IPPC Stakeholder Comment Response to Rulemaking Process

RENEWABLE ENERGY PORTFOLIO STANDARD
(RPS – CLASS I) 225 CMR 14.00

International Paper Products Corporation
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Prepared by: Mark A. Dupuis
February 6, 2009

INTERNATIONAL PAPER PRODUCTS CORPORATION
A Materials Lifecycle Management Company®
98 Sgt TM Dion Way
Westfield, MA 01085

February 6, 2009

Massachusetts Department of Energy Resources
100 Cambridge St.
Boston, MA 02114

RE: IPPC Stakeholder Comment Response to Rulemaking Process

RENEWABLE ENERGY PORTFOLIO STANDARD
(RPS – CLASS I) 225 CMR 14.00

International Paper Products Corporation (IPPC) is a Massachusetts based business stakeholder and one of the largest individual utility rate payers in Westfield, Massachusetts. IPPC has been intimately involved with the legislation and rulemaking process for the RPS since 1998. In fact, IPPC was founded specifically due to the vision that "Paper Derived Fuel" (PDF) as a fossil fuel avoidance measure, when co-fired in pulverized coal fired power plants, was a good fit to what IPPC believed met some of the intentions of the original RPS goals. IPPC has met with dozens of Massachusetts executive administration representatives and legislators during the writing of the initial RPS legislation and the 2008 Green Communities Act Chapter 169 regarding the (RPS I &II and APS). During this period IPPC has continually met with the regulators of the Massachusetts Department of Energy Resources (MADOER) and Massachusetts Department of Environmental Protection (MADEP) to clearly define IPPC's practical and beneficial application in both the RPS and APS. IPPC's proposed use of PDF in the RPS Tier I & II and the APS clearly creates new "green jobs" and meets the goals presented in the "Background Document on the Proposed Regulation for the Renewable Energy Portfolio Standard, October 2001" which called for the following:

- Decreasing pollution from existing power plants
- Diversifying the fuels used to generate power in or near our region
- Decreasing our reliance on fuels imported from other regions
- Moderating price volatility caused by reliance on imported fuels.

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Detailed information provided at the end of this submittal regarding PDF's capabilities for achieving the RPS and APS goals are further outlined in IPPC's January 28, 2009 treatise response to the Massachusetts Department of Environmental Protections request for response to proposed questions for the Re-Writing of Massachusetts Solid Waste Master Plan.

IPPC's GENERAL COMMENTS TO 225 CMR 14.00 RPS (CLASS I)

IPPC applauds the efforts made by the MADOER and MADEP in the difficult task assigned to creating rules consistent with the legislative directives of the 2008 Green Communities Act Chapter 169. The MADOER and MADEP should be commended for the RPS Tier I & II and APS rules presented on January 1, 2009 taking into consideration the time constraints allotted to complete these draft rules.

IPPC urges the MADOER and MADEP to take caution when considering the comments and recommendations made by the Conservation Law Foundation. Technologies that provide for development of renewable energy and environmental improvements within the legislative RPS Class I guidelines should receive assistance upon meeting realistic and achievable rules set forth by the MADOER. Implementation of unrealistic standards beyond the legislative requirements that economically or technologically block approved technologies will continue to result in Alternative Compliance Payments being the major end result of the RPS Class I. The goal is to develop renewable energy ASAP!

IPPC submits that the MADOER is the expert authority in the drafting of the RPS (Class I) final rules. Hopefully the MADOER in a combined effort with the MADEP will be able to seize the opportunity to provide the best possible economical and realistic path for all qualified technologies to participate while staying within the current legislative guidelines of the 2008 Green Communities Act Chapter 169. If the final rules offer no obtainable and clearly defined tangible opportunities for all approved technologies set forth in 225 CMR 14.05 to develop Renewable Energy in accordance with timelines mandated in 225 CMR 14.07, then "again" the RPS (Class I) will only serve to collect Alternative Compliance Payments, which is clearly not the intent of the legislators, ratepayers and constituents of Massachusetts.

IPPC's COMMENTS SPECIFIC TO RPS (CLASS I) 225 CMR 14.00 AS THEY PERTAIN TO REFUSE-DERIVED FUEL

IPPC requests that the MADOER broaden the definition of organic refuse-derived fuel as provided within the 225 CMR 14.02 DEFINITIONS to include the cellulosic portion of alternative fuels made from paper, paper based materials and other cellulose containing materials approved through a Beneficial Use Determination under 310 CMR 19.060 with a composition of not more than 15 percent by energy content of fossil fuel derived sources. IPPC feels this is reasonable in that neither the standard as proposed nor Chapter 169 defines "organic" in a manner which would exclude other cellulose based materials than those listed. The term "organic refuse-derived fuel" should also not be limited to organic sources of energy derived from refuse. Energy efficiency is one of the fundamental goals of the Green Communities Act. As detailed in IPPC's attachments regarding evolving definitions of solid waste and opportunities to prevent the creation of solid waste through alternative fuel manufacture from pre-consumer sourced secondary materials, there is a significant energy efficiency benefit to be realized by not allowing cellulose based secondary materials to become refuse at all. As such, IPPC urges the MA DOER to include paper derived materials as defined in these comments and 225 CMR 16.02 within the definition of "organic refuse-derived fuel".

As incorporated in 225 CMR 16.02, the definition of Paper-Derived Fuel is an "Alternative, paper-derived fuel source approved by the MassDEP through a beneficial use determination under 310 CMR 19.060, with a composition of not more than 15 percent by energy content of fossil fuel derived sources."

Including PDF as an Eligible Biomass Fuel within 225 CMR 14.00 is supported by the current rule-making process of the United States Environmental Protection Agency (USEPA). The proposed rule entitled "Identification of Non-Hazardous Materials That Are Not Solid Waste" Docket EPA-HQ-RCRA-2008-0329 establishes that certain materials which meet specified "legitimacy tests" should be used whenever possible as an alternative fuel. The USEPA's current focus is on non-hazardous cellulose and certain plastic materials which are the same materials IPPC acquires for the manufacturing of PDF. IPPC is in full support and intimately involved with the USEPA as a leader in this field and the rulemaking process underway (see attached IPPC comments to the USEPA rule making process). The MADEP is well aware of this current rulemaking process at the USEPA and IPPC has requested that the MADEP fully incorporate the intent of these rules in its policy formulations and re-writing of the Massachusetts Solid Waste Master Plan.

