

May 10, 2000

MEMORANDUM

TO: Orville D. Green, Program Administrator
Air Quality Permit Program

FROM: Wade C. Woolery, Associate Engineer
State Technical Services Office

SUBJECT: **PERMIT TO CONSTRUCT TECHNICAL ANALYSIS**
P-000001, SonByrd Industries, Emmett (84629)
(PTC Modification, PTC No.0045-00005)

PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 16.01.01.200 (*Rules for the Control of Air Pollution in Idaho*) for issuing Permits to Construct (PTC).

PROJECT DESCRIPTION

SonByrd Industries is proposing to modify their existing PTC, however, the alterations are administrative, and do not affect the emissions or the throughput of the facility. The facility will change their monitoring and recordkeeping requirements from a 12-month rolling average to a 4-quarter rolling average, where a quarter is defined as 3 consecutive calendar months. The other change references the fugitive dust monitoring and recordkeeping requirements.

SUMMARY OF EVENTS

On January 24, 2000, the Idaho Department of Environmental Quality (IDEQ), Boise Regional Office received an application from SonByrd Industries for a modification to their PTC. On January 25, 2000, the IDEQ Technical Services Office received the application. On February 23, 2000, the application was determined complete.

DISCUSSION

1. **Process Description**

The process at the facility will not change with this modification. The facility has requested they be able to change their monitoring requirement from a monthly to a quarterly basis. The second request was to clarify the logging of complaints in Section 3.2 of the PTC.

The current PTC requires that the facility determine their monthly throughput of stain and lacquer, and maintain compliance with an annual emission limit on a 12-month rolling average. Because the emission limits are an annual quantification, compliance quarterly does not appear to adversely affect the annual emission limits.

The facility requested the method of determination by taking an inventory of material on hand at the beginning of each calendar quarter, adding the amount purchased during the quarter, and subtracting the amount remaining at the end of the quarter. This is an acceptable method of determining compliance with the annual throughput requirements, but to include this information in the PTC is not necessary.

The facility interpreted Section 3.2 of the PTC to require the facility to log all fugitive dust complaints about the facility and wanted to restrict the complaints to only fugitive dust complaints from the

staining and finishing operations. The rules regarding fugitive dust encompass all operations of the facility, and remain in effect in the new PTC. Clarification has been made, however, for the facility to only log in complaints received by the facility. It should be noted that many complaints are filed with the IDEQ rather than the facility.

Refer to the Project Description Section and Section 1.1 of the December 28, 1999 Technical Analysis Memorandum, which is in Attachment A of this ad document, for additional information.

2. Equipment Listing

Refer to Sections 1.1 and 1.2 of the December 28, 1999 Technical Analysis Memorandum, which is in Attachment A of this document, for additional information.

3. Emission Estimates

Refer to Section 1.3 of the December 28, 1999 Technical Analysis Memorandum, which is in Attachment A of this document, for additional information.

4. Modeling

Refer to Section 2 of the December 28, 1999 Technical Analysis Memorandum, which is in Attachment A of this document, for additional information.

5. Facility Classification

Refer to Section 3 of the December 28, 1999 Technical Analysis Memorandum, which is in Attachment A of this document, for additional information.

6. Area Classification

Refer to Section 4 of the December 28, 1999 Technical Analysis Memorandum, which is in Attachment A of this document, for additional information.

7. Regulatory Review

7.1 IDAPA 16.01.01.201 Permit to Construct Required

The facility is modifying the existing PTC by changing the monitoring and recordkeeping requirements from a 12-month rolling average to a 4-quarter rolling average.

Refer to Sections 5 and 6.1 through 6.3 of the December 28, 1999 Technical Analysis Memorandum, which is in Attachment A of this document, for additional information.

8. Permit Requirements

8.1 Emission Limits

Refer to Section 7.1 of the December 28, 1999 Technical Analysis Memorandum, which is in Attachment A of this document, for additional information.

8.2 Operating Requirements

Refer to Section 7.2 of the December 28, 1999 Technical Analysis Memorandum, which is in Attachment A of this document, for additional information.

