmental and economic effects. The

⁶ *Schreiber, Yonley & Associates' Comments on EPA's Proposed Rule: Emission Comparable Fuel Expansion: 2007*

⁷ EPA has offered no explanation why gasoline, a fuel used almost exclusively in internal combustion engines, should qualify as a benchmark fuel for industrial boilers in which it is never used. The only logical explanation is that gasoline has constituents in common with the wastes that EPA had pre-determined should be excluded as ECF.

magnitude of those negative effects will be presented below and are discussed in greater detail in Attachments 1 and 2.⁸

A. Burning ECF in Industrial Boilers Will Cause a Net Increase in Emissions and Many Other Negative Environmental Effects

A major shortcoming of this proposed rule is that EPA has neither gathered nor provided data or information about the actual emissions from burning ECF in industrial boilers.⁹ The Agency has merely posited that, based on an assumption that emissions data from regulated boilers burning hazardous waste is a valid surrogate, emissions from unregulated boilers burning ECF will be comparable to the emissions from burning No. 2 fuel oil in water-tube boilers, ultimately declaring that the HWC boiler emissions are “*unequivocally comparable to fuel oil emissions.*” (72 FR, p. 33291)

Even if we assume only for the sake of argument that EPA’s declaration of comparability is correct, the emissions of a number of key air pollutants will increase as a result of the ECF rule if it is finalized as proposed. This will occur for two main reasons: (1) the vast majority of industrial boilers currently burn natural gas, which is a ‘cleaner’ fuel than ECF (and fuel oil); and (2) ECF, the cleanest fraction of hazardous waste fuel, that is diverted away from cement kilns will be replaced with coal.

Displacing natural gas, the boilers’ primary fuel, with No. 2 fuel oil (used here as a non-conservative surrogate for ECF, because no emissions data exists for burning ECF in boilers, and because EPA claims ECF would produce emissions comparable to fuel oil) at a level of 146,000 tons per year, which CKRC’s contractors have determined is the worst-case amount of ECF that would be displaced from cement kilns under this proposal, would increase sulfur dioxide emissions by 110 tons/year. It also would increase HAP emissions by at least 4,012 lbs/year.¹⁰ (Attachment 1, Tables 2 and 3)

There will also be a marked increase in toxic metals emissions, mainly because essentially all of the boilers that EPA expects will burn ECF have no air pollution control systems for particulate matter.¹¹ For example, burning 146,000 tons per year of ECF with metals concentrations at the existing comparable fuel specification limits would result in worst-case toxic metal emissions of 16.1 tons per year.¹² Burning the same amount and quality of ECF in cement kilns, where it currently is used in stringently

⁸ All attachments are integral components of CKRC’s comments and should be accorded the requisite status.

⁹ EPA states, “In the absence of emissions data from boilers burning ECF, we evaluated organic emissions data from watertube steam boilers burning hazardous waste and compared those emissions against emissions from oil-fired industrial boilers.” (72 FR, p. 33291)

¹⁰ CKRC’s data collection and analysis, detailed in the attachments to these comments, has concluded that EPA’s estimate of an additional 107,000 tons/year of comparable fuel that would be excluded by this proposal is too low.

¹¹ “...oil-fired boilers typically lack optimized particulate control...” (72 FR, p. 33290) The same is doubly true for gas-fired boilers.

¹² EPA proposes to regulate only 7 metals: Antimony, Barium, Beryllium, Chromium, Lead, Nickel, and Thallium.

regulated combustion units that have state-of-the-art air pollution control devices and high system removal efficiencies for metals, generates emissions of only 0.022 tons per year. Thus, the proposed rule would authorize and specifically encourage a 700-times increase in toxic metal emissions. (Attachment 1, Table 4)

In addition, shifting 146,000 tons per year of ECF away from the cement kilns, where it currently is burned for energy recovery in the cement manufacturing process, will cause even greater increases in emissions of oxides of nitrogen and sulfur when it is replaced by coal, the principal fossil fuel used in cement kilns worldwide. In the worst case, NO_x emissions are projected to increase by 4256 tons/year and SO₂ emissions will go up by 6502 tons/year. Even in the best case, using EPA's too-low estimates of the shift of ECF from cement kilns to boilers, emissions would still increase significantly – NO_x emissions would increase by 1,660 tons/year and SO₂ emissions by 2,536 tons/year. (Attachment 1, Table 11)

