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June 4, 2019

**VIA EMAIL (matthewa.thompson@wisconsin.gov)
AND U.S. MAIL**

Mr. Matt A. Thompson
Hydrogeologist – Remediation & Redevelopment Program
Wisconsin Department of Natural Resources
1300 West Clairemont Avenue
Eau Claire, WI 54701

Re: Request for Information Related to Wood Waste Burning
Wauleco Site, 125 Rosecrans Street, Wausau, WI 54401
BRRTS #02-37-000006

Dear Mr. Thompson:

On behalf of Wauleco, Inc., this supplements Wauleco's March 15, 2019 response to the Department's January 15, 2019 request for information related to wood waste burning. Wauleco has discovered additional documents in its historical files that would appear to be responsive. The documents are enclosed bearing bates stamps WCO-WW000343 to WCO-WW000346, supplementing Wauleco's prior document production. We have reviewed these documents and believe that they confirm and do not alter the positions asserted in our March 15, 2019 response.

Please let me know if you have any questions.

Very truly yours

MICHAEL BEST & FRIEDRICH LLP

A handwritten signature in blue ink, appearing to read 'David A. Crass'.

David A. Crass

Enclosures

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December 30 1972

Thomas G Frangoe, Administrator, Division of Environmental Protection
State of Wisconsin Department of Natural Resources
Box 450
Madison, WI 53701

Reference 4530

- 01 This progress report is submitted in compliance with Order Number IA-72-037-10, Reference 4530 Crestline/Neuseu SIC 2430.
- 02 For record, Crestline fires 2 boilers as prime heat and humidity sources, neither used in industrial processes.
- a Supplemental boiler #1 (Frost 1915 type HRT 72", Wis B-8062) as topic of DNR order has been used to incinerate wood process by-product waste, is necessary to supplement heating of #2 boiler in cold weather. Per prior submissions, the company intended to cease wood waste incineration in favor of natural gas fueling.
 - b Boiler #2 is natural gas fired conversion of presumed coal fired locomotive boiler (Titusville 1959 type FT Loco 84" std NB6327, Wis B-8063).
 - c Boilers are used for building heat and humidity and not for any process, turbine, generators or power sources. Boiler use is seasonal, Fall and Spring demands met with single #2 boiler gas fired. The #1 boiler is standby except Winter, where need exists to meet working conditions as co- and supplement to #2 unit.
- 03 Waste disposal has been evaluated and some new procedures effected to reduce general waste to the "incinerator" boiler.

1972 Wood Waste Disposal Approximated:

4200 Tons shavings sold via boxcar for recycle
5880 Tons chips sold via boxcar for recycle
1440 Tons sawdust sold via boxcar for recycle
1260 Tons combustible waste routed to municipal dump
76 Tons wood block fueled in #1 boiler

- 04 Crestline has and is modifying industrial processes to improve production and processes, mindful of the Occupational, Safety and Health Act, DNR emission (NR 154.11), and DILHR safety and finish criteria (Ind 20 Dusts, Fumes, Vapors and Gases, and 21 Spray Coating) to generally improve waste problem and reduce emissions.
- a Boiler #2 converted from waste to natural gas circa November 1970. Wastes to boiler #2 rerouted to municipal dump and to resale, and some of #1 waste fuel diverted to municipal dump and to waste sale for recycle.
 - b Wood wastes are now principally disposed by sale via railcar to manufacturers of core and chip board, where wastes are prime filler material. Two new storage silos were erected by December 1971 for interim storage of wood waste, most particularly as interceptors during railroad boxcar switching operations.

