

**Extension of
Amended Environmental Cooperative Agreement
between
Packaging Corporation of America
and
Wisconsin Department of Natural Resources**

IN WITNESS WHEREOF, the parties by their signatures shall cause the original agreement dated September 10, 2002 with its respective amendments, to be extended an additional five years to September 10, 2012.

Signed for and on behalf of: **STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES**



By: /s/ Scott Hassett Date: 8/30/07

Scott Hassett
Secretary

Signed for and on behalf of: **PACKAGING CORPORATION OF AMERICA**



By: /s/ Bruce O. Ridley Date: 9/6/07

Bruce Ridley
Mill Manager

**Environmental Cooperative Agreement
Between
Packaging Corporation of America
And
Wisconsin Department of Natural Resources**

This Environmental Cooperative Agreement (“ECA” or “Agreement”) is entered into by the Wisconsin Department of Natural Resources (“WDNR” or the “Department”) and Packaging Corporation of America (“PCA”) (collectively the “parties”) pursuant to Wis. Stat. § 299.80. The primary purpose of this Agreement is to assist PCA in its efforts to achieve a level of control over hazardous air pollutants at its Tomahawk, Wisconsin Facility superior to that which can be achieved through compliance with certain federal regulations. Additionally, in this Agreement WDNR agrees to revised control limits for certain equipment at PCA’s Tomahawk, Wisconsin Facility.

WDNR and PCA have negotiated this Agreement pursuant to Wis. Stat. § 299.80, which establishes the Wisconsin environmental cooperation pilot program. The Wisconsin legislature authorized WDNR to develop up to 10 pilot projects with companies from a variety of business sectors willing to test innovative alternatives to traditional command and control regulatory approaches. One of the main goals of the program is to establish a collaborative process involving business, government and the public, and thereby develop a system of environmental protection that can achieve environmental goals in better ways.

On March 25, 1999, WDNR and U.S. EPA entered into a Memorandum of Agreement concerning the implementation of the Joint State/EPA Agreement to Pursue Regulatory Innovation and the Wisconsin Environmental Cooperation Pilot Program (the “MOA”). The MOA reflected the federal and state agreement that experimentation with innovative approaches to the environment could help identify cleaner, cheaper and smarter ways to ensure a clean environment and healthy ecosystems. U.S. EPA committed in the MOA to taking any necessary steps to implement innovative environmental cooperation pilot projects when federal involvement was required.

The parties intend that this Agreement will be legally binding. The parties are aware, however, that in order to effectively substitute for federal Clean Air Act requirements, certain compliance terms of this ECA must be embodied in a federal site-specific rule promulgated under the Clean Air Act, 42 U.S.C. § 7401 *et seq.* Other compliance terms will become enforceable as permit requirements when they are incorporated into the Facility’s Title V permit, which WDNR expects to issue by the end of 2002. The parties further understand that, once this ECA becomes effective, U.S. EPA, Region 5 will draft a site-specific rule implementing the Alternative HAP Treatment Technology approved herein, and that the proposed federal rule will be subject to public review and comment before it can become effective. As provided below, if the federal rule implementing this Agreement does not become final, the terms of this Agreement regarding PCA’s

treatment of the condensates at its Tomahawk, Wisconsin Facility will terminate. The parties further understand that, subsequent to the effective date of this ECA, the revised equipment control limits specified herein will be incorporated into the Facility's Wisconsin Title V air permit.

FOR AND IN CONSIDERATION of the terms and conditions contained in this ECA, WDNR and PCA agree to the following:

Definitions:

“Alternative HAP Treatment Technology” means the process approved in this ECA by which, in lieu of compliance with certain requirements of federal regulations promulgated under the authority of the Clean Air Act, PCA will collect and hardpipe to its on-site wastewater treatment plant anaerobic basins the foul condensates from: (1) the pulp mill primary and secondary indirect contact condensers; and (2) the evaporator non-condensable gases condenser.

“Approval” means a permit, license, administrative order, cooperative agreement other than this ECA, or other authorizing document issued to PCA by the Department under chapters 280-295, Wisconsin Statutes for the operation of its Facility in Tomahawk, Wisconsin.

“BOD₅” means five(5)-day carbonaceous biochemical oxygen demand.

“Environmental Cooperative Agreement,” “Agreement” or “ECA” means this agreement between WDNR and PCA entered into pursuant to Wis. Stat. § 299.80(6).

“Environmental Management System” means an organized set of procedures implemented by PCA to evaluate the environmental performance of the Tomahawk, Wisconsin Facility and to achieve measurable or noticeable improvements in the environmental performance of the Facility through planning and changes in the Facility's operations.

“Environmental Performance” means the effects, whether regulated under chapters 280 to 295 Wisconsin Statutes, or unregulated, of the Facility on air, water, land, natural resources and human health.

“Facility” means all buildings, equipment and structures located in Tomahawk, Wisconsin that are owned or operated by PCA.

“Foul Condensates” means liquids produced by the cooling of hot gases emitted from pulp digesters, spent liquor evaporators and collection well vents.

“Hazardous Air Pollutant” or “HAP” means air emissions regulated by state or federal law for potentially hazardous effects.

“Interested Person” means a person who is or may be affected by, or otherwise has an interest in, the activities at the Facility, or a representative of such a person.

“MACT I” means “maximum achievable control technology,” and refers to standards promulgated under Section 112(d) of the Clean Air Act for major stationary sources of hazardous air pollutants. For purposes of this Agreement, the MACT I standards are those promulgated for the control of hazardous air pollutant emissions from pulping process sources, as specified at 40 C.F.R. Part 63.443.

“NCG” means non-condensable gases.

“NESHAP” means National Emission Standards for Hazardous Air Pollutants. NESHAPs are the implementing standards for MACT I sources.

“Performance Evaluation” means a systematic, documented and objective review, conducted by or on behalf of PCA, of the Environmental Performance of the Facility, which shall include an evaluation of compliance with this ECA, with any Approval that is not replaced by this ECA, and with the provisions of chapters 280 to 295 (and rules promulgated under those chapters) for which a variance has not been granted.

“SSM Plan” means the Start-up, Shutdown and Malfunction Plan for the Facility, which is required by 40 C.F.R. § 63.6(e)(3), and which ensures, among other things, that owners and operators of semi-chemical pulping mills are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of HAPs. PCA submitted the SSM Plan for the Facility to WDNR on February 18, 2002. When the Title V permit for the Facility becomes final, the SSM Plan will be incorporated by reference into that permit.