The second matter IPPC wishes MADOER to consider relates to 225 CMR 14.05(1)(a)(7): Eligibility Criteria for RPS Class I Renewable Generation Units. IPPC believes that the task to develop RPS Class I alternative energy in accordance with the mandated timelines provided in 225 CMR 14.07 will be almost impossible to meet. Requiring an "entire" Generation Unit to meet the "advanced biomass power

conversion technology" requirements seems unreasonable. The definition and acceptable technologies that could be identified as "advanced biomass power conversion technology" have not been resolved in this process. IPPC feels that any technology that can meet applicable and defined standards ought to be considered within the scope of this standard. If efficiency improvements and control technologies provide sufficient performance, they should fall within the eligibility criteria. Further, if an electricity generator operates several individual generation units at one location and desires to invest in what might be advanced biomass conversion technology in one unit, if at all possible within the legislative guidelines, this effort should be fully supported and of considerable value to the development for the directives of 225 CMR 14.00.

Taking into consideration that the maximum net carbon dioxide emission rate of 890 pounds per MWh is the base line for the co-firing of eligible fuels with ineligible fuels as described in 225 CMR 14.05(3), it will likely be impossible for any eligible biomass fuel to be economically and technologically feasible regardless of the availability of Class I REC's. In order to allow for some feasible possibility of co-firing to be seriously considered for compliance opportunities within the RPS Class I, IPPC requests the MADOER review the following 225 CMR 14.02 Definition of Generation Unit. "A facility that converts a fuel or an energy resource into electrical energy" as it may apply to co-fired eligible fuels within the RPS (Class I) emergency rules to include single units within a facility if such can be converted or otherwise become compliant.

As the MADOER and MADEP work to complete the final rules IPPC urges the MADOER to carefully review the rules in their current form while taking into consideration all information developed during this process, the public comments submitted during the hearing held on February 5, 2009 and all written comments received in compliance with the rulemaking process. IPPC urges the MADOER to allow every opportunity possible within the legislative guidelines for every qualified technology to participate in the development of alternative energies to avoid the undesired collection of alternative compliance payments to satisfy this commendable effort pursued by the Commonwealth of Massachusetts.

Respectfully,

Mark A. Dupuis, President/CEO

Cc: MADEP

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Re-Writing of Massachusetts Solid Waste Master Plan

What opportunities are there to use stocks of discarded materials as substitutes for virgin fossil fuels?

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Westfield, MA 01085
Prepared by: Mark A. Dupuis, President/CEO

January 28, 2009

Mr. Marc Fournier
Massachusetts Department of Environmental Protection
One Winter Street
Boston, MA 01288

RE: Re-Writing of the Massachusetts Solid Waste Master Plan

Dear Mr. Fournier:

International Paper Products Corporation (IPPC) has attended several of the public Massachusetts Solid Waste Master Plan (SWMP) development meetings and Solid Waste Advisory Council (SWAC) meetings. As I understand, the core agenda of these meetings is to identify and explore all available viable technologies for best methods of materials management and waste management. The goal is to diligently select the best available proven technologies and methods for incorporation into the MA DEP's rewriting of the SWMP for the management of the approximately 6.5 million tons per year of waste currently generated in Massachusetts.

During the opening of the January 22, 2009 SWAC meeting held at the MA DEP on One Winter Street, I believe the MA DEP Commissioner, Laurie Burt, explained that the "vision" for the rewriting of the Solid Waste Master Plan would be based around Reduce, Reuse and Recycle and non-hazardous "residual materials" lifecycle management as a "first priority". IPPC was founded in 1998 and is "A Materials Lifecycle Management Company®". During this time, with regards to ongoing discussions with the MA DEP, it has been IPPC's position that non-recyclable, non-hazardous materials should not be considered waste, when properly managed at the source, acquired as a raw material and manufactured into a marketable product. Under these conditions non-recyclable, non-hazardous materials should not be regulated as waste and viewed as "secondary materials" not solid waste. This premise is nearly the same as how recyclables are recognized, managed and regulated. These source managed secondary materials should not be considered waste unless or until they enter a waste container. This method of materials life

cycle management of secondary materials is consistent with the USEPA's position and proposed rule scheduled for completion during mid 2009, "Identifications of Non-Hazardous Materials That Are Not Solid Waste" Docket EPA-HQ-RCRA-2008-0329, which would establish that certain materials which meet specified "legitimacy tests" should be used wherever possible as an alternative fuel. While the USEPA's current focus is on cellulose and certain plastics for use as an alternative energy, IPPC suggests that other non-hazardous materials, disposed of as waste, should be viewed and managed in the same light as secondary materials for other beneficial uses. IPPC urges the MA DEP to further incorporate the intent of this rule making process in its policy formulations and re-writing of the Massachusetts Solid Waste Master Plan.

I would like to emphasize that IPPC strongly believes and supports that the first order of materials life cycle management should "***always***" be: Reduce, Reuse, Recycle. During the SWMP and SWAC meetings, the MA DEP has clearly explained that recycling in Massachusetts has basically flat-lined for nearly ten years. This fact, as IPPC understands it, is in part why it is necessary to review and rewrite Massachusetts SWMP. Based on IPPC's experience in materials life cycle management, the recycling markets continue to develop and have been robust other than during down turns in the economy, which we are currently experiencing. IPPC believes the recycling flat-line experienced in Massachusetts is not due to the lack of market demand but directly related to the access of recyclables that continue to be disposed of as waste. This access to recyclables using innovative approaches is what IPPC believes should be clearly targeted in the re-writing of the SWMP.

From what IPPC has observed during the SWMP and SWAC meetings, many of the suggestions, ideas and methods offered for reevaluation are similar to the original foundations that the current SWMP was built upon. Non-hazardous secondary materials represent a substantial portion of the materials currently being disposed of as waste. It is IPPC's position if environmentally safe beneficial uses for non-hazardous residual materials are not utilized and supported by the people and government of the Commonwealth, then these materials would be destined to three last resort methods of disposal. Methods under consideration to address the future waste disposal capacity requirement of Massachusetts are: increasing landfill capacity, increasing incineration/waste-to-energy capacity and low cost disposal exportation of waste out of state. These options provide for no real economic stability, are detrimental to re-use and recycling initiatives, and are a "last resort" option that is potentially unnecessary.

