October 13, 2000

MEMORANDUM

TO: Doug Howard, Regional Administrator
Twin Falls Regional Office

FROM: Allan Johnson, Air Quality Engineer
State Technical Services Office

SUBJECT: *PERMIT TO CONSTRUCT TECHNICAL ANALYSIS*
P - 000414, Cargill Inc., Rupert
(Permit to Construct No. 067-00015 Change of Ownership)

PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 58.01.01.200 (*Rules for the Control of Air Pollution in Idaho*) for issuing Permits to Construct.

PROJECT DESCRIPTION

Cargill Inc. has purchased the Koch Feed Products Company animal feed manufacturing mill located in Rupert. In addition to the permit ownership change, Cargill plans on replacing the existing 500 horse power (HP) boiler with a 150 HP boiler. They have requested that this boiler change be incorporated into their permit.

SUMMARY OF EVENTS

On August 14, 2000, Cargill Inc., submitted an application for the change of ownership of the animal feed manufacturing facility formerly owned by Koch Feed Products Company. On September 8, 2000, the application was declared complete.

DISCUSSION

1. Process Description

The Rupert animal feed manufacturing facility processes various feedstocks to produce animal feed supplements (pellets or meal). Specific process descriptions for rail and truck unloading, hammermill, pellet mill, and loading processes are as follows:

Rail and Truck Unloading. Feed ingredients are received either by truck or rail car. The ingredients are received through a dump pit that conveys the ingredients to storage bins. After storage, some of the materials may be ground in a hammermill or conveyed directly

to the processing line. The processing line involves mixing and pelletizing the ingredients. The rail pit is not covered. Choke feeding of material into the pit is used to minimize emissions. The truck pit is inside the loading/unloading shed that minimizes emissions.

Hammermill. After storage, some of the materials may be ground in a hammermill, then conveyed back into ingredient bins in preparation for processing consisting of mixing and possibly pelletizing the ingredients. A high-efficiency cyclone controls emissions generated by this process, recombining the fines with the product.

Pellet Mill. After storage, the ingredients will be mixed and some will be conveyed to the pellet mill which includes a steam conditioner chamber, a pelletizer, and a pellet cooler that exhausts to a high-efficiency cyclone that cools the pellets and controls emissions generated by this process, recombining fines with the product. After pelletizing, the product is conveyed to the finished product loading holding bins.

Loading. After mixing or pelletizing, the product is conveyed to the finished product loading holding bins. The product is loaded using a hopper scale located inside the loading/unloading shed.

2. Equipment List

2.1 Hammermill

Maximum Capacity:	32 T/hr,
Control Device:	High-Efficiency Cyclone
Stack Height:	55.0 ft. from ground
Stack Dimensions:	1.0 ft. X 1.0 ft.
Exit Gas Volume:	8,800 acfm
Exit Gas Temperature:	85 °F

2.2 Pellet Mill Cooler

Maximum Capacity:	30 T/hr
Control Device:	High-Efficiency Cyclone
Stack Height:	19 ft.
Stack Dimensions:	1.0 ft. X 1.0 ft.
Exit Gas Volume:	12,000 acfm
Exit Gas Temperature:	110 °F

2.3 Boiler

Manufacturer/Model:	Cleaver Brooks CB700-150-150ST
Boiler Rating:	150 HP (6.2 MMBTU/hr)
Maximum Fuel Consumption:	68 gal/hr

Boiler Fuel:	Natural Gas or Liquefied Petroleum Gas
Stack Height:	35 ft.
Stack Diameter:	2 ft.
Exit Gas Volume:	2306 acfm
Exit Gas Temperature:	375 °F

The permittee has indicated that the dryer that was included in the original permit not hooked up to any energy sources and will not be operated without a permit modification. The roaster that was included in the original permit has been removed completely from the facility.