“State” means the State of Wisconsin.

“Subpart S NESHAP” means the National Environmental Standard for Hazardous Air Pollutants promulgated at 40 C.F.R. Part 63, Subpart S. The Subpart S NESHAP provides emission standards for semi-chemical pulp and paper mills.

“Title V Air Permit” means an operating permit required under Title V of the federal Clean Air Act that consolidates all federal air requirements into one document. The full approval of the Wisconsin Title V program became effective on November 30, 2001.

“U.S. EPA” means the United States Environmental Protection Agency, which is the federal government agency charged with implementing U.S. environmental laws.

“Violation” means a violation of the emissions standards established under this ECA and its implementing federal site-specific rule, of an Approval that is not replaced by this ECA, or of a provision of chapters 280 to 295 and rules promulgated under those chapters for which the Facility has not received a variance.

“WPDES permit” means the Wisconsin Pollutant Discharge Elimination System permit issued by WDNR to the Facility establishing water quality based effluent limitations necessary to ensure that the water quality standards for the Wisconsin River are achieved.

“WWTP” means the state-of-the art wastewater treatment plant at the Facility, which went on-line in 1995. Wastewater treatment consists of primary clarification, anaerobic treatment, aerated stabilization and secondary clarification. Treated effluent is returned to the Wisconsin River. The condensates PCA will collect under the terms of this Agreement will be treated in the Facility’s wastewater treatment plant.

I. DESCRIPTION OF THE FACILITY.

Packaging Corporation of America, headquartered in Lake Forest, Illinois, owns and operates a stand-alone semi-chemical integrated pulp and paper mill located at N9090 County Road E in Tomahawk, Wisconsin. The Tomahawk mill manufactures corrugating medium utilized in the containerboard industry. The mill, built in 1920 by the Pride Pulp and Paper Company, originally manufactured kraft paper. The mill discontinued kraft pulping in 1953 when it switched to semi-chemical pulping. The mill and its ancillary operations occupy approximately 400 acres. The facility employs 450 people, which makes it the largest employer in Lincoln County.

Approximately 70% of the wood fiber used at the Facility is derived from pulping hardwood chips. The patented high-yield pulping process utilizes a sodium carbonate (baking powder) cooking solution to soften hardwood chips prior to mechanical defibering. Recycled box plant clippings supply the balance of the mill’s fiber supply.

The power island at the Tomahawk mill consists of five steam generating boilers and one chemical recovery furnace. The mill combusts a variety of fuels in the power boilers, including coal, bark, natural gas and fuel oil. Additionally, PCA owns and operates a 3-megawatt hydroelectric project at Grandmother Falls, located six miles downstream from the mill on the Wisconsin River.

Process and non-contact cooling water is drawn from the Wisconsin River. Process water is treated in a state-of-the-art wastewater plant that went on-line in 1995. Treatment consists of primary clarification, anaerobic treatment, aerated stabilization and secondary clarification. Treated effluent is returned to the Wisconsin River.

II. EFFECTIVE DATE/TERM OF THE AGREEMENT.

This Agreement shall become effective on the date of its signature by WDNR.

Pursuant to Section 299.80(3)(q) of the Wisconsin Statutes, the term of this Agreement shall be for five years from its effective date, unless it is otherwise revoked or terminated pursuant to the terms of Section III, below.

As provided by Wis. Stat. § 299.80(6e), the term of this Agreement may be renewed for a second 5-year term if the Department determines that renewal is consistent with Wis. Stat. § 299.80(2) and if PCA agrees to renewal. U.S. EPA currently intends to provide for a compliance term that lasts for the duration of the ECA in the site-specific rule that will implement the Alternative HAP Treatment Technology approved in this Agreement. In the event WDNR revokes or determines not to renew this ECA, then WDNR shall notify U.S. EPA of its action so that the federal agency may take whatever measures are necessary regarding the term of the federal site-specific rule. If WDNR renews this Agreement, then at the end of the 10 year period, WDNR, U.S. EPA and PCA will evaluate the merits of the pilot project and determine whether the term of this Agreement and implementing federal regulation should be extended, with or without modification.

III. AMENDMENT/REVOCATION.

Pursuant to Wis. Stat. § 299.80(13)(a) and Section XV of this Agreement, if the parties reach agreement as to a compliance schedule required to correct any Violation identified in connection with the completion of a Performance Evaluation, not normally discoverable through the periodic testing, monitoring, recordkeeping and reporting requirements of this ECA, then WDNR shall amend this Agreement to incorporate the terms of such a compliance schedule.

As provided in Wis. Stat. § 299.80(7), this Agreement may be amended or revoked as

follows:

- WDNR may amend this Agreement with the consent of PCA.
- WDNR may, after an opportunity for hearing, amend this Agreement for cause, including any of the following:
 - a) a change in federal or State environmental laws;
 - b) a violation of the ECA;
 - c) a determination that PCA has obtained this ECA by misrepresentation or a failure to disclose all relevant information.
- WDNR may, after an opportunity for a hearing, revoke this ECA if it finds any of the following:
 - a) if PCA is in substantial noncompliance with the terms hereof, or with the terms of any Approval that is not replaced by this ECA, or with a provision of chapters 280 to 295 (or rules promulgated under those chapters for which this ECA does not grant a variance);
 - b) if PCA has refused WDNR's request to amend this ECA;
 - c) if PCA is unable, or has shown an unwillingness to comply with the pollution reduction goals created in this Agreement;
 - d) if PCA has not adequately addressed a substantive issue raised by a majority of the members of the Interested Person Group identified in Section VIII, below, within a reasonable time after receiving notice of the issue.

The revocation procedures set forth in this Section apply to the decision by WDNR to terminate participation in the ECA. Procedures to be used in modifying or rescinding the legal mechanisms implementing this Agreement will be governed by the terms of those legal mechanisms and applicable law.

In the event the federal site-specific rule implementing the Alternative HAP Treatment Technology approved in this Agreement does not become final, PCA and WDNR intend that the provisions of this Agreement not pertaining directly to the Alternative HAP Treatment Technology will remain in full force and effect. PCA and WDNR agree that, if the federal site-specific rule does not become final, the parties will amend this Agreement to limit its scope to those matters not specific to the Alternative HAP Treatment Technology.

