

Statement of Basis

Final

**Pacific Press Publishing Association
Nampa, Idaho
Facility ID No. 027-00028
Permit to Construct Operating Permit No. P-2010.0006**

**March 4, 2010
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Permit Writer**

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The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01. et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AQCR	Air Quality Control Region
BMP	best management practices
Btu	British thermal units
CAA	Clean Air Act
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
gr	grain (1 lb = 7,000 grains)
HAP	hazardous air pollutants
hr/yr	hours per year
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometers
lb/hr	pounds per hour
m	meters
MACT	Maximum Achievable Control Technology
MMBtu	million British thermal units
NAAQS	National Ambient Air Quality Standard
NAICS	North American Industry Classification System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operations and maintenance
PM	particulate matter
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
ppm	parts per million
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
Rules	Rules for the Control of Air Pollution in Idaho
SIC	Standard Industrial Classification
SM	synthetic minor
SO ₂	sulfur dioxide
SO _x	sulfur oxides
T/yr	tons per consecutive 12-calendar month period
TAP	toxic air pollutants
UTM	Universal Transverse Mercator
VOC	volatile organic compounds
µg/m ³	micrograms per cubic meter

FACILITY INFORMATION

Description

Manuscripts are received at the Pacific Press Publishing Association facility in hard copy or on disk. They are keyed or downloaded into a computer system. Jobs are plated for the press by a computer-to-plate system. This system utilizes a low-intensity laser focused on light-sensitive, aluminum plates. The exposed plates are processed through an oven to set the image, then through an aqueous solution to etch the image on the plate. Plates are moved to the sheet-fed, or web, pressroom.

Skids of sheet paper stock are moved from the raw materials warehouse to the sheet-fed pressroom for the Harris web press. High-solids, low-VOC ink and water/chemical fountain solution are applied to the printing plates in the press. The plate image is transferred to a blanket and from there to the paper sheet. The ink is nearly dry as the sheet exits the press; however, a dusting of powder is applied to the finished sheet so it will not mark or stick.

Rolls of paper are moved from the raw materials warehouse to the web press room for the Harris web press. Paper moves through the press at about 850 feet per minute. As it moves through each printing unit, heat-set ink and a water/chemical fountain solution are applied to the printing plate. The image is transferred to a blanket, then to the paper. Both sides of the sheet are printed at the same time. The paper web may bypass some units, or in the case of a double web, all units may be used. Each web passes through a natural gas-fired drying oven. The paper moves from the ovens to a series of chilled rolls, where the ink is cooled and set. Then, the paper is transferred onto a folder where it is folded into signatures or sections. In the case of periodicals, they can be glued at the spine and trimmed to finished size, if the job requires.

Signatures are bundled or stacked in three-sided bins and moved into the finishing area. Printed sheet stock is moved to finishing where it is cut to size for printed covers, mail-in cards, or end sheets or folded into signatures for additional processing.

Periodicals are bound, stitched, and trimmed, or as they come from the web press room, ink-jet addressed, then placed in over-the-road mail containers; and moved to the dock area for postal verification and mailing. Water-based ink is used for ink-jet addressing. Other products (books and some periodicals) are placed on storage skids, stretch-wrapped in plastic, and stored in a finished goods warehouse. These are later boxed and shipped by common carrier as orders are received. Due to the time required for setup and breakdown of printing runs, the maximum annual operating time of the Harris Web Press is 4,493 hours.

There are major points in the process where large quantities of waste paper are generated. This scrap paper is conveyed, via low pressure, high velocity, air system to the baler room. The air/paper mixture passes through a dropout chamber, where most of the paper is separated. The air then flows through a baghouse back to its point of origin within the plant.

Permitting History

The following information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or replaced (R).