The ECF rule also would increase emissions of the greenhouse gas CO₂ by between 149,000 tons/year and 380,000 tons/year by diverting hazardous waste away from cement kiln energy recovery applications and toward burning for destruction in incinerators. (Attachment 1, page 43)

Beyond these large increases in emissions of criteria pollutants and carbon dioxide, the ECF rule, if finalized as proposed, would also induce many other negative environmental effects such as increased stack concentration of metals in the emissions from HWC cement kilns, a net decrease in waste burned for energy recovery, an increase in waste burned for destruction, increased combustion of coal, and increased emissions related to transportation of coal.¹³ The plain fact is that burning ECF to replace coal in cement kilns (as is now the case) confers far greater environmental benefits than burning it in boilers to replace natural gas or fuel oil, where it can produce no positive environmental effects.

B. EPA's Estimates of Net Social Benefits is Incorrect – Burning ECF in Industrial Boilers Will Produce Large Net Negative Economic Consequences

In this proposal, EPA has observed that “*Generators would benefit from lower operating costs because of lower (or eliminated) waste management fees and because these fuels would substitute for fuels which would otherwise be purchased.*” And the Agency has noted the parallel effect, “*Commercial hazardous waste combustors that are currently managing waste fuels that qualify as ECF, on the other hand, might find themselves unable to continue to charge hazardous waste management fees for the excluded waste fuels. Consequently, commercial hazardous waste combustors might lose the waste management revenues for those diverted fuels and may need to meet their heat input requirements by using other waste fuels or fossil fuels.*” (72 FR, p. 33286) Thereby, at the very outset of the proposal, EPA has conceded that the ECF rule will shift economic effects from one manufacturing sector (mainly the cement industry) to another (mainly the chemical industry). The savings in “waste management fees” that would be enjoyed

¹³ These effects are explained in detail in Attachment 1.

by the generators of ECF would be the “waste management revenues” lost by HWC cement kilns. And the fuels that would “otherwise be purchased” by the chemical industry would instead have to be purchased by the cement industry to compensate for “those diverted fuels” that EPA has deigned to be of greater value to one industry than to the other. Somehow, EPA ultimately concludes that this game of musical chairs will produce net economic benefit of \$23.4 million per year resulting from generators excluding 106,500 tons of waste from RCRA regulation. This conclusion is wrong.

EPA has ignored or obfuscated the fact that the diversion of hazardous waste fuels from cement kilns to boilers will have a doubly negative effect by causing cement kilns to burn more coal and by encouraging boilers to burn less natural gas. In both instances, immediate negative consequences would ensue. Via the ECF proposal, EPA is promoting a policy that would have both kilns and boilers increase their use of types of fuels that would cause a significant aggregate increase in emissions vs. the fuels they currently burn.

Through interviews and surveys of fuel blenders and HWC cement kiln operators, in Attachment 1 *Schreiber, Yonley & Associates (SYA)* has estimated a worst-case loss to the cement industry of 146,000 tons/year of ECF which, at a one-to-one blending ratio, will induce the loss of another 146,000 tons/year of blended HWDF. As noted earlier, replacement of that amount of ECF and blended HWDF with coal would result in a worst case increase in emissions of 4,256 tons per year of NO_x and 6,502 tons per year of SO₂. Even based on EPA’s too-low estimates of the shift in ECF, there would be a large increase in emissions – 1,660 tons per year of NO_x and 2,536 tons per year of SO₂. As reported in Attachment 2, recent EPA Regulatory Impact Analyses have conservatively monetized the emissions damages of these criteria pollutants to be \$16,000/ton NO_x and \$62,000/ton SO₂.