IV. WDNR ACTION UPON REVOCATION.

In the event WDNR revokes this Agreement, it shall:

- Issue a written revocation decision;
- Provide those parties identified as Interested Persons in Section VIII with a copy of its written revocation decision;
- Provide PCA with a reasonable amount of time to obtain Approvals that have been replaced by this ECA and/or to complete any necessary physical construction made necessary by WDNR's revocation of this ECA;
- Establish practical interim requirements, that do not allow pollution in excess of that allowed under Chapters 280 to 295 as of the effective date of this Agreement, to replace specified requirements of this Agreement until the Department issues any Approvals required under Chapters 280 to 295 that were replaced by this ECA.

PCA shall comply with WDNR's revocation decision, and with all requirements of this ECA for which WDNR has not issued interim requirements until WDNR issues any Approvals required under Chapters 280 through 295 that were replaced by this ECA.

V. ENTIRE AGREEMENT.

This Agreement, together with any specifications, referenced parts, and effective amendments, shall constitute the entire agreement of the parties. Communications or understandings between PCA and WDNR made prior to the signing of this ECA and pertaining to its subject matter are hereby superseded. All revisions to this ECA must be made by a written amendment to this Agreement, signed by both parties and issued under the same procedures as this Agreement.

VI. TRANSFERABILITY OF THIS AGREEMENT.

WDNR agrees that PCA's rights and obligations under this Agreement may be transferred to any future owner or operator upon request of PCA and of such future owner or operator, provided the following conditions are met:

- a. PCA will provide written notice of any such proposed transfer to U.S. EPA, WDNR and all Interested Persons at least forty-five (45) days prior to the effective date of the transfer. The notice shall include identification of the proposed transferee, a description of the proposed transferee's financial and

technical capability to assume the obligations associated with this Agreement, and a statement of the transferee's intention to sign the ECA as an additional party.

b. Within thirty (30) days of receipt of the written notice, U.S. EPA and WDNR, in consultation with the Interested Persons, will determine whether the transferee has demonstrated adequate financial and technical capability to carry out requirements of this ECA and a willingness to sign the ECA as an additional party. Such a determination will be based upon the consideration of all relevant factors, including the transferee's record of compliance with federal, State and local environmental requirements.

c. Upon approval of any transfer under this section, U.S. EPA intends to amend the site-specific rule implementing this Agreement (subject to public notice and comment), to legally transfer the rights and obligations of PCA under this ECA to the proposed transferee. The rights and obligations of this ECA will remain with PCA prior to their final, legal transfer to the proposed transferee.

VII. APPROVALS COVERED.

The following Approvals are affected by this ECA:

Air

Wisconsin Title V Permit (anticipated to be issued in 2002)
AM-93-97 (Administrative Order - Good Wood Combustion)

Water

WI-0002810-6 (WPDES - Wastewater Permit)

VIII. INTERESTED PERSONS GROUP.

PCA has identified the following persons or groups that will be asked to participate as members of a stakeholders group for this project. A contact person is identified for each person or group:

Laurel Sukup
Wisconsin Department of Natural Resources
107 Sutliff Ave.
Rhineland, WI 54501

Tomahawk City Council
23 North 2nd
Tomahawk, WI 54487
Attn: Mr. Donald Nelson

Tomahawk Schools
1048 East Kings Road
Tomahawk, WI 54487

IX. PCA COMMITMENT TO DEVELOPMENT OF AN ENVIRONMENTAL MANAGEMENT SYSTEM (EMS).

PCA is in the process of developing an Environmental Management System for the Facility and has an implementation target date of 12/31/02. The Facility's Environmental Management System will be based on the standards for environmental management systems issued by the International Organization for Standardization, or an alternative environmental management system that is acceptable to the Department. PCA agrees to provide a draft of the Environmental Management System to WDNR on or before **December 31, 2002**, with a copy to U.S. EPA at the address specified in Section XVII below, and a copy to all Interested Persons identified in Section VIII, above. As provided in Wis. Stat. § 299.80(3)(L), the Interested Persons identified above will be provided with the opportunity to comment on the Environmental Management System developed pursuant to the terms of this ECA.

X. COMMITMENT TO SUPERIOR ENVIRONMENTAL PERFORMANCE.

PCA's Tomahawk Facility has a history of aggressive pollution prevention efforts. PCA is committed to superior Environmental Performance and to achieving measurable or noticeable improvements in Environmental Performance. PCA seeks to achieve a balance among the economic, social and environmental impacts of its efforts to achieve the goals identified below that is acceptable to the Tomahawk, Wisconsin community:

- Reduce natural resource usage
- Reduce waste generation
- Increase recycling
- Reduce HAP emissions
- Increase employee/community awareness of PCA's environmental impacts and pollution reduction efforts
- Use the targets and goals of the Environmental Management System process to identify opportunities to improve the Facility's environmental performance

- Implement the suggestions of the Interested Persons Group when PCA, WDNR and the Interested Persons Group agree that these suggestions are technically and economically feasible
- Continue evaluation of phosphorus treatment and control technologies, process changes and phosphorus minimization steps to reduce the amount of phosphorus discharged to the Wisconsin River to the maximum extent practically achievable taking into account energy, economic and environmental impacts as established in NR 217 of the Wisconsin Administrative Code. Such evaluations may include, but need not be limited to, evaluation of the “Hogan process and crystallator” technologies being investigated at Alto Dairy. The limitations of the existing wastewater treatment facility for purposes of maximizing phosphorus removal shall be identified. PCA will report on their evaluations as per Section XIV of this ECA.

XI. POLLUTION LIMITS.

By entering into this Agreement PCA commits to achieving a reduction in methanol emissions of at least 1 lb per oven-dried ton of pulp (“ODTP”). In actuality, the parties anticipate that the methanol reduction will significantly exceed the 1 lb. commitment. The compliance parameters of this Agreement will be developed as provided in Section XIV.

XII. OPERATIONAL FLEXIBILITY AND VARIANCES.

A. MACT I Alternative Overview

Section 112(d) of the Clean Air Act directs EPA to set maximum achievable control technology (“MACT”) standards for major stationary sources. MACT I standards are technology-based emission limitations that require the maximum degree of reduction in emissions of hazardous air pollutants, taking into consideration the cost, any non-air quality health and environmental impacts, and energy requirements.