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WCO-WW000343

- 04 c By June 31 1972, wood dust and waste from machining was substantially collected per Ind 20 in dust systems and extracted via cyclone separators. Sawdust, wood chip and wood shaving waste is now processed via dust systems to boxcars for sale recycle and reuse as practical and core material in fiat panel productions.
- d Wood crating and cartoning is now trucked to Wausaus municipal (private contracted) landfill site.
- e The minimum garbage from self lunch and vending machines, and the office paper waste is likewise trucked to the municipal dump.
- f Other sawdust wastes from spillage, boxcar leaks and miscellaneous sources are trucked to municipal dump.
- g The second intended wood hog to chip cut-offs and remnants has not yet been selected, decision waiting evaluation of "hog" blades that would waste cut off through the new dust system, reduction in waste generation, and the reconsideration of sorted woods as an alternate fuel mindful of current gas fuel limitations. The present wood hog can chip waste block stock off-production if quantity is controlled. A hopper added for batch and controlled introduction together with cutting reductions may suffice.
- 05 Number 1 boiler operations have been interim modified to effect emission reductions.
- a Number 1 boiler is presently continued but limited to solid wood block cuttings and remnants as fuel without the fines, sawdust, shavings or chips. Segregation and other deposition of wood dust, chip and shavings from wood solid block remnants for wood fuel has reduced objectionable emission particles.
- (1) The assumption is sawdust particles surface and incompletely burn, are air borne to produce soot particles.
- (2) The solid wood blocks burn without appreciable visual notice from chimney.
- (3) Former manual batch firing of combined wastes apparently "exploded" some particles in atmosphere before sensible combustion. Care in kindling and fuel introduction has materially reduced problem contribution. (A mechanical continual fuel feed may further improve wood waste combustion if re-considered as fuel).
- b Consideration of wood block solid fuel, on improved grating, with forced air supplement, and mechanical feed as standby fuel (per NR 154.16) may be warranted by current gas fuel restrictions and limitations. Mindful of emission reduction by fuel quality, and further potential improvements in return and forced oxidation, continuation of solid wood fuel may be feasible and reasonable, and the outstanding order petitioned for modification.
- c Wood waste quantity burned has been reduced from continual operations to careful batch firing during one 8 hour shift daily, 5 days per week of the heating season. Five (5) cubic foot scrap carts dump wood waste (at 28 PCF) (150 pounds each cart) 8 hours for 1200pound per day. 26 week operation at 5 days/week at 1200 pounds/day burns some 78 tons annually as supplementary fuel.
- No* d Complete conversion of #1 boiler to gas fuel predicted in prior reports and submissions can be effected by July 1 1973. The wood waste now burned can be wasted via municipal landfill and recycled through the improved dust and waste systems. Since the boiler is aged (1915), particle emission controlled within prescribed limits can be effected with operations and supplements, the boiler is both standby and critical weather supplement, and there is criticism of gas dependency, intended conversion is now questioned.

- 05 a Several manufacturers have been consulted regarding
- (1) Stack after-burners to wood fueling (not desired as second burner contributes no usable heat).
 - (2) Boiler modification to effect a second or repass of wood burnings through gas fired combustion chamber (gas as prime fuel).
 - (3) Complete conversion of #1 boiler to natural gas (reservations considering potential gas shortages and ultimate use as standby unit).
 - (4) Phase out of #1 boiler in lieu of unit gas fired heaters, especially make-up, scattered throughout plant (course initiated, but comprehensive program not evaluated) (see par 6).
- 06 Crestline is developing an alternate to any use of #1 boiler except as standby by effecting make-up air compliances with individual gas units to meet DILHR and OSHA standards.
- a Crestline purchased for scattered area installation circa January 1 1973, 8 gas fired make-up air heaters, each rated at 350MBtuh input, four to meet spray booth exhaust demands. All were specified indirect fired with dual-ducts for alternate use as unit heaters and to supplement either boiler in crisis.
 - b Crestlines insurance carrier, Lumbermans Underwriting Alliance (LUA), limits consideration of recycled air through bag filters or like. Improvements in filtering for recycle may reduce heating load and need for second boiler (#1), except standby. Alternate consideration is pursued as equipment also conserves fuel and effects unfired emission reduction.
- 07 To sum, Crestline has appreciably reduced quantity of wood waste burned in favor of recycle through sale, and by conversion prime heating boiler to natural gas. Secondly Crestline now burns only wood block by-product in limited quantity as solid wood fuel in second boiler, reducing particle emission by quantity and quality of burnings, probably now within legal limits. Make-up equipment and water based paint process driers are being developed to supplement prime boiler, so ultimate and sensible use of #1 boiler is standby; and as standby wood fuel fired within environmental limits is most desirable.



Robert L Rowland PE Plant Engineer

SR

cc: Vilas Sonntag, VP Crestline



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

REC. JAN 15 1973

L. P. Voigt
Secretary

January 10, 1973

BOX 450
MADISON, WISCONSIN 53701

IN REPLY REFER TO: 4530

Mr. Vilas Sonntag
Crestline
910 Cleveland Avenue
Wausau, Wisconsin 54401

Dear Mr. Sonntag:

Thank you for your progress report of December 30, 1972 which satisfies
Order provision 1 of special Order 1A-72-037-10.

Very truly yours,
Bureau of Air Pollution Control
and Solid Waste Disposal

John H. Torke, Engineer
Air Pollution Control Section

JHT:nys
cc: Dale Urso
North Central District