Increasing Landfill Capacity

New landfills will increase the costs of disposal, continue to provide a negative impact on re-use and recycling, create areas of land that contain hazardous materials, and at the end of the day only to be subsidized by the Massachusetts rate payers to mitigate the release of methane gas produced from the activities of continued landfill waste disposal.

Increasing Incineration/Waste-to-Energy Capacity

New incineration/waste-to-energy capacity will continue to increase the costs of disposal, provide a negative impact on re-use and recycling and generate concentrated hazardous waste in the form of ash. While incineration/waste-to-energy facilities are currently banned from burning some recyclables and provided incentives to remove other recyclables, the fact of the matter remains that incineration/waste-to-energy plants must burn large volumes of valuable clean combustible cellulose based materials to exist. These valuable combustible materials are a renewable biomass resource that have substantial market value and can be sold into the energy markets as a low cost fossil fuel avoidance measure. Building additional incineration/waste-to-energy facilities in Massachusetts will ensure that the constituents and businesses of Massachusetts will be forced to continue paying these facilities exorbitant "tipping fees" for this valuable cellulose based material, only to be disposed of as waste. In IPPC's view, this is unnecessary and irrational. If all non-hazardous cellulose based materials are removed from the waste stream and managed as secondary materials, incineration/waste-to-energy plants would not have enough combustible materials available to operate. Without question, the majority of constituents in the commonwealth would like nothing more than to see the existing incinerators/waste-to-energy facilities operating in Massachusetts closed.

Exportation of Waste Out of State for Low Cost Disposal

While this option avoids the environmental repercussions of waste disposal from occurring in the Commonwealth, Massachusetts, as a responsible steward of the environment, should assume responsibility for managing its own recyclables, secondary materials and waste. The only realistic long term method to preventing the exportation of materials and waste for disposal is for the government and people of the Commonwealth to fully support economical and environmentally safe viable and sustainable materials management and waste management solutions that are significantly lower cost than exporting waste out of state.

IPPC urges the Massachusetts executive branch, legislators, regulators and the people of the Commonwealth to align with President Obama's U.S. directive for "change" by thinking out of the box in the rewriting of the SWMP without jeopardizing the core responsibility of protecting the environment. IPPC encourages the MA DEP and stakeholders to embrace technologies that are available today and in the near future to achieve the materials management and waste management goals of the new SWMP.

IPPC respectfully proposes the following treatise for consideration in response and support to questions posed by the MA DEP in the Draft SWMP Framework and Stakeholder Discussion Questions of November 2008 regarding "fuel for energy".

What opportunities are there to use stocks of discarded materials as substitutes for virgin fossil fuels?

REWRITING THE MASSACHUSETTS SOLID WASTE MASTER PLAN

I would like to offer the following initial thoughts, in support of the MA DEP's "new vision" for the re-writing of the Solid Waste Master Plan, in an attempt to assist in drawing a clear distinction to "**What is Waste**" and "**What is Not Waste**" and how these materials may be best separately viewed, regulated and managed.

- The MA DEP should consider creating a *new* clearly stated vision of materials life cycle management with a priority of formulating its policies around this foundation.
- The MA DEP should consider forming a new Bureau of Materials Lifecycle Management.
- The MA DEP should consider re-writing the Massachusetts Solid Waste Master Plan (SWMP) specifically for the management of "waste".
- The MA DEP should consider writing a separate master plan entitled Massachusetts Materials Lifecycle Management Plan (MLMP) specifically for the management of recyclables and "secondary materials".

The remainder of this correspondence provides supporting information to IPPC's prioritized and comprehensive vision for the re-writing of the Massachusetts Solid Waste Master Plan for non-hazardous materials.

Massachusetts Materials Lifecycle and Waste Management Master Plans

1. **Reduce – Reuse – Recycle** (MLMP all available methods and technologies)
2. **Secondary Materials** (MLMP all available and near future technologies)
3. **Waste Materials** (SWMP new and existing methods and technologies)

Unquestionably, the best solution for the reduction and management of waste is at the front end of "generation". The methods used for Reduce-Reuse-Recycle are well known technologies and will continue to evolve based mainly on the economics. The single largest road block stalling the increase of recycling is in noncompliance of source separation resulting in the uneconomical cost of separating recyclables from waste. One potentially significant solution would be to focus on a Massachusetts Materials Lifecycle Management Plan that would facilitate ease of development for "practical" sustainable markets that would result in the banning of recyclables and non-hazardous, non-recyclable secondary material from disposal. The solution should be based around the sustainable availability of a secondary material with "marketable" value (purchased from the source - no tipping fees) for any environmentally positive or beneficial use other than disposal.

IPPC respectfully requests the MA DEP consider the following comprehensive plan for inclusion in the drafting of a MLMP, as previously suggested or included in the re-writing of the new SWMP.

SECONDARY MATERIALS LIFECYCLE MANAGEMENT PLAN

"CELLULOSE BASED MATERIALS AND PACKAGING MATERIALS"

Sustainable Economic Marketability

The most abundant clearly recognizable secondary materials that should be removed from the waste stream, which represents a substantial portion of Massachusetts municipal and commercial solid waste, is non-hazardous, recyclable and non-recyclable cellulose based materials (CBM) and packaging materials (PM). These materials are usually co-mingled with other waste at the source, which prevents viable economic access to the recyclables and non-recyclable CBM & PM contained within.

IPPC Estimates Massachusetts Produces Approximately 2.4 Million Tons/Year of CBM & PM from Three Main Sources of Generation as Follows:

- > 60% of Residential/Municipal Solid Waste (MSW)
- > 70% of Fast Food Restaurants Waste
- 60 – 99% of Most Commercial, Industrial and Retail Waste

Environmental Value of CBM and PM

The clean, non-hazardous, non-recyclable materials contained within nearly all CBM & PM are valuable resources for use as an alternative fuel "Paper Derived Fuel" (PDF) and as a fossil fuel avoidance measure. The emissions from proper combustion of PDF are cleaner than coal and #6 fuel oil due to its lower nitrogen and sulfur contents. More importantly, at least 75% of PDF is biomass which will substantially reduce greenhouse gas emissions when utilized for fossil fuel avoidance. Therefore, PDF will positively assist in reducing NO_X, SO_X, CO_2, Mercury and other emissions when co-fired in existing fossil fuel power plants as a coal or oil avoidance measure.