3. Emission Analysis

Emission estimates are contained in Appendix A. The only change from the previously calculated emission estimates is that the potential emissions due to the boiler change causes a slight decrease in pollutant emissions.

4. Modeling

The actual PM-10 emissions for the facility have decreased slightly due to the replacement of the 500 HP boiler with the 150 HP boiler. The smaller boiler was modeled using SCREEN3 and the results were lower than the modeled results for the 500 HP boiler. Modeling results for the new boiler can be found in Appendix B of this memorandum. Because the PM-10 concentration decreases with the smaller boiler, facility-wide modeling was not duplicated. Refer to the memorandum dated April 30, 1999, from Almer Casile to Susan Richards for information concerning facility-wide modeling.

5. Area Classification

The Cargill facility is located in Rupert, Idaho. Rupert is located in Minidoka County, which is in zone 12 and part of Air Quality Region 63, and is designated as attainment or unclassifiable for all criteria pollutants as defined in 40 CFR 81.313.

6. Facility Classification

The facility is not a designated facility as defined in IDAPA 58.01.01.006.27, and not a major facility, as defined in IDAPA 58.01.01.006.55 and IDAPA 58.01.01.008.10. The AIRS facility subsystem classification for this facility is B because actual emissions and potential uncontrolled emissions not including fugitives are less than 100 tons per any consecutive 12-month period (T/yr). The facility classification has changed since the previous permit was written because the Agri Systems Roaster and Cooler is no longer operating. The facility's Standard Industrial Classification (SIC) Code is 2048, which refers to an establishment primarily engaged in manufacturing prepared feeds for animals.

7. Regulatory Review

7.1 The facility is subject to the following permitting requirements.

IDAPA 58.01.01.201	Permit To Construct
IDAPA 58.01.01.202	Application Procedures
IDAPA 58.01.01.203	Permit Requirements for New and Modified Stationary Sources
IDAPA 58.01.01.209	Procedures for Issuing Permits
IDAPA 58.01.01.211	Conditions for Permits to Construct and Operating Permits
IDAPA 58.01.01.212	Obligation to Comply
IDAPA 58.01.01.675	Fuel Burning Equipment -- Particulate Matter
IDAPA 58.01.01.710	Particulate Matter--Process Equipment Limitations on or After July 1, 2000

This facility is not subject to the standards contained in 40 CFR 60.300 (Subpart DD - Standards of Performance for Grain Elevators) or the standards contained in 40 CFR 60.40c (Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units).

8. Permit Limits

The throughput limits, which were placed in the original PTC are based on one hundred twenty percent (120%) of the normal feed input to the facility. There has been no request

to increase the throughput limits. The pound per hour (lb/hr) and ton per year (T/yr) PM-10 emission limits are based on the throughput limits for each emission unit. Calculations in Appendix A demonstrate the relationship between the emission limits and the throughput limits based on AP-42 emission factors.

Particulate matter (PM) grain loading limits for the hammermill cyclone and pellet mill cooler cyclone as required by IDAPA 58.01.01.710 have not been included in the permit. These sources may not emit PM greater than 0.2 grains per dry standard cubic feet (gr/dscf). Calculations based on the volumetric flow rate show that the sources will meet this emission standard provided each source meets its PM emission limit. The grain loading standard was not included to prevent redundancy in the permit. The PM emission limit in this case is more stringent than the grain loading standard. The grain loading standard calculations are included with the emission estimates in Appendix A.

A PM standard was added to the permit for the boiler in accordance with IDAPA 58.01.01.675. PM emissions from the boiler stack must be less than 0.015 gr/dscf. Calculations show that the boiler will be in compliance with this standard as long as it burns only the fuels that are specified in the permit. These calculations are shown in Appendix A along with the boiler emission estimates.

9. Permit Coordination

In accordance with IDAPA 58.01.01.401.02, Cargill Inc. should eventually be issued a Tier II operating permit for this facility.

10. AIRS Information

Information necessary to update the AIRS data base is included as Appendix C of this technical memorandum.