MACT I standards for pulp mills are based on the average emission limitation achieved by the best performing 12 percent of the existing sources, as provided in Section 112(d)(3). The MACT standards environmental and benefit analyses were partially supported by an emissions study conducted between January 1993 and April 1994 by the National Council for Air and Stream Improvement (“NCASI”) at sixteen chemical pulp mills that included nine bleached kraft mills, four unbleached kraft mills, two sulfite mills and one semi-chemical mill. Semi-chemical pulp mill results were published by NCASI in November 1994 (Technical Bulletin #683 - Mill Q Study). The NCASI study concluded that HAP emissions from pulp digestion, brownstock washing, spent liquor evaporation and papermaking totaled 1.96 lb HAP/air dried ton of pulp (ADTP) produced for Mill Q. Additional test data and surveys from EPA and industry were also used to support the environmental and benefit analysis for the MACT I standard.

U.S. EPA promulgated the pulp and paper MACT I standard (also called the Subpart S NESHAP) on April 15, 1998. Semi-chemical pulping mills were provided until April 16, 2001, to meet the emissions limits of the Subpart S NESHAP. Because of the promising nature of PCA's research regarding the Alternative HAP Treatment Technology, WDNR provided PCA with an additional year in which to achieve compliance. Similarly, U.S. EPA agreed to take no enforcement action against the Facility for violations of 40 C.F.R. §§ 63.443(c) and (d) for a period of time in order to allow PCA the opportunity to negotiate this Agreement and secure a site-specific rule.

The rule, as promulgated, requires the collection and treatment of low-volume, high concentration NCGs produced by pulp digesters, spent liquor evaporators and hotwell vents. The rule further requires that the control device used to reduce total HAP emissions from the collected NCGs be able to achieve one of the following three criteria:

1. A reduction of total HAP emissions by 98% by weight;
2. A reduction of the total HAP concentration at the outlet of the thermal oxidizer to 20 parts per million or less by volume, corrected to 10% oxygen on a dry basis; or
3. A reduction of total HAP emissions using a thermal oxidizer operated at a minimum temperature of 1,600 deg. Fahrenheit and a minimum residence time of 0.75 seconds.

Alternatively, a regulated close-vent system can reduce total HAP emissions by using: (1) a boiler, lime kiln, or recovery furnace in which the HAP emission stream is introduced with the primary fuel or into the flame zone; or (2) a boiler or recovery furnace with a heat input capacity greater than or equal to 150 million BTUs per hour by introducing the HAP emission stream with the combustion air. *See* 40 C.F.R. §§ 63.443(c) and (d).

Semi-chemical pulping condensates do not require control under the rule.

A.1. Rationale

Prior to February 1999, PCA's digester relief gases discharged directly to the atmosphere through a digester blow tank vent. As a preliminary step towards bringing the Facility into compliance with the MACT I standard, PCA installed and brought online a blow heat recovery system ("BHRS"), consisting of primary and secondary condensers that recover heat energy from the flash stream released by the digester blow tank vent. The NCGs released from the BHRS are required to be treated under the Subpart S NESHAP.

To properly engineer a collection system for these NCGs, PCA next conducted emission testing to characterize their organic content and flow rate. Testing conducted in March of 1999 determined that the concentration of HAPs in the BHRS vent gases was significantly lower than PCA had anticipated. In fact, the tests established that the Facility's BHRS vent gases contain only 0.44 lb/ODTP. The Mill Q study had led PCA to believe that the HAP concentration would be closer to 2 lb/ODTP.

PCA began to investigate why the HAPs emissions from the BHRS vent was so low. PCA's investigation revealed that the Tomahawk pulp mill is configured in such a way that pulp digester relief gases pass through primary and secondary indirect contact condensers designed to recover heat energy from the flash steam. As a result, over 90% of organic compounds released from the Facility's pulp digesters separate into the foul condensate stream.

As a result of these tests, PCA concluded that the required collection and treatment of the NCGs from its BHRS system would accomplish very little in terms of system-wide HAP control. In other words, PCA began to believe that treating the foul condensates (which contained approximately 3.8 lb of HAPs/ODTP) – rather than the NCGs required by federal regulation (which contained only 0.44 lb of HAPs/ODTP) – might result in a better overall reduction of HAP emissions from the Facility. Such an alternative treatment also had the potential to save PCA over one million dollars in design and equipment costs.

NCASI reviewed these findings along with other semi-chemical industry representatives in March 2000. WDNR, PCA and NCASI all agreed that, in PCA's situation, maximum HAP control could be achieved by collecting and biodegrading indirect contact condenser condensates in the mill's anaerobic treatment system.

PCA began collecting and treating combined pulp mill condensates (from the pulp mill primary and secondary condensers and evaporator NCG condenser) in May 2001. At the request of U.S. EPA's Office of Air Quality, Planning and Standards, PCA conducted a treatability study during a 35-day period in 2001 to determine whether HAP control through treatment of the foul condensates resulted in equivalent HAP reduction to what could be achieved through compliance with the MACT standard. The treatability study demonstrated, and subsequent performance testing confirmed, that PCA's treatment alternative achieves greater methanol control than that which would occur by employing the prescribed MACT technology for this subcategory.

In order to comply with the MACT standard, PCA needed only to control 0.43 lb. HAPs **(98% by weight of the .44 lb of HAPs in the vent gas)** as methanol/ODTP. **In this Agreement, PCA commits to controlling 1.0 lb methanol/ODTP.** The treatability study demonstrated, and two subsequent performance tests have confirmed, that PCA actually is controlling greater than 2.5 lb. methanol/ODTP. Using the methanol treatment test data, PCA's use of the Alternative Treatment Technology achieves an approximate 580% improvement over the level of methanol control that would be achieved through compliance with the Subpart S NESHAP.