Permit Type	Permit Number	Issue Date	Project	Status
PTC	0400-0028	3/21/1985	initial PTC	S
PTC	027-00028	4/1/2002	PTC mod- replacement of 2 drying ovens and expansion of existing offset web printing press	S
Exemption	X-040009	6/11/2004	Exemption concurrence for replacement of a 5-unit web press with a 6-unit web press	--
Exemption	X-060056	1/24/2007	Exemption concurrence for installation of a Horizon BQ-270 Book Binder	--
Exemption	X-2007.00227	1/24/2008	Exemption concurrence for installation of a solvent recovery unit	--
PTC	P-2010.0006	3/9/2010	PTC mod- construction of new dust collection system	A

Application Scope

This PTC is for a minor modification at an existing minor facility. The applicant has proposed to install a dust collection system to control particulate matter emissions from the Kolbus Ratio Binder and Muller Book Splitting Saw. Prior to the proposed modification, emissions from the Kolbus Ratio Binder and Muller Book Splitting Saw were passed through a filtering system inside the building and then returned as supply air in the building. Thus, there were no point discharges from these sources. PM emissions from these two processes clogged the existing filtering system. To solve this issue, PM₁₀ emissions from the Kolbus Ratio Binder and Muller Book Splitting Saw will be diverted from the building air handling system to the new dust collection system and then discharged into the atmosphere.

Application Chronology

January 21, 2010	DEQ received a 15-day pre-permit construction application and an application fee.
February 4, 2010	DEQ approved pre-permit construction.
February 16 – March 3, 2010	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
February 18, 2010	DEQ determined that the application was complete.
February 18, 2010	DEQ made available the draft permit and statement of basis for peer and regional office review.
February 22, 2010	DEQ made available the draft permit and statement of basis for applicant review.
March 1, 2010	DEQ received a permit processing fee.
March 9, 2010	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Devices

Table 1 EMISSIONS UNIT AND CONTROL DEVICE INFORMATION

Source Descriptions	Emission Controls
<u>6-unit Web Offset Printing Press</u> Manufacturer: Harris Model: M200 Max. hours of operation: 4,493 hours per any 12 consecutive months Year manufactured: 1977 Year installed: 1984	<u>Regenerative Thermal Oxidizer</u> Mfr.: PM Master Serial No.: 2378-3.0 Construction Date: March 2002
<u>Dryers (upper and lower oven)</u> Mfr.: Megtec Model: M2000 Heat input rating: 3.67 MMBtu/hr Fuel Type: natural gas Max. hours of operation: 4,493 hours per any 12 consecutive months Year manufactured: 1979 Year installed: 2002	
<u>Ratio Binder</u> Mfr.: Kolbus Model: KM-470 Flowrate: 2,430 cfm Year manufactured: 1990	<u>Dust Collection System with Cartridge Filter</u> System Mfr.: Puhl Filter Mfr.: Campcorp Model: CA8 Construction Date: March 2010
<u>Book Splitting Saw</u> Mfr.: Muller Model: 3601 Flowrate: 1,920 cfm Year installed: 2005	

Emissions Inventories

Table 2 provides the estimated increase in controlled emissions of criteria pollutants as a result of the proposed modification. Prior to the proposed modification, emissions from the Kolbus Ratio Binder and Muller Book Splitting Saw were passed through a filtering system inside the building and then returned as supply air in the building. Thus, prior to this project, there were no point discharges from these sources and the pre-project PTE from the sources is zero. The post-project PTE is based on manufacturer-guaranteed grain loading of the cartridge filters.

Table 2 CHANGE IN CONTROLLED EMISSIONS OF CRITERIA POLLUTANTS (POTENTIAL TO EMIT)

Source	PM ₁₀ ^c		SO ₂		NO _x		CO		VOC		Lead
	lb/hr ^a	T/yr ^b	lb/hr ^a	T/yr ^b	lb/hr ^a	T/yr ^b	lb/hr ^a	T/yr ^b	lb/hr ^a	T/yr ^b	lb/qtr ^a
Point Sources											
Pre-project PTE (Kolbus Ratio Binder & Muller Book Splitting Saw)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Post-project PTE (Kolbus Ratio Binder & Muller Book Splitting Saw)	0.19	0.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total, Point Sources	0.19	0.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

- a) Controlled emission rate in pounds per hour (lbs/hr) is based on manufacturer-guaranteed grain loading of cartridge filter.
- b) Controlled emission rate in tons per year based on the emission rate in lbs/hr multiplied by 8,760 hours per year.
- c) Particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers, including condensable particulate as defined in IDAPA 58.01.01.006.81.