FEES

There are no registration or fee requirements in accordance with IDAPA 58.01.01.527.

RECOMMENDATIONS

Based on the application and review of all applicable federal and state rules and regulations, staff recommend that Permit to Construct No. 067-00015 be issued to Cargill Inc. for the Feed Products Company, Rupert animal feed manufacturing.

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Attachments

cc: DEQ State Office
EPA Region 10
Twin Falls Regional Office

APPENDIX A

EMISSION ESTIMATES

Cargill Inc., Rupert
P-000414

Cargill Emission Summary

Emission Estimates

Source Description	Hourly Throughput (tons/hr)	Annual Throughput (tons/yr)	PM Emisson Factor (lb/ton)	PM10 Emission Factor (lb/ton)	PM Emissions (lb/hr)	PM10 Emissions (lb/hr)	PM Emissions (ton/yr)	PM10 Emissions (ton/yr)
Hammermill	32	163,680	0.067	0.0335	2.144	1.072	5.48	2.74
Pellet Mill	30	163,680	0.15	0.075	4.5	2.25	12.28	6.14
Boiler Emissions					0.027	0.027	0.12	0.12
TOTAL					6.671	3.349	17.878	8.998

Particulate Matter Grain Loading Standard

Hammermill Cyclone

Emission Rate (lb/hr)	PM Emissions (gr/min)	Moisture[A] (%)	Stack Temp (F)	Standard Temp (F)	Stack P[B] (in. Hg)	Std. P (in. Hg)[C]	Stack Flow (acfm)	Dry Flow (dcfm)	Std Flow (dscfm)	Grain Load (gr/dscf)	Meets Standard[D]
2.144	250.1	5	85	68	27.10	25.92	8800	8360	8467	0.030	YES
2.144	250.1	10	85	68	27.10	25.92	8800	7920	8021	0.031	YES
2.144	250.1	15	85	68	27.10	25.92	8800	7480	7576	0.033	YES
2.144	250.1	20	85	69	27.10	25.92	8800	7040	7144	0.035	YES
2.144	250.1	25	85	68	27.10	25.92	8800	6600	6684	0.037	YES

Pellet Mill Cooler Cyclone

Emission Rate (lb/hr)	PM Emissions (gr/min)	Moisture[A] (%)	Stack Temp (F)	Standard Temp (F)	Stack P[B] (in. Hg)	Std. P (in. Hg)[C]	Stack Flow (acfm)	Dry Flow (dcfm)	Std Flow (dscfm)	Grain Load (gr/dscf)	Meets Standard[D]
4.5	525.0	5	110	68	27.10	25.92	12,000	11400	11039	0.048	YES
4.5	525.0	10	110	68	27.10	25.92	12,000	10800	10458	0.050	YES
4.5	525.0	15	110	68	27.10	25.92	12,000	10200	9877	0.053	YES
4.5	525.0	20	110	69	27.10	25.92	12,000	9600	9314	0.056	YES
4.5	525.0	25	110	68	27.10	25.92	12,000	9000	8715	0.060	YES

NOTES:

A - The grain loading is calculated at a wide range of moisture contents because information concerning the moisture content of the stacks was not available.

B - Stack pressure was provided by the applicant at 16 inches water column. The values here are derived from that number.

C - The standard pressure (29.92 in Hg) has been corrected for an elevation of 4000 feet above sea level by a factor of 0.1 in Hg per hundred feet as allowed in IDAPA 58.01.01.680.

D - The estimates here demonstrate compliance with the standard provided that the emission units are meeting the pound per hour emission limit.

