

Evolution of Iowa Permits

The ever changing application and permit template

Christopher A. Roling, PE
Environmental Engineer Senior
Air Quality Bureau

Iowa Permitting Basics

- Permitting Programs
 - New Source Review (NSR)
 - Construction Permitting Section
 - 10 permit engineers
 - 4 senior engineers
 - 1 supervisor
 - Title V
 - Operating Permit Section
 - 9 environmental specialists
 - 2 senior environmental specialists
 - 1 supervisor

Major vs. Minor Sources

- over 1,500 minor sources
- 274 Title V sources

Iowa NSR Program

- 4/22/87
 - Took PSD program from EPA
- SIP approved
 - Includes NSR Reform

Iowa Attainment Status

- Currently no nonattainment areas
 - Areas of concern for PM_{2.5}
 - Davenport
 - Muscatine
 - Clinton
- Several maintenance areas

Construction Permitting

- No de minimus level
 - 40 exemptions
 - 1 registration
 - 1 permit by rule
 - 2 general permit templates
 - Grain elevators
- Permit by emission point (EP)
 - ~ 2,000 new & modified permits/yr
 - 25+ PSD projects/yr

1970's Application & Permit

ISDH USE ONLY DENIED FOR: Inc. Det. <input type="checkbox"/> Inc. Calc. <input type="checkbox"/> Inc. Desc. <input type="checkbox"/>		ISDH USE ONLY Perms. <u>71-0-22</u> Plant. <u>56-01-02?</u> Date By Recd. <u>July 21</u> App. _____ Cond. _____ Const. _____ Oper. _____ Denied _____	
RECEIVED JUN 30 1971 ENVIRONMENTAL ENGINEERING SERVICE		IOWA AIR POLLUTION CONTROL COMMISSION IOWA STATE DEPARTMENT OF HEALTH Lucas State Office Building Des Moines, Iowa 50319	
		APPLICATION FOR A PERMIT TO INSTALL OR ALTER EQUIPMENT OR CONTROL EQUIPMENT	
SUBMIT APPLICATION IN TRIPLICATE, ENCLOSURES IN DUPLICATE			
FIRM NAME <u>The Hubinger Company</u>			
MAILING ADDRESS <u>P. O. Box 647</u>			
EQUIPMENT LOCATION ADDRESS <u>South 5th Street</u>			
CITY <u>Keokuk</u> STATE <u>Iowa</u> ZIP CODE <u>52632</u>			
NAME AND TITLE OF PERSON <u>Mr. E. M. Willcutt</u> TO CONTACT REGARDING THIS (Name) PERMIT APPLICATION <u>Plant Engineer</u> <u>319-524-4151</u> (Title) (Phone)			
Application is hereby made for the installation or alteration, in accordance with Subsection 5.7, Chapter 136B, Code of Iowa, for the following equipment: <u>One package type natural gas and No. 2 oil fired boiler unit with economizer.</u>			
General Nature of Business <u>Manufacture of corn starches and corn syrups.</u>			
ENGINEER	<u>Stanley Consultants</u>	<u>2362</u>	
SUBMITTING	<u>R. T. Rothoff</u>	(E. E. Number)	
PLANS	<u>Stanley Building</u>	<u>319-263-9494</u>	
	(Address)	(Phone)	
	<u>Muscataine, Iowa</u>	<u>52761</u>	
	(City)	(Zip Code)	
I, the undersigned, do hereby submit, in behalf of the firm listed above, this application for a permit to install or alter the equipment or control equipment described in the required information attached hereto.			
<u>Walter Schaffer, Plant Mgr.</u> (Signature) <u>6/28/71</u> (Date)			

1980's Application & Permit

RECEIVED
AUG 18 10 31 AM '83
10-19-83
Iowa Department of Environmental Quality

DEQ Use
Permit No. B3-A-151
Plant No. 26-01-009
Project No. B3-192

Please Read Instructions First
TO BE FILLED OUT BY APPLICANT
Printed IN INK or Typewritten