Ambient Air Quality Impact Analyses

Based on the emissions inventories provided, the estimated change in controlled emission rates of PM₁₀ from this project did not exceed applicable screening emission levels (EL) and published DEQ modeling thresholds established in IDAPA 58.01.01.585-586 and in the State of Idaho Air Quality Modeling Guideline¹. However, the applicant chose to include a modeling analysis of facility-wide emissions. Refer to the Emissions Inventories section for the calculations of the change in controlled emissions.

Table 2 AMBIENT AIR IMPACT ANALYSIS RESULTS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Period	Facility Modeled Impact	Background Concentration	Total Ambient Concentration	NAAQS ^c	Percentage of Standard
		µg/m ³	µg/m ³	µg/m ³	µg/m ³	%
PM ₁₀	24-hr ^a	28.90	84	112.90	150	75.3
	Annual ^b	5.79	27	32.79	50	65.6

- a) Controlled emission rate in pounds per hour (lbs/hr) is based on manufacturer-guaranteed grain loading of cartridge filter.
- b) Controlled emission rate in tons per year based on the emission rate in lbs/hr multiplied by 8,760 hours per year.
- c) National Ambient Air Quality Standard (NAAQS).

The applicant has demonstrated pre-construction compliance to DEQ's satisfaction that emissions from this facility will not cause or significantly contribute to a violation of any ambient air quality standard. There is no increase in emissions of toxic air pollutants (TAPs) as a result of this project.

An ambient air quality impact analyses document has been crafted by DEQ based on a review of the modeling analysis submitted in the application. That document is part of the final permit package for this permitting action.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Canyon County, which is designated as attainment or unclassifiable for PM_{2.5}, PM₁₀, SO₂, NO₂, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

¹ Criteria pollutant thresholds in Table 1, State of Idaho Air Quality Modeling Guideline, Doc ID AQ-011, rev. 1, December 31, 2002.

Permit to Construct (IDAPA 58.01.01.201)

The facility requested to modify their existing PTC. Therefore, this permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

The application was submitted for a permit to construct modification (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested. Therefore, the procedures of IDAPA 58.01.01.400–410 were not applicable to this permitting action.

Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

The facility is not classified as a major facility as defined in IDAPA 58.01.01.008.10. The facility is a natural minor facility, because without limits on the potential to emit, the emissions of regulated air pollutants are below major source thresholds. Therefore, the requirements of IDAPA 58.01.01.300–399 are not applicable to this permitting action.

PSD Classification (40 CFR 52.21)

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52.21(b)(1). Therefore in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action.

NSPS Applicability (40 CFR 60)

The facility is not subject to any NSPS requirements.

NESHAP Applicability (40 CFR 61)

The facility is not subject to any NESHAP requirements in 40 CFR 61.

MACT Applicability (40 CFR 63)

The facility is not subject to any MACT standards in 40 CFR Part 63.

CAM Applicability (40 CFR 64)

The facility is not classified as a major source (refer to Title V Classification section). Because the facility does not require a Title V permit, the requirements of CAM are not applicable.

Permit Conditions Review

This section describes the permit conditions that have been added as a result of this permitting action.

New Permit Conditions for the web press and dryers:

Permit Condition 10 (Regenerative Thermal Oxidizer) requires that the permittee shall install and operate a regenerative thermal oxidizer (RTO) to control emissions from the web press and dryers.

Permit Condition 11 (RTO Temperature) requires that the RTO catalytic bed minimum operating temperature must be greater than 1200°F and the combustion chamber operating temperature must be less than 2000°F.