Allan Johnson
Air Quality Engineer

Boiler Emissions Summary

LPG Operating Parameters	
Boiler Heat Input (MM Btu/hr) =	6.20
Fuel Heat Value (MMBtu/10^3 gal) =	91.5
Gallons of Fuel Burned (gal/hr) =	67.8
Max. Gallons of Fuel Burned (Mgal/yr) =	593.57
Actual Gallons of Fuel Burned (Mgal/yr) =	593.57
Max Hours of Operation (hr/yr) =	8,760
Actual Hours of Operation (hr/yr) =	8,760
Permitted hours of operation[a] (hr/yr) =	8,760
Permitted Daily hours of operation[a] (hr/day) =	24

(a) Federally-enforceable operating limits for the purpose of reducing emissions.

Potential to Emit

Regulated Pollutants	EF (Units Vary)	EF Units	Hourly Emissions (lb/hr)	Potential Emissions (T/yr)	Limited Emissions (T/yr)	Significant Level (T/yr)	Below Regulatory Concern?	Significant Increase?
Criteria Pollutants								
PM-10	[redacted]	lb/Mgal	0.027	0.12	0.12	15	YES	NO
SO2		lb/Mgal	0.88	3.86	3.86	40	YES	NO
NOx		lb/Mgal	0.95	4.16	4.16	40	NO	NO
CO		lb/Mgal	0.13	0.56	0.56	100	YES	NO
VOC		lb/Mgal	0.034	0.15	0.15	40	YES	NO
Lead		lb/10^12 Btu	0.000056	0.00024	0.00024	0.6	YES	NO
Non-Criteria Pollutants with a Significant Threshold								
PM		lb/Mgal	0.027	0.12	0.12	25	YES	NO
Beryllium		lb/10^12 Btu	0.000019	0.000081	0.000081	0.0004	NO	NO
Mercury		lb/10^12 Btu	0.000019	0.000081	0.000081	0.1	YES	NO
Other Pollutants								
TOC		lb/Mgal	0.034	0.15	0.15	N/A	N/A	N/A
Methane		lb/Mgal	0.014	0.059	0.059	N/A	N/A	N/A
N2O		lb/Mgal	0.061	0.27	0.27	N/A	N/A	N/A
CO2		lb/Mgal	847	3710	3710	N/A	N/A	N/A

Fuel Burning Equipment PM Standard

Emission Rate (lb/hr)	Emission Rate (gr/min)	Moisture[A] Content (%)	Stack Temp (F)	Standard temp (F)	Stack Press[B] (inches Hg)	Standard Pres (inches Hg)	Stack Flow (acfm)	Dry Flow dcfm	Std Flow @ 3% O2 (dscfm	Grain Loadin (gr/dscf)	Meets Standard[C]
0.027	3.2	10	375	68	30	29.92	2306	2075	1536	0.002	YES

NOTES:
A - The moisture content should never exceed 10%.
B - Stack pressure is conservatively assumed to be at atmospheric pressure. An increase in stack pressure will lower the grain loading.
C - The estimates here demonstrate compliance with the standard provided that the boiler meeting the pound per hour emission rate.

Allan Johnson
Air Quality Engineer

Boiler Emissions Summary

NAAQS

Persistence Factors (for determining ambient concentrations)					
1-hr	3-hr	8-hr	24-hr	quarterly	annual
1	0.9	0.7	0.4	0.225	0.08

Modeled Concentration[b] =	69.3

(b) Maximum 1 hour concentration at or beyond the property line based on a 1 lb/hr emission rate

Modeling Results	Ambient Pollutant Contributions All values in (mg/m^3)													Meets
Criteria Pollutants	Modeled Conc.	1-hr	Limit[c]	3-hr	Limit[c]	8-hr	Limit[c]	24-hr	Limit[c]	Quarterly	Limit[c]	Annual	Limit[c]	NAAQS
PM-10	69.3	1.9						0.75	64			0.15	17.3	YES
SO2	69.3	61.05		54.95	757			24.42	221			4.884	56.5	YES
NOx	69.3	85.7										5.3	60	YES
CO	69.3	8.9	28,600			6.2	4,870							YES
Lead	69.3	0.00387								4.86E-08	1.33			YES