The effect of this ECA, when implemented by a federal site-specific rule, will be to allow PCA to forego the installation of the equipment devices required by 40 C.F.R. §§ 63.443(c) and (d). PCA will not be required to meet the emission limits of these regulations at the Facility. For example, PCA will not have to achieve a 98% reduction in the HAPs released from its exhaust gases, or introduce the HAP emission stream into

the fuel used by its boilers . Instead, PCA will design and install site-specific pollution control devices to limit the release of HAPs from the pulp mill condensates at the Facility. By allowing PCA to collect and treat the condensates (not required by the Subpart S NESHAP) instead of the NCGs (required by the Subpart S NESHAP), PCA will be able to achieve superior control over the HAPs produced by the Facility's pulp digesters, spent liquor evaporators and hotwell. As specified later in this ECA, PCA will be required to verify on a periodic basis the anticipated superior environmental performance that will be achieved at the Facility by allowing PCA the regulatory flexibility provided in this Agreement and in the implementing federal site-specific rule.

A.2. Summary of Regulatory Flexibility.

In sum, in lieu of collecting and incinerating NCGs produced by pulp mill sources as prescribed by MACT I for the stand alone semi-chemical pulp mill subcategory, PCA shall collect and hardpipe to its on-site wastewater treatment plant anaerobic basins foul condensates from the following sources:

- (1) Pulp mill primary and secondary indirect contact condensers; and
- (2) Evaporator NCG condenser.

Additionally, PCA's hotwell vent gases are routed through the evaporator NCG condenser. Accordingly, the HAPs entrained in these vent gases, too, will be treated in the Alternative HAP Treatment Technology approved in this Agreement.

B. Good Wood Combustion

This Agreement modifies the ceiling concentration for carbon monoxide emissions from one of PCA's solid fuel boilers in an effort to reduce fossil fuel usage and maximize biomass fuel usage. Overall reduction of air pollutants, in particular sulfur dioxide, is expected to be achieved by utilizing a higher percentage of biomass. Inasmuch, the Agreement also allows PCA to delete the existing good wood combustion power boiler firebox exit temperature requirement of 1250 degrees Fahrenheit, on an eight (8) hour average, as a compliance requirement as listed in Administrative Order AM-93-97 and derived from NR 445.05(3)(c)6, Wis. Adm. Code. The 8-hour rolling average ceiling for CO concentration shall be modified from 500 ppm to 800 ppm on Boiler B27. Compliance with good wood combustion requirements shall be determined via continuous monitoring of carbon monoxide (CO) in the exhaust gases of mixed fuel power Boilers B24 and B27.

B.1. Rationale

Collaborative research testing conducted by WDNR at the Facility in 1996 and 1997 demonstrated that products of incomplete combustion, such as benzene in particular and organic compounds in general (such as THC) may in effect be monitored by simply keeping track of CO concentrations.

B.2. Summary of Regulatory Flexibility

In sum, PCA shall continue to comply with the conditions set forth in AM-93-97 with the following exceptions:

- When combusting wood wastes, Boiler B27 shall comply with an 800 ppm rolling 8-hour CO limit (or 1 hour limit during periods associated with the re-establishment of an 8-hour limit).
- Continuous temperature monitoring shall not be required on either Boiler B24 or B27.
- PCA shall continuously monitor CO emissions from Boilers B24 and B27 via dedicated continuous monitors.

XIII. BASELINE AND PERIODIC PERFORMANCE EVALUATIONS €

Within 180 days of the effective date of this Agreement, PCA shall perform and submit to WDNR a baseline Performance Evaluation covering Environmental Performance at the Facility. This evaluation shall be repeated annually, **and submitted to WDNR** on the anniversary date of the baseline submission. As noted above, PCA's EMS has not yet been finalized, but PCA expects to implement its EMS for the Facility on or before December 31, 2002. To the extent feasible, the annual Performance Evaluation required under this Agreement shall comprise a part of the Facility's EMS, and the reporting required under this Agreement and the EMS program shall be coordinated so as to avoid duplication and inefficiency.

As required by Wis. Stat. § 299.80(p), PCA's Performance Evaluation shall include an assessment of the success of this Agreement in reducing the time and money spent by PCA on paperwork and other administrative activities that do not directly benefit the environment. The annual Performance Evaluation, or the EMS of which it is a part, shall also include:

- An evaluation of PCA's EMS program (to be included in each Performance Evaluation submitted subsequent to the first year of EMS implementation)
- A discussion of any revisions or updates, or any proposed revisions or updates, to PCA's EMS
- A list of current and newly-identified environmental objectives and targets for the following year
 - A statement regarding whether the environmental objectives and targets identified in the preceding year's Performance Evaluation have been achieved
 - An analysis of PCA's success in achieving the objectives and targets identified in the preceding year's Performance Evaluation
 - An analysis of the difficulties encountered in achieving any of objectives and targets identified in the preceding year's Performance Evaluation

Wis. Stat. § 299.80(m) requires that PCA assist Interested Persons to understand the implementation of this ECA. Pursuant to Wis. Stat. § 299.80(3)(L), all members of the Interested Persons Group identified in Section VIII must be provided the opportunity to review PCA's performance under this ECA. Furthermore, PCA must measure the opinions of its employees and the public concerning its participation in the Environmental Cooperation Pilot Program. Wis. Stat. § 299.80(3)(n) further requires that PCA must provide information to the public about its Environmental Performance, and meet with Interested Persons at least once every 6 months to discuss the implementation of the EMS and to receive comments on the progress of the projects approved in this Agreement.

Accordingly, PCA shall ensure that a copy of the baseline Performance Evaluation, and each subsequent Performance Evaluation, be deposited with the Tomahawk Public Library. Alternatively, PCA may use the Internet to disseminate the Performance Evaluation to Interested Persons. Commencing within 30 days after PCA has submitted its baseline Performance Evaluation to WDNR, and each six months thereafter, PCA shall sponsor a public meeting, either at the Facility or at the Tomahawk Public Library, at which Interested Persons may discuss and provide comments upon PCA's progress under the terms of this Agreement. PCA shall ensure that its employees receive notice of the public meeting, and are specifically invited to attend and share their opinions regarding the merits of PCA's participation in the Environmental Cooperation Pilot Program. PCA shall describe and summarize the results of each public meeting in its annual Performance Evaluation.

In the event that an Interested Person raises a substantial issue regarding PCA's performance under the terms of this Agreement, PCA shall meet with a representative or representatives of the Interested Person, and shall try to reach consensus on the issue. Wis. Stat. § 299.80(L). PCA may request that the representative of WDNR identified in Section XVII of this Agreement act as a facilitator towards achieving such consensus.