APPLICANT

1. FIRM NAME THE HUBINGER COMPANY Person to Contact G. L. Dutton

2. MAILING ADDRESS One Progress Street

3. EQUIPMENT LOCATION ADDRESS Same

4. CITY Keokuk STATE Iowa ZIP 52632

PROCESS OR SOURCE INFORMATION

5. TYPE Grain Elevator New Modification

6. MAKE AND MODEL N/A

7. CAPACITY 115,000 BU/DAY 42000 BU/YEAR Yrma/Year

CONTROL EQUIPMENT INFORMATION

8. TYPE Fabric Dust Filter

9. EFFICIENCY 99.9% 10. AIR FLOW RATE (SCFM) 32,747 SCFM

11. MAKE AND MODEL MAC EQUIPMENT COMPANY 144MP212

12. Construction Schedule: Start AUGUST 15, 1983 Completion October 1, 1983

13. Emissions (specify units): Before Control 1.096 GR/SCF After Control .001 GR/SCF

14. ENGINEER
SUBMITTING Guy L. Dutton 319-524-5757
(Name) (Phone) (Iowa P.E. Number)

I, the undersigned, as the owner or owner's employee responsible for this installation.

15. Manager-Environmental Engineering 319-524-5757 8-6-83
(Title) (Phone) (Signature) (Date)

DEQ USE ONLY

This equipment has been evaluated for conformance with Rule(s) 23.4(1)
of the Iowa Air Quality Commission and found to have the potential to comply.

This permit is issued subject to the conditions listed on the reverse side.

Under direction of the Executive Director
AIR & LAND QUALITY DIVISION

File Name The Hubinger Company - Keokuk
Senders initials MH

Michael Hayward Date Oct 19, 1983

A-17 (11/00) Henry A. Wallace Building, Des Moines, Iowa 50319

Late 80's/Early 90's

- Construction permits
 - Construct & operate
 - Became more complex
 - Avoid PSD and/or Title V
 - More limits
 - More recordkeeping
 - More testing

Late 80s/Early 90s (cont.)

- No consistency
 - “1 Page Wonders”
 - Letters with conditions
 - 6+ page permits

Permit Template

- Developed around 1994
- Provided level of consistency
- 6+ page permits
 - Broken into sections
 - Standard language

Application Workgroup

- ~ 1997 – 1998
- Simplify permit applications
 - Remove duplicate information requests
 - Easier to fill out
 - Less paper

Iowa Permit Template

- Basis of all permits
 - Standard template
 - General permits
 - Concrete Batch Plants
 - Aggregate Processing Plants
 - Problem w/ keeping up to date
- All of templates found at:
 - <http://www.iowadnr.gov/air/prof/const/conform.html>

Template Improvements Since 90's

- Formatting
- Added tables
- Amended template language
- Added sections
- Review annually

Parts of an Iowa Permit

- Cover page
- 17 Conditions (Sections)

1. Departmental review	7. Disposal of Contaminants	13. NSPS and NESHAP Applicability
2. Transferability	8. Notification, Reporting, and Recordkeeping	14. Operating Limits
3. Construction	9. Permit Violations	15. Operating Condition Monitoring
4. Credible Evidence	10. Emission Limits	16. Continuous Emission Monitoring
5. Owner Responsibility	11. Emission Point Characteristics	17. Description of Terms and Acronyms
6. Excess Emissions	12. Compliance Demonstration(s) and Performance Testing	

Permit Cover Page

Iowa Department of Natural Resources Air Quality Construction Permit

Permit Holder

Firm: Interstate Power and Light Company - Sutherland Generating Station

Contact:

Alan Arnold
Senior Environmental Specialist
(319) 786-4476

Responsible Party:

Dale Withers
Vice President Construction

PO Box 351
Cedar Rapids, IA 52406

PO Box 351
Cedar Rapids, IA 52406

Permitted Equipment

Emission Unit(s): Boiler 4 [EU 248: 6,326 MMBTU/hr; 733.5 MW (gross)]

Control Equipment: Low NO_x Burners (LNB), Overfire Air (OFA), and Selective Catalytic Reduction (SCR, CE 248A), Dry Electrostatic Precipitator (DESP, CE 248B), Halogenated Powder Activated Carbon (PAC) Injection (CE 248C), Baghouse (CE 248D), Wet Flue Gas Desulfurization (WFGD, CE 248E), and Sorbent Injection (SI, CE 248F)

Emission Point: 248

Equipment Location: 3001 East Main Street
Marshalltown, IA 50158

Plant Number: 64-01-012

Permit No.	Proj. No.	Description	Date	Testing
08-A-342-P	07-602	Original PSD permit.		Yes