Thus, using EPA’s conservative estimates, the damages associated with the increased SO₂ and NO_x emissions at cement kilns that result from replacing the lost HWDF with coal could result in social costs exceeding \$471 million/year, as compared against EPA’s estimate of social benefits of \$23.4 million per year.¹⁴ Even based on EPA’s too-low estimates of the shift in ECF, the social costs would be \$137.8 - \$183.8 million/year. Thus the economic damages caused by diverting ECF from cement kilns to boilers are 3.9 to 20.2 times greater than EPA’s estimate of the social benefits. And this does not include consideration of the additional damages, described in Attachments 1 and 2, that would result from the additional emissions at industrial boilers where the ECF would replace natural gas, the additional emissions at incinerators where wastes formerly blended with ECF at cement kilns will be sent, and the health, safety and emissions damages resulting from the additional production and transportation of coal that will be needed to replace lost waste-derived fuels at kilns.¹⁵

¹⁴ These social costs are exacerbated when one accounts for the negative effects from the emissions increase at boilers that will burn ECF instead of natural gas. (See Attachment 2.)

¹⁵ EPA’s suggestion that kilns could replace the diverted ECF with “other waste fuels” (72 FR, p. 33286) is disingenuous. The Agency is well aware that the volume of hazardous waste fuel in the thermal treatment market has been essentially static for about 15 years. For that reason, the most likely scenario by far is that ECF diverted from cement kilns will be replaced by coal.

V. EXCLUSION OF ECF IS ILLEGAL

In this proposal, EPA is attempting to justify the ECF exclusion from RCRA on the basis that ECF is not a *solid* waste. In so doing, and as noted earlier, EPA is attempting to craft an exemption from the Subtitle C statutory scheme that is based on the current Administration's policy goals, not the words of the statute. The exemption has no support in the words of the statute and in fact flies in the face of the statutory language. This approach has been squarely rejected by the DC Circuit regarding other recent EPA attempts to disregard or change key statutory words. *New York v. EPA*, 443 F.3d 880 (D.C. Cir. 2006) (EPA cannot change the statutory word "any" to mean "some"); *Friends of the Earth v. EPA*, 446 F.3d 140 (D.C. Cir. 2006) (EPA cannot change the statutory word "daily" to mean "seasonal" or "annual").

RCRA says a solid waste is, among other things, any "discarded" material. (RCRA §1004(27)). There is no authority conferred in RCRA for EPA to issue a regulation that provides that a "discarded" material is not a solid waste. There may be other ways under the statute that EPA might legally attempt to exclude from controls certain energy recovery burning. For instance, EPA possibly could attempt to define certain wastes as not being "hazardous," or could perhaps try to use the "de minimis" scheme of RCRA §3004(q), etc., as further discussed below. But EPA has no authority to advance a deregulatory policy goal by saying that certain types of discard are not discard.

EPA has gone to great lengths in numerous rulemakings (since at least 1983) to support and underscore the proposition that burning industrial byproducts for energy recovery is a form of discard and therefore those byproducts that will be burned for energy recovery are solid wastes. As recently as March 27, 2007, EPA stressed that burning industrial byproducts for energy recovery is one of a few recycling practices that "involve discard of materials" and therefore should be regulated under RCRA. (72 FR 14175 col. 3) In 2003, EPA stressed even more strongly that burning for energy recovery is a practice that would "clearly involve elements of discard." (68 FR 61563, col. 2) More pointedly, EPA has for years defended its recycling regulations by claiming that various definitions within RCRA "stat[e] that secondary materials burned for energy recovery are solid wastes." 50 Fed. Reg. 614, (January 4, 1985).

Thus EPA has consistently and aggressively gone to great lengths to confirm that secondary materials burned for energy recovery are, as a matter of statutory definition, "solid wastes" because the practice would "clearly involve elements of discard." Yet EPA's ECF proposal would attempt to exempt certain secondary materials burned for energy recovery from the definition of solid waste based on the presumed health/environmental impacts of burning the secondary materials. But there is no authority in the statute – as confirmed by all of EPA's strong past statements – for exempting a material that is being discarded from the definition of solid waste. Nothing

in the ECF proposal changes the essential and indisputable fact that EPA regards burning for energy recovery a type of discard.¹⁶

The key initial words of the actual proposed regulation are most telling in this regard. EPA states at the beginning of proposed §261.38(a) (emphasis added): “*Wastes* that [meet the specifications and requirements set forth below] are not solid wastes.” Via this language, EPA is obviously recognizing that the industrial byproduct material that it wants to exclude is in fact a “waste.” While “waste” is not a defined term in RCRA, “solid waste” is a defined term, and it defies logic and common sense to assume that fuel-like material is a form of “waste” that is not a “solid waste” – especially since the definition of “solid” waste specifically includes “solid, liquid, semisolid or contained gaseous” materials. (RCRA §1004(27)) Again, EPA is proposing a regulation that would say that some solid waste is not solid waste, and it has no authority to do this.