8.3 Monitoring Requirements

The facility will be required to maintain a log of quarterly use of stain and lacquer in gallons per quarter. Quarterly monitoring is allow inspectors to more easily determine compliance for any 4-quarter period.

9. Permit Coordination

A draft copy of the PTC and technical analysis was made available to the Boise Regional Office and the State Office for review prior to final issuance.

10. AIRS Information

Refer to Section 9 of the December 28, 1999 Technical Analysis Memorandum, which is in Attachment A of this document, for additional information.

FEES

Refer to the FEES Section of the December 28, 1999 Technical Analysis Memorandum, which is in Attachment A of this document, for additional information.

RECOMMENDATION

Based on review of application materials and all applicable state and federal rules and regulations, staff recommend that SonByrd Industries be issued a Modified Permit to Construct for their Emmett Facility. No public comment period is recommended, no entity has requested a comment period, and the project does not involve PSD requirements..

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cc: DEQ State Office
Boise RO

ATTACHMENT A

December 28, 1999 Technical Analysis Memorandum

December 28, 1999

MEMORANDUM

TO: Orville D. Green, Administrator
State Air Quality Program

FROM: Tom Lundahl, Air Quality Engineer
State Technical Services Office

SUBJECT: **PERMIT TO CONSTRUCT TECHNICAL ANALYSIS**
P-990119, SonByrd Industries, Inc., Emmett
(Wood Products Manufacturing Facility)

PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 16.01.01.200 (*Rules for the Control of Air Pollution in Idaho*) for issuing Permits to Construct (PTC).

PROJECT DESCRIPTION

SonByrd Industries, Inc. has submitted a PTC application for an existing facility located in Emmett, Idaho. The facility is primarily involved in applying stains and lacquer to cabinet doors. The facility has one spray booth for stain application and one spray booth for lacquer application. The stains and lacquer are primarily applied using an air assisted airless, hand held spray gun. The spray booths are a source of volatile organic compound (VOC) emissions and toxic air pollutant (TAP) emissions.

SUMMARY OF EVENTS

On September 15, 1999, DEQ received a PTC application from SonByrd Industries. On October 14, 1999, the application was declared incomplete. On October 8, 1999, DEQ received additional information from SonByrd Industries. On October 29, 1999, DEQ determined the application complete.

DISCUSSION

1. Spray Booths

1.1 Spray Booths Description

Both spray booths are manufactured by JBI. The stain booth is model #IBDB-6, while the lacquer booth is model #IBDB-12.

1.2 Spray Booths Stack Information

Emissions from the spray booths exhaust out separate stacks on the roof. The stacks have the following dimensions :

Stain Spray Booth

Stack ID:

Stain Spray Booth;

Stack Height: 20 feet;
 Stack Diameter: 18 inches;
 Stack Exit Gas Volume: 3000 acfm;
 Stack Exit Gas Temperature: Ambient.

Lacquer Stain Booth

Stack ID: Lacquer Spray Booth;
 Stack Height: 20 feet;
 Stack Diameter: 24 inches;
 Stack Exit Gas Volume: 6000 acfm;
 Stack Exit Gas Temperature: Ambient.

1.3. Spray Booth Emission Estimates

VOC emissions from the spray booths were calculated using information obtained from the Material Safety Data Sheets (MSDS) for the stain and lacquer. The MSDS gave a VOC content of 7.05 lbs/gal for the stain, and 6.10 lbs/gal for the lacquer. SonByrd estimates annual usage of 1250 gallons of stain and 2,970 gallons of lacquer. It is assumed all VOCs are vented to the atmosphere. There are no control devices used at this facility.

Table 1 below summarizes the VOC emission estimates from the spray booths. Short term lb/hr values are based on normal operating hours: 1,560 hours per year for the stain booth, and 2,600 hours per year for the lacquer booth. Emission estimations are presented as Appendix A of this memo.

Table 1. VOC Emissions Summary.

Pollutant	lb/hr	T/yr
VOC	12.6	13.5

Table 2 below summarizes the TAP emissions from the spray booths. TAP emissions were developed from the MSDS. Short term lb/hr values are based on normal operating hours. Emission estimations are presented as Appendix A of this memo.

Table 1. TAP Emissions Summary.