XIV. Compliance Plan

A. Good Wood Combustion

1. Monitoring

PCA shall continuously monitor CO emissions from Boilers B24 and B27 via dedicated continuous emissions monitors.

2. Record keeping

The record keeping requirements for the CO emissions from Boilers B24 and B27 are provided in Administrative Order AM-93-97. Pursuant to the terms of that Order, PCA is required to maintain records of its continuous monitoring of CO emissions for a period of five years. These records will be available to WDNR and U.S. EPA during any inspection of the Facility or upon request.

3. Reporting

Within 30 days after the end of each quarter of operations at the Facility, PCA shall submit a report to WDNR summarizing the results of the monitoring of CO emissions required by this ECA. The report shall specify whether, and the number of times, CO concentrations from Boiler B27 exceeded the 8-hour rolling average of 800 ppm.

B. Alternative HAP Treatment Technology

The continuous compliance monitoring plan (“CCMP”) for the Alternative HAP Treatment Technology will ensure that the Facility, on a continuous basis, achieves the minimum methanol reduction of 1 lb./ODTP required by this Agreement. Essentially, the CCMP comprises three elements: (1) periodic monitoring of parameters indicating the efficiency of the anaerobic treatment system; (2) quarterly performance tests verifying HAP reduction; and (3) reporting of parameter exceedances and periods of excess methanol emissions. These elements are the same as those required under the Subpart S NESHAP for similar control technology. Although PCA conducted a treatability study in order to demonstrate that the anaerobic treatment of its HAPs actually achieved an equivalent reduction in HAPs to what was required by federal regulation, that treatability study did not identify those parameters that demonstrate the efficiency of the anaerobic system on a continuous basis over time, or the frequency with which such operating parameters should be tested. Further, the treatability study did not establish the ranges of certain operating parameters at which the system could be operated and still achieve the methanol reduction required by this ECA. The initial performance test required by this Agreement will determine: (1) what operating parameters are the best indicators of the efficiency of the system; (2) how frequently such parameters should be monitored in order to ensure continuous compliance; (3) the range of values for certain operating parameters at which the anaerobic system can operate and still be in continuous compliance.

1. Initial Performance Test Protocol.

Within 30 days of the effective date of this Agreement, PCA shall submit to WDNR and to Region 5, U.S. EPA a testing protocol for an initial performance test of the Alternative HAP Treatment Technology. The test protocol will also be used to develop the methodology for the quarterly performance testing required by this Agreement.

In preparing the test protocol, PCA shall look to the following provisions of the Federal Code of Regulations for guidance on appropriate testing procedures:

- 40 C.F.R. §§ 63.7 (general performance testing provisions)
- 40 C.F.R. § 63.457(c) (liquid sampling locations and properties)
- 40 C.F.R. § 63.457(g) (condensate HAP concentration measurement)
- 40 C.F.R. § 63.457(j) (liquid stream calculations)
- 40 C.F.R. § 63.457(l) (biological treatment system percent reduction and mass removal calculations)

In developing its test protocol, PCA shall also consider the unique configuration of the Facility's condensate system. The test protocol will propose, and justify the basis for such proposal, of at least: (1) the duration of the test; (2) the operating parameters that will be analyzed during the initial performance test; (3) the ranges at which such operating parameters will be analyzed; (4) appropriate sampling locations; (5) appropriate sampling methods; (6) appropriate averaging/composite sampling methods; (7) appropriate averaging durations; and (8) the analytical methods and equations that will be used during the test.

PCA shall submit, along with the test protocol, a list of those operating parameters which indicate the efficiency of the anaerobic treatment system in reducing HAPs on a continuous basis. WDNR, PCA and Region 5, U.S. EPA, have already agreed that certain parameters are indicative of the efficiency of the Alternative HAP Treatment System, *i.e.* the temperature of the NCG vents and the inlet condensate flow rate. Test methodologies for the condensate flow rate and NCG vent temperatures shall be proposed with the test protocol.

PCA shall identify all other important parameters of the efficiency of its Alternative HAP Treatment System, as well as a detailed explanation of why such parameters are the appropriate indicators of system efficiency. For example, if PCA believes that the Volatile Acid/Alkalinity ("VA/A") ratio is an appropriate indicator of the ability of its anaerobic wastewater basins to destroy the HAPs in the Facility's condensate stream, PCA should submit evidence to support that contention. Although citations to literature may be helpful, Facility-specific information is critical. Of course, PCA may also draw on data and engineering assessments prepared in connection with the treatability study and quarterly performance monitoring, as well as manufacturers' recommendations. Finally, if PCA seeks to operate certain parameters at a range of values (*e.g.* a VA/A ratio range of 0.1 to 0.5), the test protocol must be designed in such a way that the ability of the anaerobic treatment system to achieve a 1 lb. MeOH /ODTP reduction at the upper and of the range can be verified.

2. Initial Performance Test.

Within 21 days of Region 5 approval of the test protocol submitted by PCA, PCA shall conduct an initial performance test according to the approved protocol. At the conclusion of the initial performance test, PCA shall submit all analytical results from the test to Region 5 and WDNR.

3. CCMP.

a. Monitoring Parameters.

In order to establish permanent operating and monitoring parameters for the Alternative HAP Treatment Technology, PCA shall propose, contemporaneous with the submission of the analytical results from the initial performance test, values (or value ranges) for those operating parameters that WDNR and Region 5 approved in connection with the test protocol. PCA's proposed values must be justifiable under the data collected during the initial performance test, other data and engineering assessments generated as part of the treatability study and quarterly performance tests, or manufacturers' recommendations.

b. Monitoring Frequency.

Except as already provided below, PCA shall also propose to WDNR and Region 5, U.S. EPA an appropriate monitoring frequency and averaging time for each operating parameter identified by PCA as an appropriate indicator of the efficiency of its Alternative HAP Treatment Technology. PCA shall include a description of why the proposed monitoring frequency and averaging time demonstrate continuous compliance with the 1 lb./ODTP MeOH reduction required by this agreement.

