

01/25/2011

SPEED OF PROCESSING FORM

DATE RECEIVED: 01/25/2011

PROJECT NAME: ARNOLD ENGINEERING CO

LOG NUMBER: 1278 LOG YEAR: 2011

PROJECT DESC: INDUSTRIAL TREATMENT PLT MAREN

ENGINEER: SMT

PROJECT TYPE: ITP

UNIT: I

LOCATION: MARENGO

PLANS: B

REGION: 2

RELEASABLE

FIPS COUNTY: 111

ORIGINAL LOG NO:

45 DAY FIELD: .F.

PREVIOUS PERMIT NO: 2006EO0690

LOAN/GRANT:

CARD SENT: (Y or N)

FEE SUBMITTED

CHECK NUMBER: 0 CHECK AMOUNT: 0

CHECK NUMBER: CHECK AMOUNT:

30 DAY REVIEW PERIOD ENDS

IDNR: / / IHPA: / /

SIGN-OFF AUTHORIZATIONS

INITIALS DATE

ENGINEER: SMT 2-15-2011

UNIT MANAGER: DEL 3/31/11

SECTION MANAGER: AKL 3/31/11

DATE MAILED: ART 3-31-11

ACTION: ___ PERMIT: ___ DENIAL: ___ VOIDED ___ NPR: ___ NOI: ___

PERMIT NUMBER: 2011-EO-1001-1

LOADING: 0 _____ P.E.

ISSUE DATE: _____

163,030 GPD DAF

EXPIRATION DATE: _____

Tsai, Shu-Mei

From: Jessica Wojick [jwojick@ArnoldMagnetics.com]
Sent: Friday, February 04, 2011 3:53 PM
To: Tsai, Shu-Mei
Subject: Arnold Magnetic Technologies Operating Permit 2011-EO-1001

1278A-11
RECEIVED
FEB 04 2011

Environmental Protection Agency
WPC-Permit Log In

Dear Ms. Tsai:

RELEASABLE

Arnold Magnetic Technologies would like to request the revision and reissue of the existing operating permit (2011-EO-1001), which was initially issued on January 11, 2011. As per our conversation on February 3, 2011, you requested that we provide the rationale and new monitoring and sampling requirements for the permit to be reissued. Below is our explanation of the reasons for requesting a revision and reissue of our permit and the proposed new monitoring and sampling requirements

Based on extensive sampling performed on the effluent stream of our system during October through December 2010, we found that our effluent quality meets or exceeds Class I Groundwater Standards. Of particular note, there were no detections of 1,1,1 trichloroethane, tetrachloroethylene, trichloroethylene or nitrate in our effluent. Accordingly, Arnold requests the removal of the Monitoring Well sampling requirements from the permit, as it has been demonstrated that Arnold's effluent will not cause a violation of those standards

By way of background, Arnold is a tenant at the property. The property owner, 300 West LLC, acquired the property in 2006, and is addressing historical groundwater contamination under the Illinois Site Remediation Program. It is Arnold's intention to continue to provide access to the monitoring wells at the site to allow 300 West LLC to continue any groundwater monitoring that is needed going forward.

In place of the monitoring well sampling requirements in the operating permit, Arnold requests the following monitoring and sampling plan:

Parameter	Sampling Frequency	Sample Type	Sample Location
Nickel	Monthly	Grab	Pond 4 Effluent
Total Residual Chlorine	Monthly	Grab	Pond 4 Effluent
pH	Monthly	Grab	Pond 4 Effluent

The basis for these parameters is derived from the nature our operations. The rationale for each parameter is set forth below:

NICKEL: One of our primary manufacturing inputs is nickel, which is a Class I Groundwater Standard constituent. While our effluent has been shown to meet the Class I standard for nickel, it is advisable to continue to monitor this constituent in our effluent to ensure that our manufacturing and treatment process is running as intended.