Economic Value of CBM and PM

The following information clearly demonstrates the economic value of non-recyclable CBM & PM for the manufacturing of PDF.

- Coal fired power plants in New England currently pay approximately $100 per ton for coal. This equates to approximately $4.00 per million btu's.
- The cost of #6 oil to oil fired power plants at "$60 per bbl" equates to approximately $12.00 per million btu's.
- Biomass power plants in New England currently pay approximately $30 per ton for whole tree chip woody biomass. This equates to approximately $3.50 per million btu's.
- The cost of PDF to all fossil fuel fired power plants is approximately $55 per ton. This equates to approximately $2.75 per million btu's.
- The Massachusetts Alternative Portfolio Standard further provides for a mechanism to qualified fossil fuel fired power plants to realize a final cost of PDF of approximately $1.25 per million btu's.

This information clearly demonstrates the economic and environmental value, benefits and use of CBM and PM when manufactured into PDF and co-fired in fossil fuel power plants as a substitute for virgin fossil fuels. As stated previously, this is why it is IPPC's position that it is unnecessary and irrational for Massachusetts constituents and businesses to continue to be forced to pay exorbitant "tipping fees" to incinerator/waste-to-energy plants to use CBM & PM as a fuel. The simple fact remains that PDF, properly combusted, is a cleaner fuel than coal, #6 fuel oil and wood and can be manufactured and delivered at a significantly lower cost than these commodity fossil and biomass fuels. Additionally, all power plants in the United States are *extremely heavily regulated* by state and federal government. Under the MA DEP's oversight, co-firing of PDF "would not" and "could not" be permitted in any Massachusetts power plants where such co-firing would result in violation their permitted emissions requirements.

It is an unquestionable fact that fossil fuel fired power plants will continue to operate in Massachusetts for the foreseeable future. There currently exists approximately 1,400 megawatts of electricity generation in Massachusetts from coal. In addition to the positive and substantial beneficial economics of PDF discussed throughout this submittal, IPPC estimates that the available CBM and PM currently discarded as waste in Massachusetts has the potential to reduce the amount of coal used in Massachusetts by 20 to 30%. Coal-fired power plants, when co-firing PDF, in essence become partial generators of a practical form of green, renewable energy.

These facts clearly meet the criteria of a viable and immediately available economical and environmentally beneficial market use for non-hazardous, non-recyclable CBM & PM to manufacture PDF and its subsequent use as a renewable biomass fuel as a substitute for virgin fossil fuels to generate electricity in Massachusetts.

Management/Collection and Economics of Non-Recyclable CBM & PM

The infrastructure and economics for source managing and collection of non-hazardous, non-recyclable CBM & PM from residential dwellings, fast food restaurants and businesses are easily and economically accomplished. IPPC has clearly demonstrated this through the use of what IPPC refers to as its "third bin" acquisition method. At the source of most CBM & PM there already exists a waste bin and a recycle bin. The introduction of a "third bin" exclusively for collection of approved clearly identifiable CBM & PM and some simple education at the source is all that is needed. Based on IPPC's experience the third bin is the largest of all bins. This further demonstrates the amount of CBM and PM being disposed of as waste.

Commercial, Industrial, and Retail Businesses Sources (Pre-Consumer)

IPPC has easily and successfully implemented its CBM & PM collection/acquisition process in commercial, industrial and retail pre-consumer supply sources (see attached letters from businesses contained within the Written Comments for Solid Waste Master Plan Policy Development sent to the MA DEP dated January 15, 2009). The economic incentive enthusiastically received by these sources is the elimination of high disposal costs for these materials while further "greening" their companies.

Fast Food Restaurant Business Sources (Pre-Consumer and Post-Consumer)

The same CBM & PM collection/acquisition process described above can be implemented in the Fast Food Restaurant Business sector with the same positive results. The only difference in the management of this mixture of pre-consumer and post-consumer CBM & PM occurs upon receipt at the PDF manufacturing plant. These materials would require additional inspection and screening for potential non-compliant materials. The economic incentive enthusiastically received by these sources is the elimination of high disposal costs for these materials while further "greening" their companies.

Residential/Municipal Sources (Post-Consumer)

The "third bin" collection/acquisition process would also be used at this source; however, more stringent and additional inspection is required upon receipt at the PDF manufacturing plant. Removal of recyclables and noncompliant materials to insure feed stock quality for the manufacturing of PDF, post-consumer CBM & PM are screened using combined sophisticated inspection technologies (infrared, optical, x-ray, mechanical, pneumatic) and manual separation techniques. The economics are also significantly different than the other sources of CBM and PM. The existing disposal charges to the source for these materials would remain in place and would be used to subsidize the municipalities cost of separate collection and transport of the CBM and PM to the PDF manufacturing plant. The municipalities would be the seller of the CBM and PM to the PDF manufacturing plant. The PDF manufacturing plant could purchase the CBM and PM "under contract" from the municipality for a minimum of $1.00 per ton. IPPC estimates that the initial net economic results "as proposed" would yield excess revenues to the municipalities. A reduction in collection cost to the source (municipality residence) could be provided over time as the price paid for CBM and PM increase on an annual basis in alignment with the price paid for PDF.

PDF Manufacturing Increases Recycling Opportunities

PDF manufacturing plants acquire and purchase all non recyclable CBM and PM under long term materials supply contracts which coincide with a long term PDF supply contracts from power plants. This creates an accessible, reliable and consistent supply chain of materials that previously did not exist. This allows for the development of new recycling market opportunities for materials that were previously unavailable. Additionally, some sources generate such de minimus quantities of recyclables they are simply discarded as waste. Almost all sources generate large volumes of CBM and PM, which is where the de minimus recyclables would be placed. This is a positive alternative for low volume recyclable generation sources as recyclables would be removed at the PDF manufacturing plant. The first priority of a PDF manufacturing plant is to remove economically recyclable materials *before* manufacturing the balance of specification compliant materials into PDF. PDF manufacturing plants operate under the oversight of the MA DEP, similar to a recycling operation, ensuring that PDF plants do not operate as "sham recycling operations".