On a continuous basis PCA shall monitor:

- (1) Combined flow of the condensates from the pulp mill (a) blow tank primary and secondary indirect contact condensers; and (b) the evaporator NCGs condenser;
- (2) Vent temperature of evaporator condenser; and
- (3) Virgin pulp production

On a quarterly basis, and using the methodology approved by Region 5, U.S. EPA for PCA's initial performance test, within 45 days after the beginning of each quarter of operations, PCA shall conduct a performance test to calculate the MeOH reduction efficiency of its Alternative HAP Treatment Technology as follows:

- To determine methanol concentration, PCA shall use NCASI Method DI/HAPS 99.01. If the test method used to determine MeOH concentration indicates that methanol is not detectable, the value determined as the minimum measurement level of the selected test method for the MeOH shall be used in the compliance demonstration calculations.
- $$\text{HAP reduction} = \frac{\text{Inflow MeOH (lb/day)} - \text{Outflow MeOH (lb/day)}}{\text{ODTP/day}}$$

Where:

- $$\text{Inflow MeOH} = \text{Raw mill effluent flow (MGD)} \times \text{mg/l (MeOH} \times 8.34^1) + \text{(Condensate flow (MGD)} \times \text{mg/L MeOH} \times 8.34^1)$$
- $$\text{Outflow MeOH} = \text{Anaerobic basin flow (MGD)} \times \text{Avg. basin MeOH discharge (mg/L)} \times 8.34^1$$
- $$\text{ODTP/d} = \text{daily virgin pulp production in tons multiplied by } 0.91^2.$$

¹ This factor converts gallons of condensate in to pounds-

² PCA pulp contains 9% moisture. Therefore, to convert to ODTP, one multiples ADTP x (1-0.09) [or 0.91] = ODTP

c. Reevaluation of Monitoring Parameters and Frequency of Monitoring.

Consistent with 40 C.F.R. §§ 63.10(e)(3)(ii) and 63.453(n), PCA may request that the operating parameter values established under this Agreement, or the frequency of monitoring and reporting required, may be reduced. If, at the end of four quarters of operations subsequent to finalization of the federal site-specific rule, PCA believes that the Alternative HAP Treatment Technology is achieving the relevant standards of HAP reduction, and that the daily and quarterly monitoring requirements of the CCMP should be modified to provide for less frequent monitoring, or that the operating parameters being monitored under this Agreement should be modified or reduced, PCA shall request that those requirements be modified pursuant to Section III of this Agreement, and pursuant to the procedures specified in 40 C.F.R. § 63.453(n). In pursuing such a modification, PCA shall be guided by the information requirements of the federal regulations cited.

d. Approval of CCMP.

Within 60 days after PCA submits the information required by Subparagraphs A and B above, Region 5, U.S. EPA shall either approve PCA's proposed CCMP, require additional engineering information from the Facility and subsequently approve the CCMP, or revise the CCMP after consultation with the Facility.

4. Leak Detection

PCA shall be subject to the pulping process condensate closed collection system inspection requirements of 40 C.F.R. § 63.453(l) and, pursuant to § 63.453(l)(1)(i), the applicable requirements of 40 C.F.R. § 63.453(k). In addition, as provided below in Paragraph 6, PCA is subject to the applicable provisions of 40 C.F.R. § 63.454(b) regarding inspection, detection and repair of its closed-vent system and closed collection system.

5. Recordkeeping Requirements.

PCA is subject to the general recordkeeping requirements of 40 C.F.R. § 63.10. In addition, PCA is subject to the requirements of 40 C.F.R. § 63.454(b) that pertain to owners and operators of a closed-vent system and closed collection system, and shall record the values of the CCMP parameters established during the initial performance test. PCA shall prepare and maintain a site-specific inspection plan and record the information required by applicable provisions of 40 C.F.R. § 63.454(b)(1)-(b)(12).

6. Reporting Requirements.

PCA is subject to the general reporting requirements of 40 C.F.R. § 63.10(d), the continuous monitoring system reporting requirements of 40 C.F.R. § 63.10(e)(3)(i), and the applicable reporting requirements of 40 C.F.R. § 63.455. The results of the quarterly performance testing required by this ECA shall be reported as provided therein.

Subsequent to the issuance of the Facility's Title V permit, the reporting of operating parameter exceedances and performance test results shall be made in accordance with that permit.

Pursuant to 40 C.F.R. § 63.10(e)(3)(ii), PCA may request to reduce the frequency of the Facility's continuous monitoring system reporting provided the conditions specified therein are met, including the requirement that, for one full year (*i.e.* four quarterly reporting periods) PCA's performance reports continually demonstrate that the Alternative HAP Treatment Technology is in compliance with the parameter values established through this ECA.

XV. VIOLATIONS.

Consistent with 40 C.F.R. § 63.453(o), PCA shall operate the Alternative HAP Control Technology in a manner consistent with the procedures and minimum and/or maximum operating parameter values established pursuant to this Agreement. Operation of the Alternative HAP Control Technology below minimum operating parameter values or above maximum operating parameter values, or failure to perform procedures required under this Agreement, or failure to achieve the methanol reduction standard of 1 lb./ODTP, shall constitute a period of excess emissions under this Agreement, and shall be reported accordingly. Periods of excess emissions so reported shall be a Violation of the emissions standards established in this ECA unless the time of excess emissions (excluding periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi-annual reporting period does not exceed one percent. Periods of excess emissions that exceed the 1% excess emission allowance provided above shall constitute a Violation.

Until the earlier of (a) 15 months after the effective date of this Agreement, or (b) the date on which PCA certifies that the Alternative HAP Control Technology complies with all operating parameters and standards established under this Agreement, WDNR will not take any civil enforcement action to collect forfeitures for Violations of the minimum and maximum operating parameter values established as a result of this Agreement, including the operating standard of 1 lb./ODTP methanol reduction, unless WDNR determines that the Violation presents an imminent threat to public health or the environment or may cause serious harm to public health or the environment. Subsequent to the earlier of (a) 15 months after the effective date of this Agreement, or (b) the date on which PCA certifies that the Alternative HAP Control Technology complies with all operating parameters and standards, then all Violations are immediately enforceable by WDNR and/or U.S. EPA.