Toxic Air Pollutant Information

Concentration Factors for Toxics		
1-hr	24-hr	Annual
1	0.4	0.125

Toxic Air Pollutant	EF (units vary)	EF Units	Emissions (lb/hr)	Emissions (lb/yr)	EL (lb/hr)	Below Concern?	Modeling Required?	Modeled (µg/m^3)	24-hr (mg/m^3)	24-hr Limit	Annual (µg/m^3)	Annual Limit	Meets AAC or AACC?[e]
Arsenic[d]		lb/10^12 Btu	0.000025	0.22	0.0000015	NO	YES	69.3			0.000215	0.00023	YES
Barium		lb/Mgal	0.00030	2.61	0.033	YES	NO	69.3	N/A	0.025			YES
Benzene[d]		lb/Mgal	0.000015	0.13	0.00080	YES	NO	69.3			N/A	0.12	YES
Benzo(a)pyrene[d]		lb/Mgal	0.000081	0.71	0.0033	YES	NO	69.3			N/A	0.00030	YES
Beryllium[d]		lb/10^12 Btu	0.000019	0.16	0.000028	NO	NO	69.3			N/A	0.0042	YES
Cadmium[d]		lb/10^12 Btu	0.000019	0.16	0.0000037	NO	YES	69.3			0.000161	0.00056	YES
Chromium		lb/10^12 Btu	0.000019	0.16	0.033	YES	NO	69.3	N/A	0.025			YES
Cobalt		lb/Mgal	0.00041	3.57	0.0070	YES	NO	69.3	N/A	0.0025			YES
Copper		lb/10^12 Btu	0.000037	0.33	0.013	YES	NO	69.3	N/A	0.010			YES
Fluorene		lb/Mgal	0.00000030	0.0027	0.13	YES	NO	69.3	N/A	0.1			YES
Formaldehyde[d]		lb/Mgal	0.0022	19.59	0.00051	NO	YES	69.3			0.019373	0.077	YES
Hexane		lb/Mgal	0.12	1068.4	12.0	YES	NO	69.3	N/A	9.0			YES
Manganese		lb/10^12 Btu	0.000037	0.33	0.067	YES	NO	69.3	N/A	0.050			YES
Mercury		lb/10^12 Btu	0.000019	0.16	0.0030	YES	NO	69.3	N/A	0.0025			YES
Molybdenum		lb/Mgal	0.000053	0.47	0.33	YES	NO	69.3	N/A	0.25			YES
Napthalene		lb/Mgal	0.000077	0.67	3.33	YES	NO	69.3	N/A	2.5			YES
Nickel[d]		lb/10^12 Btu	0.000019	0.16	0.000027	NO	NO	69.3			N/A	0.0042	YES
Pentane		lb/Mgal	0.18	1543.3	118	YES	NO	69.3	N/A	88.5			YES
Selenium		lb/10^12 Btu	0.000093	0.81	0.013	YES	NO	69.3	N/A	0.01			YES
Toluene		lb/Mgal	0.00042	3.68	25	YES	NO	69.3	N/A	18.75			YES
Vanadium		lb/Mgal	0.0022	18.9	None	YES	NO	69.3	N/A	None			YES
Zinc		lb/10^12 Btu	0.000025	0.22	0.67	YES	NO	69.3	N/A	0.50			YES

(d) indicates carcinogenic toxic air pollutants which have an annual ambient acceptable concentration for carcinogenics (AACC) rather than a 24-hr ambient acceptable concentrations (AAC) like the non-carcinogenic toxics.

(e) Only the pollutants with emissions higher than the screening limit (EL) need to be modeled, therefore the pollutants which do not need modeling are shown as meeting the AAC or AACC.

Allan Johnson
Air Quality Engineer

APPENDIX B

MODELING RESULTS FOR THE 150 HP BOILER

Cargill Inc., Rupert
P-000414

09/22/00
13:59:10

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Cargill Inc.