Benefits to Recyclables from PDF During Declining Economy Periods

One of the most challenging problems for the recycling of materials occurs during downturns of recycling markets in declining economic cycles. Once inventory and process throughput of recyclable materials has reached full capacity during these periods, the only other option is disposal. This is especially true for low value and single market recyclables. Additionally, mass inventorying of recyclable materials during economic downturns further exacerbates this problem through supply and demand economics reducing the value of these materials until inventories deplete themselves. During these periods recyclers are forced to dispose of recyclables as waste. Manufacturing PDF from these recyclables, while less desirable in the hierarchy of materials lifecycle management than recycling, will allow for some beneficial use during economic downturns. This last resort option also avoids the high cost of disposal for these valuable commodities and circumvents the total loss of any beneficial re-use during these periods.

Benefits to Future Markets and Use of CBM and PM

There are many new and innovative cellulose based energy technologies currently under development. These technologies are at best case, a minimum of a decade away and will require a sustainable supply of cellulose before becoming commercially and economically viable. Other than high cost, woody biomass, New England has no other source of economically feasible, "harvestable" and sustainable cellulose supply. Removing CBM & PM from the waste stream now, for use in existing practical and beneficial markets, will only assist in the development of these innovative cellulose based energy technologies. Economics and regulatory oversight will determine the best use for CBM & PM as these innovative cellulose based energy technologies reach commercial viability.

"OTHER SECONDARY NON-HAZARDOUS MATERIALS"

Excluding C&D debris, once CBM and PM are removed from the waste stream, Metal Based Materials, Glass Based Materials, Plastic Based Materials and Food Based Materials make up the majority of the balance of Massachusetts waste stream. Removal of CBM and PM from these Other Secondary Materials will allow for more economical access and separation at Materials Recycling Facilities and Single Sort Recycling Operations. Many regulatory management mechanisms for these Other Secondary Materials already exist under the recycling regulations. In order to economically access the non-hazardous portions of these other Secondary Materials groups and lost recyclables, IPPC believes that CBM and PM, due to their greater volume presence, must be removed first in the process of lifecycle management of secondary materials. Once this occurs, Massachusetts recycling flat line will likely end and materials recycling initiatives and goals should again become realistically achievable.

MLMP Secondary Materials Disposal Bans and Penalties

The MA DEP should consider inclusion in the MLMP policies for banning of residential and commercial disposal of any non-hazardous secondary materials on the basis that a sustainable available "marketable" value (purchased from the source - no tipping fees) for any environmentally positive or beneficial use that exists other than disposal. In the case of residential collection of CBM and PM, the municipality would be the selling source of the materials while continue to charge the residences the

current disposal cost to subsidize the collection of these secondary materials. The municipality would be responsible for residential compliance. Basically, if the market offers to buy a non-hazardous secondary material from any source that can be reliably managed, then the source may not dispose of these materials into the waste stream. Fines and/or penalties should be clearly established and issued to every source, from individual residents to businesses, for non-compliance. The policing and reporting to the MA DEP of residential and business non-compliance of an approved ban would be provided by the market buyer (a business or municipality) interested in purchasing these secondary materials.

Benefits from Materials Lifecycle Management of CBM & PM by 2015

- 20 to 30% Reduction of Coal Used in Massachusetts
- 225,000 Megawatts of Renewable Energy Generated
- $200,000,000 Per Year Saved by Massachusetts Businesses
- $132,000,000 Per Year of Cash Infusion into Massachusetts
- 2,400,000 Tons Per Year of Materials Removed From Waste
- 1,000 New Green Jobs Created in Massachusetts
- Reduce or Eliminate the Need for New Additional Incinerators
- Reduction of waste exported out of Massachusetts
- Lowering waste disposal costs for the residents of Massachusetts
- Substantially increase the amount of materials recycled

IPPC is confident that if the State of Massachusetts fully supports the use of non-hazardous, non-recyclable CBM & PM for the manufacturing of PDF as a virgin fossil fuel avoidance measure for the generation of electricity during the re-writing of the SWMP, the above benefits are realistic and achievable by the year 2015. Removal of 2.4 million tons per year of these non-hazardous valuable materials from the Massachusetts solid waste stream will reduce and may eliminate the potential need to build new solid waste disposal sites or incinerators/waste-to-energy facilities in Massachusetts in the near future. Removal of these same materials has the high potential of providing economical access to the substantial portion of recyclable materials currently disposed of as waste. If these combined efforts can be simultaneously realized, the current waste disposal capacity in Massachusetts would be greatly conserved, further reducing the potential need to build new waste disposal sites or incinerators/waste-to-energy facilities in Massachusetts in the long term.

In closing, IPPC is confident based on its successes to date that use of non-recyclable CBM and PM for energy, as a virgin fossil fuels avoidance opportunity, is one viable solution for materials management and waste management in the Commonwealth of Massachusetts. IPPC looks forward to meeting with the MA DEP to provide more comprehensive ideas for the individual topics discussed. In order to satisfy any concerns regarding the economic long term viability of what is proposed, IPPC is willing to share with the MA DEP detailed economics for the manufacturing of Paper Derived Fuel. Massachusetts is known throughout the United States as a leader in the development of policies that have put the Commonwealth in the forefront of many issues and opportunities. Once again, it is time for Massachusetts to demonstrate its leadership by responsibly recognizing and managing non-recyclable, non-hazardous materials as a valuable resource, under a new Massachusetts Materials Lifecycle Management Plan and policies. This will certainly yield positive economic and environmental results. Over the next few months, IPPC will be actively and aggressively soliciting support, for the innovative and beneficial technology proposed from the Massachusetts; executive administration, legislators, regulators, environmental action groups, businesses and constituency. IPPC thanks the MA DEP for their guidance and support over the past ten years. We look forward to the opportunity to participate in positive "change" that reflects the MA DEP Commissioner's new vision of Reduce, Reuse, Recycle, and non-hazardous "residual materials" lifecycle management as a first priority in the rewriting of the Massachusetts Solid Waste Master Plan.