TOTAL RESIDUAL CHLORINE: The occasional use of sodium hypochlorite for fouling control requires that we maintain our effluent total residual chlorine at a level sufficient to achieve fouling removal. The required level may vary based on seasonal and biological factors. Monitoring this parameter will ensure the appropriate use of chlorination to control fouling.

pH: Monitoring for pH will ensure that we are not introducing overly acidic or alkaline wastewater into the environment.

This revised monitoring and sampling plan better reflects the current operating conditions of the plant and will effectively control the constituents of interest to the IEPA and relevant to Class I Groundwater Standards.

-/Again, as we discussed on February 3, 2011, we are providing the above rationale and new monitoring requirements so that our existing permit can be revised and reissued to us as a new final operating permit. Thank you for your attention to this matter and should you have any questions, please feel free to contact me directly at one of the numbers below.

Best Regards -

Jessica A. Wojick, CHMM
Corp. Director of Environmental, Health & Safety Affairs
Arnold Magnetic Technologies
770 Linden Avenue
Rochester, NY 14625
Office: (585) 385-9010 x 289
Cell: (585) 303-5344

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Subject: The Arnold Engineering Corporation

Data: 1278-11

Reviewed By: Shu-Mei Tsai

Date: Tuesday, February 15, 2011

Names of Project

Permittee: Arnold Engineering Corporation 300 North West Street Marengo, Illinois 60152 (McHenry County) 585-385-9010	RELEASABLE
Facility: Arnold Engineering Corporation 300 North West Street Marengo, Illinois 60152 (McHenry County) 585-385-9010	
Engineer: Arnold Magnetic Technologies 770 Linden Avenue Rochester, New York 14625	
Intermediate Sewer Owner:	
POTW:	

Signatures:

Applicant(s)	Michael D. Kaser, Chief Financial Officer of Arnold Engineering Corporation
Engineer	Jessica A Wojick 585-385-9010 x 289 (Office) 585-303-5344 (Cell) jwojick@arnoldmagnetices.com
Owner/Operator	N/A
Intermediate Sewer Owner	N/A
POTW	N/A

PROJECT:

The Agency issued a renew permit 2011-EO-1001 on January 11, 2011.

I received a phone conversation and requested Jessica Wojick to send me an email for requesting a supplemental permit.

State of Illinois
Environmental Protection Agency

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Subject: The Arnold Engineering Corporation

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Data: 1278-11

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Date: Tuesday, February 15, 2011

Receive email from Jessica Wojick on Friday, February 04, 2011, and she indicated that

Based on extensive sampling performed on the effluent stream of the system during October through December 2010, Arnold found that the effluent quality meets or exceeds Class I Groundwater Standards. Of particular note, there were no detections of 1,1,1 trichloroethane, tetrachloroethylene, trichloroethylene or nitrate in our effluent. Accordingly, Arnold requests the removal of the Monitoring Well sampling requirements from the permit, as it has been demonstrated that Arnold's effluent will not cause a violation of those standards.

In place of the monitoring well sampling requirements in the operating permit, Arnold requests the following monitoring and sampling plan:

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The basis for these parameters is derived from the nature our operations. The rationale for each parameter is set forth below:

NICKEL: One of our primary manufacturing inputs is nickel, which is a Class I Groundwater Standard constituent. While our effluent has been shown to meet the Class I standard for nickel, it is advisable to continue to monitor this constituent in our effluent to ensure that our manufacturing and treatment process is running as intended.

TOTAL RESIDUAL CHLORINE: The occasional use of sodium hypochlorite for fouling control requires that we maintain our effluent total residual chlorine at a level sufficient to achieve fouling removal. The required level may vary based on seasonal and biological factors. Monitoring this parameter will ensure the appropriate use of chlorination to control fouling.

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This revised monitoring and sampling plan better reflects the current operating conditions of the plant and will effectively control the constituents of interest to the IEPA and relevant to Class I Groundwater Standards.