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.126000
STACK HEIGHT (M)	=	10.6680
STK INSIDE DIAM (M)	=	0.6096
STK EXIT VELOCITY (M/S)	=	3.7288
STK GAS EXIT TEMP (K)	=	460.9278
AMBIENT AIR TEMP (K)	=	293.1500
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	30.4800
MIN HORIZ BLDG DIM (M)	=	21.6408
MAX HORIZ BLDG DIM (M)	=	60.9600

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 1.237 M**4/S**3; MOM. FLUX = 0.822 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	0.000	0	0.0	0.0	0.0	0.00	0.00	0.00	NA
100.	66.60	2	1.0	1.0	320.0	12.56	23.21	21.91	SS
200.	42.29	3	1.0	1.0	320.0	12.55	29.91	28.61	SS
300.	28.94	3	1.0	1.0	320.0	12.55	36.61	35.31	SS
400.	24.31	6	1.0	1.0	10000.0	12.68	40.71	36.86	SS
500.	22.48	6	1.0	1.0	10000.0	12.68	43.73	37.15	SS
600.	20.89	6	1.0	1.0	10000.0	12.68	46.73	37.43	SS
700.	19.51	6	1.0	1.0	10000.0	12.68	49.71	37.72	SS
800.	18.29	6	1.0	1.0	10000.0	12.68	52.67	38.00	SS
900.	17.21	6	1.0	1.0	10000.0	12.68	55.61	38.28	SS
1000.	16.24	6	1.0	1.0	10000.0	12.68	58.54	38.56	SS
1100.	15.38	6	1.0	1.0	10000.0	12.68	61.44	38.84	SS
1200.	14.59	6	1.0	1.0	10000.0	12.68	64.34	39.11	SS
1300.	13.88	6	1.0	1.0	10000.0	12.68	67.21	39.38	SS
1400.	13.23	6	1.0	1.0	10000.0	12.68	70.08	39.65	SS
1500.	12.64	6	1.0	1.0	10000.0	12.68	72.93	39.92	SS
1600.	12.19	6	1.0	1.0	10000.0	12.68	75.77	39.83	SS
1700.	11.68	6	1.0	1.0	10000.0	12.68	78.59	40.09	SS
1800.	11.22	6	1.0	1.0	10000.0	12.68	81.41	40.32	SS
1900.	10.79	6	1.0	1.0	10000.0	12.68	84.21	40.56	SS
2000.	10.39	6	1.0	1.0	10000.0	12.68	87.00	40.79	SS
2100.	10.02	6	1.0	1.0	10000.0	12.68	89.78	41.02	SS
2200.	9.670	6	1.0	1.0	10000.0	12.68	92.56	41.25	SS
2300.	9.344	6	1.0	1.0	10000.0	12.68	95.32	41.47	SS