Sincerely,

Mark A. Dupuis, President/CEO

Cc: The Honorable Governor Deval Patrick
The Massachusetts Executive Administration
The Massachusetts State Senate
The Massachusetts House of Representatives
Massachusetts Department of Energy Resources
Massachusetts Environmental Activist Groups
United States Environmental Protection Agency

Other Regulatory State Agencies

Connecticut, Florida, Georgia, Maine, Maryland,
Massachusetts, Michigan, New Hampshire, New Jersey
New York, North Carolina, Pennsylvania,
South Carolina, Virginia

INTERNATIONAL PAPER PRODUCTS CORPORATION

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January 28, 2009

The Honorable Governor Deval Patrick
Office of the Governor
State House
Boston, Ma. 02133

RE: Re-Writing of the Massachusetts Solid Waste Master Plan

Dear Governor Patrick:

Joe Knapik and I enjoyed speaking with you a couple of weeks ago. I have enclosed a treatise already provided to the Massachusetts Department of Environmental Protection outlining an innovative path to achieve the substantial benefits listed below. We look forward to a brief meeting with you per your request.

- 30% Reduction of Coal Used in Massachusetts
- 225,000 Megawatts of Renewable Energy Generated
- $200,000,000 Per Year Saved by Massachusetts Constituency & Businesses
- $132,000,000 Per Year of Cash Infusion into Massachusetts
- 2,400,000 Tons Per Year of Materials Removed From Waste Disposal
- 1,000 New Green Jobs Created in Massachusetts
- Reduce or Eliminate the Need for New Additional Incinerators
- Reduction of the amount of waste exported out of Massachusetts
- Lowering waste disposal costs for the residents and Businesses of Massachusetts
- Substantially increase the amount of materials recycled in Massachusetts

First, I would like to thank your administration and the Massachusetts's legislators and regulators for including "Paper Derived Fuel" as a fossil fuel avoidance measure in the Green Communities Act, Alternative Portfolio Standard. This initiative should provide a measurable incentive to fossil fuel fired power plants operating in the Commonwealth to reduce the amount of fossil fuels used.

Tel: 413-562-3787 • Fax: 413-562-4307
1-888-IPP-4SRM • www.ippbiomassfuel.com

If the same level of support for the manufacturing of "Paper Derived Fuel" is provided for in the MADEP's rewriting of the Massachusetts Solid Waste Master Plan, the above noted opportunities could be realized by 2015. We have personally attended several of the public Solid Waste Master Plan development meetings and Solid Waste Advisory Committee (SWAC) meetings held by the MADEP. We were strongly directed to seek support from your administration. IPPC is not looking for any economic assistance from the Commonwealth. In fact, substantial revenues to the State of Massachusetts could be realized from what is proposed. The simple technology exists, is readily available and we believe the regulatory mechanisms are already in place. In order to satisfy any concerns regarding the economic long term viability of what is proposed, IPPC is willing to share with your administration detailed economics for the manufacturing of Paper Derived Fuel. I am confident, if your administration fully understood this viable opportunity, the appropriate steps would follow, to align the state agencies to take action.

We applaud your leadership and directives for meaningful "change" in the Commonwealth. Joe Knapik and I look forward to meeting with you at your earliest convenience and believe you would have strong interest in what is proposed.

Sincerely,

Mark A Dupuis, President/CEO

Cc:
The Massachusetts State Senate
The Massachusetts House of Representatives
Massachusetts Department of Energy Resources
Massachusetts Environmental Activist Groups

US EPA Advanced Notice of Proposed Rulemaking

Identification of Non-Hazardous Materials That Are Solid Waste

Docket ID No. EPA-HQ-RCRA-2008-0329

®

International Paper Products Corporation
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Prepared by: Mark A. Dupuis, President/CEO

INTERNATIONAL PAPER PRODUCTS CORPORATION

A Materials Lifecycle Management Company®

98 Sgt TM Dion Way
Westfield, MA 01085

January 29, 2009

Advanced Notice of Proposed Rulemaking – Identification of Non-Hazardous Materials That Are Solid Waste

Environmental Protection Agency
Mail Code: 2822T
1200 Pennsylvania Ave., NW
Washington, DC 20460

Attention Docket ID No. EPA-HQ-RCRA-2008-0329

To Whom It May Concern:

International Paper Products Corporation (IPPC) is pleased to make this submittal to the referenced docket in support of the US Environmental Protection Agency's (USEPA) effort to better Identify Non-Hazardous Materials That Are Solid Waste.

IPPC supports the proposed rule as published and wishes to add specific details to clearly illustrate that the market, technology, processes, and stakeholder support exists for recognizing that many Cellulose Based Materials (CBM) and Packaging Materials (PM) can meet the legitimacy tests specified by USEPA and are consistent with the commodity fuel specifications necessary to demonstrate these materials are not solid waste.

IPPC manufactures a Paper Derived Fuel (PDF) from nonrecyclable, non-hazardous streams of CBM and PM obtained from post industrial and post commercial sources (or pre-consumer). This fuel is sold into process and power generation markets now. IPPC's fuel has been tested or is used as an alternative to coal, oil and wood. IPPC is also providing comments in support of technologies and opportunities to recover CBM and PM from post consumer streams in a way which satisfies the discard and legitimacy tests discussed in this proposed rule.

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IPPC has enclosed the following information in support of its position and the rule as proposed. These documents are being circulated to policy makers and stakeholders at local, state, and federal levels in USEPA Regions I, II, and IV. Each document title is listed and followed by a brief description below.

- "Re-Writing of the Massachusetts Solid Waste Master Plan" – IPP is submitting this treatise as a proposal to capture and re-use CBM and PM secondary materials in a manner which meets the goals of improvements in recycling performance, fossil fuel avoidance, disposal avoidance and overall economic benefit to the operating region.

- A letter to Massachusetts Governor Deval Patrick outlining the many benefits the Commonwealth can realize by redirecting CBM and PM from solid waste to fuel manufacture and recycling operations.