The Agency has cited the 2003 D.C. Circuit opinion in *Safe Food* to support its proposal, but this case is easily distinguishable from what EPA is attempting to do in this proposal. (*Safe Food v. EPA*, 350 F.3d 1263 (D.C. Cir. 2003)) First, the material at issue in *Safe Food* that might have been deemed a hazardous waste served the function of a *feedstock* in a fertilizer product. While EPA has consistently and continuously held that energy recovery burning “clearly involves elements of discard,” EPA has just as consistently and continuously based RCRA regulations on the principle that use of a material as a *feedstock* in producing a product is not discard. (*E.g.*, §261.2(e)) More importantly, in *Safe Food* EPA defended the exclusion from the definition of solid waste for waste-derived fertilizer on the basis that “the fertilizers derived from these recycled feedstocks are chemically indistinguishable from analogous commercial products.” (358 F.3d at 1269) The Court referred to this as the “identity principle,” and upheld EPA’s exclusion of waste-derived fertilizers on the basis that they were “indistinguishable” from virgin fertilizers. (*Id*) The types of “fuels” that EPA proposes to exclude as ECF, of course, are in no way, shape, or form identical to or indistinguishable from fuel oil or natural gas.

Congress has already explicitly addressed the issue of when industrial byproducts burned for energy recovery may be exempt from RCRA Subtitle C. In enacting the 1984 HSWA amendments to RCRA, Congress included §3004(q)(2)(B), which authorizes EPA to exclude energy recovery burning from materials that would otherwise qualify as hazardous wastes only in very narrowly-drawn circumstances. EPA’s proposal is an unauthorized end-run against this very narrowly drawn opportunity for a statutory exemption that would render it useless and meaningless.

In the ECF preamble, EPA justifies the proposal in part on the theory that EPA need not regulate “potentially valuable” wastes “without a compelling basis.” This is a perfect example of the policy-trumps-statutory requirement approach. Moreover, EPA appears to be suggesting that if a particular waste poses no greater risk to health/environment than a bona fide product, then the waste could be exempt from RCRA controls. But thousands and thousands of bona fide chemical products are significantly more toxic and risky than

¹⁶ CKRC has often challenged EPA’s decision to regard burning for energy recovery as a form of discard. In that regard, CKRC objects to the illogical notion that energy recovery in a certain type of unit is *not* discard while energy recovery in all other combustion units remains discard.

a significant fraction of RCRA hazardous waste. If comparing a waste's risk to a comparable product's risk became a valid ground to exempt the waste from RCRA, there might be very little left to regulate under RCRA.

Finally, EPA is basing this proposal on a theory that if a waste material, once treated, would meet some level of health/environmental acceptability, then it need not be regulated as a solid waste in the first place. But this theory is a total perversion of the RCRA Subtitle C cradle-to-grave regime. The basic purpose of Subtitle C is to ensure that hazardous wastes will be fully regulated from the point of generation to the ultimate point of last treatment or disposal to ensure that releases to the environment (if any) are protective of health and the environment. To exempt certain material that would in all respects be a hazardous waste from Subtitle C under the assumption (however mistaken) that treating it in a certain manner will produce releases that are protective of health and the environment is simply standing RCRA on its head.