If, in the process of preparing a Performance Evaluation, PCA identifies a Violation that was not otherwise identifiable through a monitoring or sampling procedure required by state or federal statute, regulation, permit, judicial or administrative order, consent agreement or this ECA, then within 45 days after completion of the Performance Evaluation, PCA shall submit a report to WDNR that contains all of the information required under Wis. Stat. § 299.80(12). Such a report must include a commitment by PCA to correct the Violation(s) within 90 days of the report, or within the period of time provided in a compliance schedule that contains the shortest reasonable period for correcting any Violation. Such a compliance schedule must be approved by the Department pursuant to Wis. Stat. § 299.80(13). WDNR will not approve any compliance schedule that provides for correction of any Violation at a time more than twelve (12) months after WDNR's approval of the compliance schedule. If WDNR and PCA do not reach an

agreement on a compliance schedule, then WDNR shall initiate procedures provided in this Agreement and in Wis. Stat. § 299.80(7) to revoke this Agreement.

In the event WDNR and PCA reach agreement as to the terms of a compliance schedule, then pursuant to Wis. Stat. § 299.80(13)(a), WDNR shall amend this Agreement to incorporate the compliance schedule.

Provided the conditions of Wis. Stat. § 299.80(12) are satisfied, WDNR will not take any civil enforcement action to collect forfeitures for any Violation discovered by PCA within the scope of a Performance Evaluation that was not otherwise identifiable through a monitoring or sampling procedure required by state or federal statute, regulation, permit, judicial or administrative order, consent agreement or this ECA, if such Violation is corrected within 90 days of notification, or within the period provided in an approved compliance schedule, unless PCA is in violation of the terms of the approved compliance schedule, or unless the Violation presents an imminent threat to public health or the environment or may cause serious harm to public health or the environment, or the Department discovers the Violation before PCA discloses it. The Company is not exempt from the requirements for immediate notification contained in Wis. Stat. § 292.11, or any other applicable law or regulation, where WDNR does not take civil enforcement action as provided herein. Any criminal violations would always be subject to WDNR enforcement action.

XVI. APPLICABLE LAW.

The laws of the State of Wisconsin shall govern the interpretation of this Agreement. However, federal laws and regulations, including the site-specific rule implementing the Alternative HAP Treatment Technology, govern certain operations at the Facility. Except as provided herein, PCA shall at all times comply with all federal, State, and local laws, ordinances and regulations.

XVII. ADDRESSES.

All correspondence and communication shall be directed to the appropriate contact person listed below. Changes in the information listed below shall be forwarded to the other persons listed in this section when effective and will become part of this Agreement without a formal amendment.

Wisconsin Department of Natural Resources
107 Sutliff Ave.
Rhineland, WI 54501
Attn: Laurel Sukup

Packaging Corporation of America

N9090 County Road E
Tomahawk, WI 54487
Attn: John Piotrowski

United States Environmental Protection Agency
77 W. Jackson Blvd. Mail Code B-19J
Chicago, IL 60604
Attn: Joan Tanaka

XVIII. SIGNATORIES' CERTIFICATION.

Each undersigned representative of a party to this Agreement certifies that he or she is fully authorized to enter into the terms and conditions of this Agreement and to legally bind such party to this document.

Agreed to this 10th day of September, 2002.

By: /s/ Bill Smith for Secretary Bazzell

Darrell Bazzell
Secretary
DEPARTMENT OF NATURAL RESOURCES
STATE OF WISCONSIN

Agreed to this 10th day of September, 2002.

By: /s/ Bruce A. Ridley

Bruce A. Ridley
Mill Manager
PACKAGING CORPORATION OF AMERICA



**Amendment to the
Environmental Cooperative Agreement
between Packaging Corporation of America
and Wisconsin Department of Natural Resources**



This Amendment is an addition to the September 10, 2002, Environmental Cooperative Agreement (Agreement) between Packaging Corporation of America (PCA) and Wisconsin Department of Natural Resources (DNR). Both the original Agreement and this Proposed Amendment were developed under Wisconsin's Environmental Cooperation Pilot Program pursuant to Section 299.80, Wis. Statutes.

- PCA will be allowed to reduce BOD₅ monitoring from daily to once weekly (Wednesday analysis) between November 1 and April 30. BOD₅ will be analyzed twice weekly (Wednesday/Friday) from May 1 to October 31. Monitoring will occur on a daily basis during periods between May 1 and October 31 whenever:
 - (a) The Wisconsin River is ≤ 1600 cfs and river temperature $> 26.7^{\circ}\text{C}$
 - (b) The Wisconsin River flows is ≤ 1200 cfs and river temperature $> 23.4^{\circ}\text{C}$
 - (c) The Wisconsin River flow is ≤ 800 cfs and the river temperature $> 20.1^{\circ}\text{C}$
- Daily monitoring will be conducted during unusual events (e.g., a spill) that could impact the treatment system performance.
- If there is a BOD₅ effluent limit violation, daily monitoring will resume for a period of two years.
- PCA will conduct weekly COD analyses on raw mill effluent, the anaerobic basin discharge, and the final effluent for a period of one year. Samples will be collected on Wednesdays to accommodate BOD₅/COD data correlation. A report that evaluates COD reduction across the WTP as well as the statistical relationship (if any) between COD and BOD₅ in the influent and final discharges will be submitted to WDNR on a quarterly basis (within 30 days of the conclusion of each quarter). After 1 year of the COD monitoring, the data collected will be evaluated and an appropriate monitoring plan will be determined.
- PCA will evaluate existing micronutrient concentrations in the anaerobic digester supernatant with a specific focus on iron, nickel and cobalt. Baseline concentrations will be compared against (recommended) published literature concentrations. If deficiencies are noted, PCA will add supplemental dosages of the appropriate micronutrients and evaluate the impact of micronutrient supplementation on COD reduction efficiency, biogas generation rate, and biosolids settleability. PCA will issue a report to WDNR summarizing its findings by June 30, 2005.

- PCA will conduct an on-site trial of a FAN Separator dewatering device to determine what, if any, benefit the technology may have in augmenting existing WTP residuals dewatering capability. If the results of the trial are favorable, PCA will evaluate the feasibility of installing a FAN Separator device. PCA will issue a report to WDNR summarizing its findings by June 30, 2004.
- PCA will evaluate the value and feasibility of installing insulation on the exterior walls of the anaerobic basins as a means of attenuating the variation in operating temperature associated with seasonal changes.
- In cooperation with the PCA Colby Boxplant, Tomahawk Mill will explore the feasibility of eliminating the practice of receiving copper-contaminated wastewater from the Colby Boxplant via ink product substitution.