State of Illinois
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Subject: The Arnold Engineering Corporation
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Date: Tuesday, February 15, 2011

Discussion:

RELEASABLE

The current permit (2011-EO-1001) requests the Arnold shall sample at the point representative of the discharge from Pond #4, but prior to entry into the ditch tributary to the percolation field. Monthly samples shall also be collected from the monitoring wells identified in the permit application as MW-1, MW-2, MW-3, MW-A4, MW-A5, MW-A6, MW-A7, and MW-A8. The parameters include 1.1.1 – Trichloroethane, Tetrachloroethylene, Trichloroethylene, Total Dissolved Solids, Nickel, pH, Ammonia Nitrogen, Nitrate with grab sampling once per month.

According an email from Jessica A Wojick on Tuesday, March 1, 2011:

The percolation field has operated since the system was constructed and first operated in 1964. Currently, 300 West LLC is the owner of the property and has enrolled the property in the Illinois Site Remediation Program. 300 West LLC will continue to monitor the groundwater wells as part of its remedial activities under the Site Remediation Program. Arnold, as tenant, will continue to provide access to 300 West LLC to allow it to monitor the groundwater wells.

Since Arnold is a tenant, and 300 West LLC does the groundwater well samplings. The groundwater wells sampling requirement will be removed from Special Condition 4.

Arnold requests nickel is only one metal for sampling because of the permit renewal application, Arnold analyzed its effluent for 23 metals, which are listed as follows:

Al (Aluminum)	B (Boron)	Fe (Iron)	Mo (Molybdenum)	Sn (Tin)
Sb (Antimony)	Cd (Cadmium)	Pb (Lead)	Ni (Nickel)	Ti (Titanium)
As (Arsenic)	Cr (Californium)	Mg (Magnesium)	Se (Selenium)	Zn (Zinc)
Ba (Barium)	Co (Cobalt)	Mn (Manganese)	Ag (Silver)	
Be (Beryllium)	Cu (Copper)	Hg (Mercury)	Tl (Thallium)	

CONSTITUENT	RAW WASTE (mg/l)	TREATED EFFLUENT	UPSTREAM	DOWNSTREAM SAMPLES (mg/l)	35 Title
Ammonia Nitrogen (as N)	<0.2	<0.2	NA	NA	
Arsenic (total)	<0.015	0.046	NA	NA	0.05 (620.410)
Barium	0.12	0.064	NA	NA	2.0 (620.410)
Boron	0.17	0.16	NA	NA	2.0 (620.410)
BOD ₅	<2.0	<2.0	NA	NA	
Cadmium	<0.0050	<0.0050	NA	NA	0.005 (620.410)
Chloride	160	160	NA	NA	200 (620.410)
Chromium (total)	<0.01	<0.01	NA	NA	1.0 (304.124)
Chromium (total trivalent)	NA	NA	NA	NA	0.1 (304.124)
Copper	<0.018	<0.018	NA	NA	0.65 (620.410)
Cyanide (total)	<0.0054	<0.0054	NA	NA	0.2 (620.410)
Dissolved Oxygen	NA	NA	NA	NA	
Fecal Coliform	NA	NA	NA	NA	
Fluoride	<0.2	<0.2	NA	NA	4.0 (620.410)
Hardness (as CaCO ₃)	280	180	NA	NA	
Iron (total)	0.50	0.54	NA	NA	5.0 (620.410)
Lead	<0.016	<0.016	NA	NA	0.007 (620.410)
Manganese	0.0045	0.005	NA	NA	0.15 (620.410)
MBAS	<0.12	<0.12	NA	NA	
Mercury	<0.00065	<0.00065	NA	NA	0.002 (620.410)

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Subject: The Arnold Engineering Corporation
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RELEASABLE