- "Regulatory Initial Contact Report" (RICR) – IPPC has documented its meetings and research relating to state regulatory dispositions (USEPA Regions I, II, IV) for the acquisition of CBM and PM and subsequent recovery of recyclables and the manufacture of Paper Derived Fuels. The document is an internal draft prepared by and for IPPC.

- "Raw Material Supplier Testimonial" – IPPC has solicited testimonials from its suppliers which speak to the economic and environmental benefits their companies have realized since contracting CBM and PM to IPPC.

We hope the documents attached illustrate that IPPC is already at the forefront of a viable market for qualified secondary materials which should not be treated as solid waste.

Specifically to the inquiry of the ANPRM, IPPC provides the following comments.

II. Background

A. CISWI Rule/CISWI Definitions Rule/Boiler Rule

The USEPA has identified that establishing, under RCRA, which non-hazardous secondary materials constitute "solid waste" is the critical issue in resolving the court's decision.

IPPC concurs that non-hazardous secondary materials that are "burned for fuel value or used as an ingredient in a manufacturing process" ought not to be considered solid waste.

IPPC specifically requests that CBM and PM which are substantially of the same constituency as other alternative fuels (discussed in III.D of the ANPRM) be similarly excluded from the definition of solid waste due to their fitness as an alternative fuel and attendant environmental and economic benefits. IPPC also proposes that streams containing food scraps as identified in the proposed rule be incorporated into this exclusion where they can be shown to have value in the manufactured fuel product or other recoverable properties.

CBM and PM are non-hazardous, non-toxic materials of very recent manufacture and thus their origin and composition is traceable. They are manufactured from or can otherwise be described as containing (but not be limited to) marginally recyclable or nonrecyclable grass-like materials, switch grass, vegetation, leaves, yard debris, farming by-products, agricultural crops, wood, tree bark, pallets, paper, coated paper, laminated paper, waxed paper, fiber, textiles, fabrics, cardboard, chip-board, short fiber, plastics, films, polymers, wood and composite wood materials (plywood, oriented strandboard) and other materials that may be encountered in commerce.

CBM and PM as described above meet the definition of "secondary material" provided in the Notice as they are not the primary product of manufacturing or commercial operations but are instead components, surplus, trim, or off-specification products of these operations. CBM can

include, but not be limited to marginally recyclable or nonrecyclable surplus, scrap or reject streams from various post industrial and post consumer operations. These can include material from wood product manufacturing, gift or wrapping paper conversion, paper based games or novelties, curtains or fabric furnishings, fiber based filtration products, product labeling materials, as well as materials of similar constituency which have cannot be allowed to enter market due to proprietary reasons. PM is specifically the universe of films, crates, frames, cushions, foams, over-packs, straps, bands and fabrics used as primary, secondary or tertiary packaging. CBM and PM which are not solid waste are identifiable through supplier specifications, Material Safety Data Sheets, purchase records and industry standards regarding their usage.

Materials that have been treated or amended with significant concentrations of hazardous materials to impart secondary properties such as flame retardance, corrosion protection, insect or disease resistance, Ultra-Violet (UV) resistance or simply contain significant concentrations of hazardous materials to meet product specifications may not be suitable for use as an alternative fuel product. This could preclude halogenated plastics, copper/chromate treated wood products, or materials that would result in "out of specification" conditions for fuel performance, emissions or ash management.

Finally, the composition of CBM and PM is primarily cellulose and plastics. IPPC recommends review of the US Department of Energy's Thermodynamic Data for Biomass Conversion and Waste Incineration published in September 1986 by the Solar Technical Information Program. This document shows that the materials falling into these two categories have favorable fuel properties. "Value added" treatments that may be found as applied inks, "foilized" finishes (as in a lottery ticket), paints and coatings do not alter the non-hazardous, non-toxic nature of these materials.

III. Beneficial Use of Secondary Materials

A. Introduction

As proposed above, alternative fuels derived from CBM and PM meet the Beneficial Use of Secondary Materials criteria by:

- Being suitable for manufacture of an alternative fuel and thus avoiding the environmental impacts of extraction and processing as found with fossil and other traditional fuels:

- Being diverted from disposal;

- Providing for additional opportunities to collect marginally recyclable and re-usable materials which would otherwise be disposed as a de minimis component of solid waste.

IPPC manufactures this fuel using "state of the art" equipment and offers it for sale in lieu of coal, wood and oil in process and utility power generation applications. The fuel, Enviro-Fuelcubes® is sold based on its fuel value and our cost of manufacturing. The CBM and PM raw materials suppliers are able to avoid the high costs of disposal because IPPC can sell its fuel. The suppliers receive the savings.

III. D. *Secondary Materials and Benefits*

As stated previously, CBM and PM are nothing more than products and material streams with similar constituencies to several of the "eight non-hazardous secondary material fuels or fuel groups" cited by USEPA. Specifically, CBM and PM are made of materials which are the same as those cited in the biomass, construction & demolition materials, scrap tires, and scrap plastics. What is different is their origin and traceability. IPPC looks to the USEPA to recognize that a stream of low value or nonrecyclable scrap papers, poly wrapping films, off-specification manufactured wooden door frames or linen curtains is comprised of essentially the same things as those defined as alternative fuels. There are ample control measures available at administrative, operational, and quality control/quality assurance levels to render these streams into what is essentially a "homogenous" fuel product with chemical property variances consistent with other alternative fuels. The USEPA cites Tire Derived Fuels (TDF) as having a fuel value of 13,000 to 16,000 BTU/lb. IPPC's own PDF has yielded fuel values of 8,500 to 10,500 BTU/lb (SD = 306) from a manufacturing volume in excess of 80,000 tons over 30 months.

Because of the "pre-selection" and specification process associated with acquiring CBM and PM, the manufactured PDF is very low in sulfur,

nitrogen, mercury (nearly nonexistent), chlorine and other hazardous substances. In all regards, it is a favorable alternative fuel and at least the equal to those already recognized.