Pollutant	lb/hr	T/yr
xylene	5.93	4.84
methyl isobutyl ketone	2.08	2.71

Pollutant	lb/hr	T/yr
methyl ethyl ketone	0.83	1.08
isopropyl alcohol	0.42	0.54
ethylene glycol monoethyl ether acetate	0.42	0.54
ethyl alcohol	0.83	1.08
glycol ether	0.29	0.23

2. Modeling

Modeling was not required as the only emissions at this facility are VOCs. TAP emissions were all below the applicable screening levels in IDAPA 16.01.01.585.

3. Facility Classification

SonByrd Industries is not a major facility as defined in IDAPA 16.01.01.006.55. The facility is not a designated facility as defined in IDAPA 16.01.01.006.27. The AIRS classification for this facility is B, because potential uncontrolled emissions are less than 100 tons per year. The Standard Industrial Classification code for this facility is 2499 for wood products manufacturing not elsewhere classified (no specific SIC was found for a facility primarily involved in applying stain and lacquer to cabinets).

4. Area Classification

SonByrd Industries is located in Emmett, Idaho which is within Air Quality Control Region 63. This region is designated as attainment or unclassifiable for all criteria pollutants.

5. Regulatory Review

The following is an explanation of the applicable air quality rules and regulations for the proposed project.

6.1 IDAPA 16.01.01.201 Permit to Construct Required

SonByrd Industries has submitted a PTC application for a wood products manufacturing facility. The facility requires a PTC, because the project does not qualify for any category exemption in Sections 220 thru 223.

6.2 IDAPA 16.01.01.577 Ambient Air Quality Standards for Specific Air Pollutants

As the only emissions at this facility are VOCs, the ambient air standards are not an issue for this facility. TAP emissions were all below the applicable screening levels in IDAPA 16.01.01.585.

6.3 IDAPA 16.01.01.585 & 586 Carcinogenic and Non Carcinogenic Toxic Air Pollutant Standards

TAP emissions were all below the applicable screening levels in IDAPA 16.01.01.585. No pollutants listed in IDAPA 16.01.01.586 are emitted at this facility.

7. Permit Requirements

The following Section outlines each permit to construct requirement and the regulatory/technical basis.

7.1 Emission Limits

VOC lb/hr and T/yr emission rate limits have been specified for the stain and lacquer spray booths. The emission rate limits are set above the calculated actual emission rates to provide operational flexibility.

All stacks, vents, and other openings at this facility must comply with the opacity rules contained in IDAPA 16.01.01.625. In addition to the opacity requirement, any emissions generated from facility operations must not be visible leaving the property boundary for more than three minutes in any sixty minute period.

7.2 Operating Requirements

The amount of stain and lacquer used per year has been limited to 2,000 gallons and 4,000 gallons respectively. The usage limits have been imposed to keep the source from exceeding the 10 ton per year TAP emissions threshold that would trigger Title V requirements.

The facility is required to reasonably control fugitive emissions per IDAPA 16.01.01.651.

7.3 Monitoring Requirements

The facility will be required to maintain a log of monthly use of stain and lacquer in gallons per month. Monthly monitoring is required to allow inspectors to more easily determine compliance for any 12-month period.

8. Permit Coordination

A draft copy of the PTC and technical analysis was made available to the Boise Regional Office and the State Office for review prior to final issuance.

9. AIRS Information

Information necessary to the AIRS database is included as Appendix B of this Technical Memorandum.

FEES

SonByrd Industries is not a major facility as defined in IDAPA 16.01.01.008.10. Therefore, registration fees are not applicable in accordance with IDAPA 16.01.01.527.

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RECOMMENDATION

Based on review of application materials and all applicable state and federal rules and regulations, staff recommends that SonByrd Industries, Inc. be issued PTC No. 045-00005 for the wood products facility located in Emmett, Idaho. No public comment period is recommended, no entity has requested a comment period, and the project does not involve PSD requirements.

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cc: P. Rayne/AFS
R. Wilkosz/TSB
T. Lundahl, TSO
Database/Source File (045-00005)
RO COF
RO Source File

Appendix A

Emissions Calculations

Appendix B

AIRS Information

P-990119

SonByrd Industries, Inc., Emmett, Idaho