Permit Condition 12 (Permitted Fuel) requires that the dryers and regenerative thermal oxidizer (RTO) shall only combust natural gas as fuel.

Permit Condition 14 (Monitoring of the RTO Combustion Temperature) requires that the permittee monitor and record, on a daily basis, the minimum and maximum combustion temperature at which the RTO is operated.

Permit Condition 15 (Visible Emissions Monitoring) requires that the permittee shall monitor and record visible emissions from the web press and dryers stacks once per day when operating to demonstrate compliance with the Opacity Limit Permit Condition.

Permit Condition 17 (Operational Hours Monitoring and Recordkeeping) requires that the permittee shall monitor and record the amount of operational hours of the web press and dryers on a daily basis.

Other changes to permit conditions in the web press and dryers section were made to make the permit consistent with current DEQ template.

New Permit Conditions for the ratio binder and book splitting saw:

Permit Conditions 18 and 19 (Process Description and Emission Controls Description) describe the regulated sources and the control devices used.

Permit Condition 20 (Emission Limits) establishes hourly and annual emissions limits for PM₁₀ emissions from the ratio binder and book splitting saw.

Permit Condition 21 (Opacity Limit) establishes a 20% opacity limit for the ratio binder and book splitting saw stacks, vents, or functionally equivalent openings associated with the ratio binder and book splitting saw.

Permit Condition 22 (Cartridge Filter System) requires that the permittee shall install and operate a cartridge filter system to control PM and PM₁₀ emissions from the ratio binder and book splitting saw.

Permit Condition 23 (Cartridge Filter System Grain Loading) requires that the outlet grain loading on all filters shall not exceed 0.005 grains per dry standard cubic foot (0.005 gr/dscf) of particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM₁₀).

Permit Condition 24 (Flow Rate of Exhaust Filter) requires that the exhaust flow rate from the cartridge filters shall not exceed 4,350 cubic feet per minute (4,350 cfm) based on 24-hour average.

Permit Condition 25 (Visible Emissions Monitoring) requires that the permittee shall monitor and record visible emissions from the ratio binder and book splitting saw stacks once per day when operating to demonstrate compliance with the Opacity Limit Permit Condition.

Permit Condition 26 (Cartridge Filter System Procedures) requires the permittee to develop a Filter System Procedures document for the inspection and operation of the cartridge filter system which controls emissions from the ratio binder and book splitting saw.

Permit Condition 27 (Maintenance and Operation of Cartridge Filter System) requires the permittee to maintain and operate the cartridge filter system according to the manufacturer's specifications and recommendations and the Baghouse Procedures document.

Permit Condition 28 (Monitoring and Recordkeeping of Cartridge Filter System) establishes that the monitoring and recordkeeping requirements specified in the Filter System Procedures document are incorporated by reference to this permit and are enforceable permit conditions. The permittee shall maintain records as required by the Monitoring and Recordkeeping General Provision.

Permit Condition 29 (Recordkeeping) requires that the permittee shall comply with the recordkeeping requirements of the Recordkeeping General Provision.

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c. During this time, there were no comments on the application and there were no requests for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity dates.

APPENDIX A – EMISSIONS INVENTORIES

Dust collection system with cartridge filter:

- Manufacture-guaranteed grain loading: 0.005 gr/dscf
- Flowrate: 4,350 dscf/min
- Actual hours of operation: 3,060 hrs/yr
- Max. hours of operation: 8,760 hrs/yr

Maximum Controlled PM Potential to Emit (lb/hr):

$$(0.005 \text{ gr/dscf}) \times (4,350 \text{ dscf/min}) \times (1 \text{ lb}/7,000 \text{ gr}) \times (60 \text{ min/hr}) = 0.186 \text{ lb-PM}_{10}/\text{hr}$$