2400.	9.037	6	1.0	1.0	10000.0	12.68	98.07	41.70	SS
2500.	8.749	6	1.0	1.0	10000.0	12.68	100.81	41.92	SS
2600.	8.477	6	1.0	1.0	10000.0	12.68	103.55	42.14	SS
2700.	8.221	6	1.0	1.0	10000.0	12.68	106.27	42.36	SS
2800.	7.978	6	1.0	1.0	10000.0	12.68	108.99	42.58	SS
2900.	7.749	6	1.0	1.0	10000.0	12.68	111.70	42.80	SS
3000.	7.531	6	1.0	1.0	10000.0	12.68	114.40	43.01	SS
3500.	6.594	6	1.0	1.0	10000.0	12.68	127.80	44.06	SS
4000.	5.852	6	1.0	1.0	10000.0	12.68	141.02	45.08	SS
4500.	5.250	6	1.0	1.0	10000.0	12.68	154.10	46.07	SS
5000.	4.752	6	1.0	1.0	10000.0	12.68	167.03	47.03	SS
5500.	4.334	6	1.0	1.0	10000.0	12.68	179.83	47.96	SS
6000.	3.978	6	1.0	1.0	10000.0	12.68	192.52	48.86	SS
6500.	3.672	6	1.0	1.0	10000.0	12.68	205.11	49.75	SS
7000.	3.406	6	1.0	1.0	10000.0	12.68	217.59	50.61	SS
7500.	3.173	6	1.0	1.0	10000.0	12.68	229.97	51.45	SS
8000.	2.968	6	1.0	1.0	10000.0	12.68	242.27	52.27	SS
8500.	2.785	6	1.0	1.0	10000.0	12.68	254.49	53.08	SS
9000.	2.621	6	1.0	1.0	10000.0	12.68	266.62	53.87	SS
9500.	2.474	6	1.0	1.0	10000.0	12.68	278.68	54.64	SS
10000.	2.425	6	1.0	1.0	10000.0	12.68	290.67	53.38	SS
15000.	1.566	6	1.0	1.0	10000.0	12.68	407.25	59.32	SS
20000.	1.142	6	1.0	1.0	10000.0	12.68	519.09	64.02	SS
25000.	0.8904	6	1.0	1.0	10000.0	12.68	627.36	68.10	SS
30000.	0.7375	6	1.0	1.0	10000.0	12.68	732.76	70.48	SS
40000.	0.5373	6	1.0	1.0	10000.0	12.68	936.71	75.83	SS
50000.	0.4198	6	1.0	1.0	10000.0	12.68	1133.37	80.34	SS

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

92.	69.31	2	1.0	1.0	320.0	12.56	22.75	21.44	SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

```
*****************************************
     *** REGULATORY (Default) ***
    PERFORMING CAVITY CALCULATIONS
  WITH ORIGINAL SCREEN CAVITY MODEL
          (BRODE, 1988)
*****************************************
```

*** CAVITY CALCULATION - 1 ***			*** CAVITY CALCULATION - 2 ***		
CONC (UG/M**3)	=	45.21	CONC (UG/M**3)	=	127.3
CRIT WS @10M (M/S)	=	1.00	CRIT WS @10M (M/S)	=	1.00
CRIT WS @ HS (M/S)	=	1.01	CRIT WS @ HS (M/S)	=	1.01
DILUTION WS (M/S)	=	1.00	DILUTION WS (M/S)	=	1.00
CAVITY HT (M)	=	49.86	CAVITY HT (M)	=	34.10
CAVITY LENGTH (M)	=	94.60	CAVITY LENGTH (M)	=	32.16
ALONGWIND DIM (M)	=	21.64	ALONGWIND DIM (M)	=	60.96

```
*****************************************
      END OF CAVITY CALCULATIONS
*****************************************
```

*** INVERSION BREAK-UP FUMIGATION CALC. ***
CONC (UG/M**3) = 0.000
DIST TO MAX (M) = 433.36

DIST TO MAX IS < 2000. M. CONC SET = 0.0

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)	
SIMPLE TERRAIN	69.31	92.	0.	
BLDG. CAVITY-1	45.21	95.	--	(DIST = CAVITY LENGTH)
BLDG. CAVITY-2	127.3	32.	--	(DIST = CAVITY LENGTH)

APPENDIX C

AIRS UPDATE

Cargill Inc., Rupert
P-000414

ABBREVIATED AIRS DATA ENTRY SHEET - ANIMAL FEED MANUFACTURING

Name of Facility: Cargill Inc.

AIRS/Permit #: 067-00015

Permit Issue Date: October 2000

Source/Emissions Unit Name (25 spcs) (Please use name as indicated in permit)	SCC # (8 digit #)	Air Program (SIP/NESHAP/ NSPS/PSD)
Pellet mill	30200816	SIP
Hammermill	30200817	SIP
Boiler	10301002	SIP

RETURN TO PAT RAYNE

AIRS-PT.LST (9/95)