Date: Tuesday, February 15, 2011

Nickel	0.088	0.1	NA	NA	0.1 (620.410)
Nitrates (as N)	0.17	<0.024	NA	NA	10 (620.410)
Oil & Grease (hexane soluble or equivalent)	0.9	<0.87	NA	NA	
Organic Nitrogen (as N)	<0.25	<0.25	NA	NA	
pH	6.6	8.54	NA	NA	6-9 (304.125)
Phenols	0.0075	0.00845 (Average), 0.014(Maximum)	NA	NA	0.3 (304.124)
Phosphorous (as P)	120	150	NA	NA	
Radioactivity	NA	NA	NA	NA	20 Pci/L
Selenium	<0.044	<0.044	NA	NA	0.05 (620.410)
Silver	<0.037	<0.037	NA	NA	0.05 (620.410)
Sulfate	12	12	NA	NA	400 (620.410)
Total Suspended Solids	4	3	NA	NA	15 (304.124)
Total Dissolved Solids	730	700	NA	NA	1,200 (620.410)
Zinc	<0.002	<0.002	NA	NA	5.0 (304.124)
TOC Dup	6.5	1.9	NA	NA	
COD	17	<11	NA	NA	
TKN	<0.25	<0.25	NA	NA	
TRC	<0.016	0.1	NA	NA	
Aluminum	<0.15	<0.15	NA	NA	
Antimony	0.088	<0.042	NA	NA	0.006 (620.410)
Beryllium	<0.005	<0.005	NA	NA	0.004 (620.410)
Cobalt	0.034	0.04	NA	NA	1.0 (620.410)
Magnesium	36	36	NA	NA	
Molybdenum	0.0068	0.0069	NA	NA	
Thallium	<0.017	<0.017	NA	NA	0.002 (620.410)
Tin	<0.00061	<0.00061	NA	NA	
Titanium	<0.002	<0.002	NA	NA	
Bromide	<1.0	<1.0	NA	NA	
Sulfide	<0.2	<0.2	NA	NA	

Table of SVOCs

CONSTITUENT	RAW WASTE (mg/l)	TREATED EFFLUENT	UPSTREAM	DOWNSTREAM SAMPLES (mg/l)
1,2,4-Trichlorobenzene	<1.4	<1.4	NA	NA
1,2-Dichlorobenzene	<1.2	<1.2	NA	NA
1,2-Diohenylhydrazine	<1.4	<1.4	NA	NA
1,3-Dichlorobenzene	<1.3	<1.3	NA	NA
1,4-Dichlorobenzene	<1.3	<1.3	NA	NA
2,4,6-Trichlorophenol	<1.1	<1.1	NA	NA
2,4-Dichlorophenol	<1.3	<1.3	NA	NA
2,4-Dimethylphenol	<1.6	<1.6	NA	NA
2,4-Dinitrophenol	<8.1	<8.1	NA	NA
2,4-Dinitrotoluene	<1.5	<1.5	NA	NA
2,6-Dinitrotoluene	<1.3	<1.3	NA	NA
2-Chloronaphthalene	<1.4	<1.4	NA	NA
2-Chlorophenol	<1.1	<1.1	NA	NA
2-Nitrophenol	<1.2	<1.2	NA	NA
3,3-Dichlorobenzidine	<1.3	<1.3	NA	NA
4,6-Dinitro-o-cresol	<5.0	<5.0	NA	NA
4-Bromophenyl phenyl ether	<1.4	<1.4	NA	NA
4-Chlorophenyl phenyl ether	<1.3	<1.3	NA	NA
4-Nitrophenol	<3.6	<3.6	NA	NA
Acenaphthene	<1.5	<1.5	NA	NA
Acenaphthylene	<1.5	<1.5	NA	NA
Anthracene	<1.4	<1.4	NA	NA
Benzidine	<10	<10	NA	NA