Maximum Controlled PM Potential to Emit (T/yr):

$$(0.186 \text{ lb/hr}) \times (8,760 \text{ hrs/yr}) \times (1 \text{ T}/2,000 \text{ lbs}) = 0.82 \text{ T-PM}_{10}/\text{yr}$$

Assumptions:

Control Efficiency of Cartridge Filter: 99%

Maximum Uncontrolled PM Potential to Emit (T/yr):

$$(0.82 \text{ T/yr}) \div (1-0.99) = 82 \text{ T-PM}_{10}/\text{yr}$$

APPENDIX B – PERMIT FEES

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO _x	0.00	0.00	0.00
SO ₂	0.00	0.00	0.00
CO	0.00	0.00	0.00
PM10	0.82	0.00	0.82
VOC	0.00	0.00	0.00
TAPS/HAPS	0.00	0.00	0.00
Total:	0.82	0.00	0.82
Fee Due	\$ 1,000.00		

APPENDIX C – FACILITY DRAFT COMMENTS

The following comments were submitted to DEQ by the facility on February 25, 2010 :

Permit Condition: Regenerative Thermal Oxidizer (RTO) Combustion Temperature

Facility comment: Change to: The regenerative thermal oxidizer (RTO) catalytic bed minimum operating temperature must be greater than 1200°F and the combustion chamber operating temperature must be less than 2000°F. Automatic fault setpoint temperatures shall be established that shut the RTO and Press down if the temperature drops below 1200°F at the catalytic bed or exceeds 2000°F at the combustion chamber.

DEQ response: changes have been incorporated

Permit Condition: Monitoring of Regenerative Thermal Oxidizer Combustion Temperature Monitoring

Facility comment: Change to: The permittee shall monitor and record, on a daily basis, fault events that cause shutdown of the regenerative thermal oxidizer (RTO). The reason for the fault event and the action taken to correct the fault shall also be recorded.

Note for discussion: The RTO operating set points are 1500°F for the catalytic bed and 1700°F for the combustion chamber of the RTO. The operator monitors and maintains these operating temperatures throughout the day. There is currently no automatic logging system employed to document daily minimum and maximum temperatures. The system has redundant sensors for both lower and upper operating temperatures to prevent failure of the system. The set points for automatic shutdown of the system are 1200°F on the low end at the catalytic bed and 2000°F on the high end at the combustion chamber. The temperature range of 1500 to 1700 proposed in Table 2 doesn't seem appropriate since it appears to be based on the existing set operating temperatures for two different elements of the RTO (catalytic bed and combustion chamber). The applicant would prefer to track the fault events that result in shutdown of the RTO (and Press) instead of recording daily minimum and maximum operating temperatures. The applicant could consider modifying the temperature setpoints so that there is a narrower operating band (such as low 1400°F at the catalytic bed and a high of 1800°F at the combustion chamber if required to meet DEQ needs. The wording of the permit condition below is proposed by the applicant.

DEQ response: changes have been incorporated

Permit Condition: Operational Hours Monitoring and Recordkeeping

Facility comment: Change to: To demonstrate compliance with the Operational Hours Limit Permit Condition, the permittee shall monitor and record the amount of operations hours of the web press and dryers on a daily basis. The annual operational hours shall be determined by summing the amount of operational hours per day over each previous consecutive 12-month period.

DEQ response: changes have been incorporated

Facility comment: Add "Determinations made in conjunction with the 1985 Permit to Construct (PTC) concerning equipment exempt from permitting or not included in the 1985 PTC are not superseded."

DEQ response: changes have been incorporated

Facility comment: Change the Regenerative Thermal Oxidizer (RTO) permit condition to: "The permittee shall install and operate a regenerative thermal oxidizer (RTO) to control the opacity of emissions from the web press and dryers operations." Note: the purpose of the RTO is to control visible emissions, not control VOC emissions.

DEQ response: The permit condition was changed to: "The permittee shall install and operate a regenerative thermal oxidizer (RTO) to control emissions from the web press and dryers operations. Emissions emitted from the web press and dryers shall be captured and routed to the RTO."