IV. What is the History of the Definition of Solid Waste Rules?

A. Statutory Definition of Solid Waste

IPPC's business is founded on the premise that the CBM and PM which are our raw materials are not acquired as a result of discard or other euphemism associated with disposal. IPPC manufactures and sells its alternative fuel product into the market place. It is used in place of coal, oil and wood to make electricity and by the end of 2009 to make concrete. IPPC carefully analyzes CBM and PM streams from prospective suppliers so that these materials are delivered efficiently to IPPC in a way that maintains their integrity and fuel/commercial value. Most CBM and PM supplier streams contain low value recyclables or other reusable materials. These streams contribute to one of IPPC's supplemental profit streams. IPPC does not generate a solid waste residual from its operations. The Massachusetts Department of Environmental Protection (MADEP) classifies IPPC as a recycling operation subject to good management practices with a 20% recycling goal. Manufactured fuel does not count to this goal. The manufactured fuel product is considered the product output of IPPC. The CBM and PM IPPC receives is not the result of a discard activity.

IV. E. The Concept of Legitimacy

IPPC concurs with the USEPA that the concept of legitimacy is appropriate in determining whether a secondary material is (or is not) a solid waste. The CBM and PM acquired by IPPC are identified at the point of origin (supplier site), quantitatively inventoried by item and composition, cross checked for proof of composition and only then approved for receipt by IPPC. Before receiving any raw materials, IPPC conducts supplier site training on proper segregation and quality control for CBM and PM raw materials. Accompanying the training is a written materials control and signage installation. IPPC arranges for dedicated, marked, secure containers to transport qualified CBM and PM from the supplier site to IPPC manufacturing. Shipments are accompanied by bills of lading with material specifications. Upon receipt, each shipment is inspected for quality and

conformity to IPPC's specifications. Once approved, the shipment is processed for removal of recyclable/reusables or manufacture of PDF.

As previously discussed, the CBM and PM are otherwise similar to approved alternative fuels and free of significant concentrations of hazardous substances. As a result, the manufactured fuel product has value and is sold into market.

V. Preliminary EPA Approach to Determine if Materials are Considered Solid Waste

A. Materials That Are Not Solid Waste

IPPC has illustrated in this submittal and supporting documents that the CBM and PM which forms the basis for PDF manufacture clearly meet the test EPA has established for "Secondary materials used as legitimate 'alternative fuels' that have not been previously discarded".

1. Traditional Fuels

In discussions of what is considered "cellulosic biomass" IPPC would like to offer that other forms of wood (as described in the proposed rule) can clearly be seen to have favorable fuel properties. Where these forms of wood may be re-constituted using adhesives or otherwise amended as may be found with latex primer coatings, the available literature shows little to no hazards from these chemicals. In fact, there are several citations where oriented strandboard is being used as a compostable infeed. IPPC is careful to note that these are products and materials which result from post industrial and post commercial sources and not material streams of residues or other uncured intermediates.

2. Guiding Principles Used to Determine if Secondary Materials Used in Combustion are Solid Wastes

IPPC's business demonstrates that the CBM and PM we process are handled as a valuable commodity. The PDF sales to end users document the value associated with the transaction. In all cases, end users of PDF are subject to local, state, and federal permits. If IPPC's fuel was not a suitable alternative for their traditional fuels, the fuel would actually cease to be a fuel and thus

have no value. We believe this business satisfies the guiding principles in both practice and intention.

Additional discussion relating to whether the secondary material remains in a continuous process can be satisfied as well. While the CBM and PM actually leaves the supplier site, it does so in dedicated secure commodity packaging or containers. Once it arrives at IPPC it is processed. IPPC is prevented by its recycling permit from speculative accumulation and subject to MADEP inspection.

The citations and description IPPC has provided illustrate that our alternative fuel is substantially cellulosic in nature (approximately 75% - the remaining carbon is of petroleum origin). IPPC has a quality assurance (QA) plan that includes monthly composite sampling using methods based ASTM D 5956 Standard Guide for Sampling Strategies for Heterogeneous Wastes and USEPA SW 846. Analyses of samples proceed using standard methods stipulated for fuels analysis by ASTM and other chemical constituents by USEPA SW 846.

This QA plan provides defensible proof to the fuel values we cite. Further, at each end user site, there are varying other analyses required either by permit or purchasing specifications.

IPPC's materials qualification plan and on-site Quality Control program is designed to prevent significant presence of non-fuel contaminants. As stated above, there are several quantitative controls that would quickly identify a materials problem with this manufactured fuel.

IPPC does agree that a qualitative approach to fuel values and hazardous substance concentrations is justified. In IPPC's experience, thorough quantitative assessment occurs before a test burn in a permitted facility occurs. The facility and their regulatory agencies review fuel use on a case by case basis, as each facility tends to be different and operating conditions are subject to variances. Using fuel standards applicable to other alternative fuels made from secondary materials is a protective stance that is further subject to case by case review at the permitted facility level.

3. Secondary Materials Used as Legitimate "Alternative" Fuels That Have Not Been Previously Discarded.

IPPC agrees with USEPA that the "question of what constitutes a legitimate "fuel" reflects the availability of fuel materials generally, the demand for fuel, and technology developments. In IPPC's view, the significant global reductions in the use of hazardous materials in many day-to-day goods and products, the recent instability in energy markets, the downturn in the global economy, and challenges relating to recycling and greenhouse gas emissions all suggest that the CBM and PM as proposed here should be considered for use as a legitimate "alternative" fuel. The great majority of solid waste discarded in the US is paper and plastic. As stated previously, these are otherwise highly suitable materials if they can meet the legitimacy tests.

4. Secondary Materials Used as Legitimate "Alternative" Fuels From the Processing of Discarded Secondary Materials.

CBM and PM can be as easily obtained from processing operations such as Materials Recycling Facilities, Transfer Stations or Curb Side Collection programs. Many forms of CBM and PM are clearly identifiable (a pizza box for instance) and thus can be expected to be made of the same materials as those obtained form pre-consumer sources. The processing step would include material specific equipment and technologies that are currently available. However, IPPC understands that much of this valuable energy rich material is "lost" to disposal due to current regulatory definitions.

It is IPPC's intention to provide a sound, market driven application of exactly why the proposed rule is needed. Many of the states in Regions I, II, and IV have expressed interest in what IPPC is doing. The regulatory agencies IPPC met with recognize IPPC's solution to solid waste challenges as well as meeting fossil fuel avoidance goals.

Thank you for you consideration of our position.

Sincerely,

Mark A. Dupuis, President and CEO