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Benzo[a]anthracene	<1.1	<1.1	NA	NA
Benzo[a]pyrene	<1.2	<1.2	NA	NA
Benzo[b]fluoranthene	<1.1	<1.1	NA	NA
Benzo[g, h,i]fluoranthene	<1.4	<1.4	NA	NA
Benzo[k]fluoranthene	<1.4	<1.4	NA	NA
Bis(2-chloroisopropyl)ether	<1.4	<1.4	NA	NA
Bis(2-chloroethoxy)methane	<1.4	<1.4	NA	NA
Bis(2-ethyhexyl)phthalate	6.1	<1.1	NA	NA
Butyl benzyl phthalate	<1.3	<1.3	NA	NA
Chrysene	<1.3	<1.3	NA	NA
Dibenz(a,h)anthracene	<1.4	<1.4	NA	NA
Diethyl phthalate	<1.3	<1.3	NA	NA
Dimethyl phthalate	<1.2	<1.2	NA	NA
Di-n-butyl phthalate	<1.2	<1.2	NA	NA
Di-n-octyl phthalate	<1.6	<1.6	NA	NA
Fluoranthene	<1.4	<1.4	NA	NA
Fluorene	<1.6	<1.6	NA	NA
Hexachlorobenzene	<1.3	<1.3	NA	NA
Hexachlorobutadiene	<1.5	<1.5	NA	NA
Hexachlorocyclopentadiene	<1.3	<1.3	NA	NA
Hexachloroethane	<1.2	<1.2	NA	NA
Indeno[1,2,3-cd] pyrene	<1.3	<1.3	NA	NA
Isophorone	<1.4	<1.4	NA	NA
Naphthalene	<1.4	<1.4	NA	NA
Nitrobenzene	<1.3	<1.3	NA	NA
N-Nitrosodimethylamine	<5.2	<5.2	NA	NA
N-Nitrosodi-n-propylamine	<1.6	<1.6	NA	NA
N-Nitrosodiphenylamine	<1.8	<1.8	NA	NA
p-Chloro-m-cresol	<1.4	<1.4	NA	NA
Pentachlorophenol	<7.5	<7.5	NA	NA
Phenanthrene	<1.4	<1.4	NA	NA
Pyrene	<1.4	<1.4	NA	NA

According to the data from Arnold, nickel and antimony reading are higher than the standard of 35 II Adm. Section 620.410 (groundwater quality standard). The sampling requirements of nickel, antimony, and pH will be in the permit. The sampling frequency will be once per month and the sampling type is grab for pH, antimony, and nickel. I had a discussion with Brian Koch on Wednesday, February 16, 2011. Brian said there is a federal method for total residual chlorine.

There were no detections of 1,1,1 trichloroethane, tetrachloroethylene, trichloroethylene or nitrate in Arnold's effluent so the parameter will be removed from the monitoring requirements of Special Conditions 4.

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Subject: The Arnold Engineering Corporation

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Reviewed By: Shu-Mei Tsai

Date: Tuesday, February 15, 2011

The email from Tim Zook on Friday, March 25, 2011

RELEASABLE

The property, with 300 West LLC as the owner, enrolled in the Voluntary Site Remediation Program in May 2008 and is still in the program. Arnold Magnetic Technologies owned the site for many years, until it was purchased by 300 West LLC in about 2006. Time Zook was told that when 300 West LLC purchased the property there was an agreement that Arnold could stay there for up to ten years.

As far as involvement with the Site Remediation Program - this is a large site with a long history of industrial use. Several rounds of soil and groundwater sampling have been conducted, focusing on potential problem areas, but no actual clean-up activities have taken place. Tim suspects that this site will be in Site Remediation Program for several years.

Received an email from Jessica Wojick on Thursday, March 24, 2011. Arnold provides some sampling results for treated effluent from Arnold Magnetics' Marengo, Illinois plant.

Laboratory: Prairie Analytical Systems, Inc.
Address: 1210 Capital Airport Drive, Springfield IL 62707
Sample Type: Pond 4 Effluent Grab
Method: SW 6020A
Sample Date: 3/11/2011

Analytical Results

Parameter	Value	Units
Tetrachloroethene	< 5	µg/L
1,1,1-Trichloroethane	< 5	µg/L
Trichloroethene	< 5	µg/L
Antimony	< 0.005	Mg/L
Chromium	< 0.005	mg/L
Cobalt	0.0236	mg/L
Nickel	0.0434	mg/L
pH	6.86	SU
Total Dissolved Solids	330	mg/L

ACTION:

The Agency will issue a supplemental permit with appropriate special conditions