VI. Cement Kilns Should Be Allowed to Burn ECF

As the proposed rule is written, only water-tube boilers may utilize ECF and 'enjoy' the proposed exclusion. "*ECF also must be burned in a boiler rather than in an industrial furnace, such as a cement kiln, because the Agency conducted nonsteady-state emissions tests...to identify the parameters that affect combustion efficiency only for boilers.*" (72 FR, p. 33294) Despite the fact that this proposed rule contains the many flaws identified in these comments, if an ECF rule should go forward, CKRC believes it is crucial that regulated facilities, particularly HWC cement kilns, should also be allowed to receive and manage ECF under the same terms and conditions that would apply to industrial boilers. HWC cement kilns are fully regulated under RCRA for storage and treatment and they also are subject to stringent air emission standards under the CAA HWC MACT rules. Irrespective of their regulatory status, the emission-comparable fuels that are the subject of this proposed rule would remain ideal for continued use as fuel in fully regulated facilities such as cement kilns.

EPA's statement that "*Industrial furnaces have a primary purpose other than burning fuels most efficiently...*" is a red herring. (72 FR p. 33294) Boilers also do not have as their "primary purpose...burning fuels most efficiently." But despite the primary purposes of the particular combustion device, operators of both types of units have an identical incentive to derive the highest possible value from whatever fuels they use to produce their respective products, whether that is cement or steam.

EPA's justification for confining the use of ECF to specific boilers, and excluding from consideration industrial furnaces because the Agency has "*...not determined the operating conditions that would ensure good combustion conditions absent the regulatory oversight provided by the RCRA hazardous waste permit program*" is specious and fundamentally flawed. (72 FR p. 33294) Preposterously, EPA is effectively claiming that HWC cement kilns, while burning regulated hazardous waste under the strict regulatory requirements of the HWC MACT standards would not be able to simultaneously burn excluded ECF and achieve at least the same "good combustion conditions" as an unregulated water-tube boiler. This naked attempt to limit the alleged benefits of the ECF proposal to a narrow set of boilers is without technical or logical

basis. It is an arbitrary, unreasonable, and pointedly unfair ploy to ‘carve-out’ an exclusion for a single industry group at the expense of another.

A fully regulated facility such as a cement kiln has the proven ability to safely and efficiently recover the energy from these ECF wastes at least as effectively as any water-tube boiler. (EPA has noted that cement kilns are already performing this function for these exact same materials.) More importantly, as explained above, diverting ECF wastes to gas-fired boilers would cause markedly negative effects. As noted in Attachment 1, the crux of EPA’s justification for allowing waste to be burned nearly unregulated in water-tube boilers is based upon an old 1980s report that indicated that CO can be used to assure that DRE in incinerators will meet or exceed 99.99%. Even though no similar laboratory test was conducted or similar report prepared for industrial furnaces such as cement kilns, EPA has an abundance of much more recent test data and operational history for HWC cement kilns that indisputably shows they are capable of not only meeting the DRE requirements, but also controlling emissions of all other constituents of concern. Based purely on DRE, which EPA has touted as integral to the ECF exclusion, there is no reason why EPA should not allow cement kilns to accept ECF on a level playing field with boilers. But because cement kilns must meet the regulatory limits of both RCRA and the CAA, which place strict limits on numerous operating parameters to assure that emissions are well within the standards, and because each facility must routinely test to prove that these emissions are within the standards, HWC cement kilns will control emissions from the burning of ECF to a far greater extent than the excluded boilers. The logical outgrowth of these facts is that EPA should reverse direction and encourage the continued use in cement kilns of the wastes it is targeting for exclusion as ECF.

V. CONCLUSION

CKRC’s comments show the ECF proposal to be wholly without merit. Other than deregulating for the sake of deregulating, which EPA has not dared state as a goal of this rulemaking, the proposed rule, if promulgated, would produce only negative outcomes, many of them very large.

The ECF proposal would cause a net decrease in energy recovery from hazardous waste, would significantly increase emissions of key pollutants, would impose high net social costs, and is plainly illegal. There is nothing EPA can do to change these unfortunate facts and there is no way to cure the fatal defects of the proposed rule. At its core, it is a misguided, unfair, and unreasonable proposal. The only responsible course of action is for EPA to withdraw the ECF proposal and direct limited Agency resources to areas that have at least some prospect of yielding positive results in accordance with EPA’s mission to protect human health and the environment.

At a minimum, however, if EPA should go forward with an ECF rule, cement kilns and other regulated energy recovery units should be allowed to compete with boilers on an equal basis for ECF wastes.