Under the Direction of the Director of
the Department of Natural Resources

Emission Limits Table

10. Emission Limits

Pollutant	lb/hr ¹	Tons/Yr ²	Additional Limits	Reference (567 IAC)
Particulate Matter (PM)	NA	NA	0.1 gr/dscf	23.3(2)"a"
PM ₁₀	3.29 ³	NA	NA	NAAQS
Opacity	NA	NA	0% ⁴	23.3(2)"d"
Sulfur Dioxide (SO ₂)	NA	NA	500 ppm	23.3(3)"e"
Nitrogen Oxides (NO _x)	NA	NA	NA	NA
Volatile Organic Compounds	See Footnote 5	See Footnote 5	NA	Previous permit limits
Carbon Monoxide (CO)	NA	NA	NA	NA
Lead (Pb)	NA	NA	NA	NA
HAP emissions	NA	NA	See Footnote 6	23.1(4)"cj"
			See Footnote 7	23.1(4)"dh"

¹ Standard is expressed as the average of 3 runs

² Standard is a 12-month rolling total.

³ Emission rate used to demonstrate that the emission point meets the Department's dispersion modeling guidelines.

⁴ This limit is based on the grain loading for particulate matter for this emission point being less than 0.01 gr/dscf (3.29 lb/hr allowable emission rate at a flow rate of 102,500 scfm).

⁵ There are two (2) sets of limits for this emission point and its emission units and are listed below:

- The Plastic Adhesive Coater (EU 9NS1) is limited to 139.8 lb of VOC/hr and 612 tons of VOC/yr. This limit includes emissions from all emission points associated with EU 9NS1 (both EP 007-005 and the associated bypass stack). These limits represent the maximum possible allowable emissions based on NSPS Subpart RR and the equipment capacity for the entire 9N line.
- The combined total emissions from emission points 004-005, 004-006, 004-012 (excluding emission unit 6ND), 007-001, and 007-005 (excluding emission unit 9NS1) shall not exceed 2,000 tons of VOC/yr. This limit includes emissions from all emission points associated with these emission units (EP 007-005 and all associated bypass stacks). This limit was carried over from previous permits.
- The combined total emissions from emission units EU MOGUL1 (Mogul 1), EU CHURN1 (Churn #1), and EU CHURN2 (Churn #2) shall not exceed 39.4 tons/yr. This limit was established to ensure Project Number 02-245 is minor for the Prevention of Significant Deterioration (PSD) program.

⁶ For those units subject to NESHAP Subpart JJJJ (See Condition 13), organic HAP emissions shall be limited per 40 CFR §63.3320(b). Per 40 CFR §63.3320(b)(4), the outlet organic HAP concentration from the oxidizer shall not exceed 20 parts per million by volume (ppmv) by compound on a dry basis and the efficiency of the capture system shall be 100%.

Compliance shall be demonstrated per 40 CFR §63.3370.

⁷ For those unit subject to NESHAP Subpart HHHHH (See Condition 13), emissions shall be limited per 40 CFR §63.8000 – 40 CFR §63.8030.

Emission Limits Table (cont.)

- More complex permits such as PSD
 - Add separate tables for:
 - BACT Limits
 - NSPS/NESHAP
 - Other (i.e. state, dispersion modeling, etc.)

Compliance Demonstration Section

- 2 tables
 - Compliance demonstration
 - Stack test, recordkeeping, CEMS, etc.
 - Frequency
 - Testing requirements
 - Run time
 - Testing method

Permit Application Improvements

- Review and update annually
- Found at:
 - <http://www.iowadnr.gov/air/prof/const/conform.html>
- Added specific process forms
 - Industrial Engine (Form EU1)
 - Paint Booth (Form EU3)
 - Boiler Information (Form EU5)

Permit Application Improvements (cont.)

- Added specific control equipment forms
 - Fabric Filters (Form CE1)
 - Cyclones (Form CE2)
 - Wet Scrubbers (Form CE3)
 - Thermal Oxidation (Form CE4)
 - Catalytic Oxidation (Form CE5)

Electronic Submittal

- State Permitting and Reporting System (SPARS)
- Problems
 - Resource intensive to keep up to date
 - Not as user friendly as paper

Christopher A. Roling, PE
Environmental Engineer Senior



Ph: (515) 242-6002

Fax: (515) 242-5094



chris.roling@dnr.iowa.gov

Iowa DNR – Air Quality Bureau

7900 Hickman Rd, Suite 1

Windsor Heights, IA 50324

www.iowacleanair.com

Questions????

