

ATTACHMENT A

Part A—General Information Receiving Watercourse

Discharge of all process water and storm water runoff is into the Mississippi River. All process water and an estimated 95% of the storm water is discharged into the river via one of six open outfalls or ditches that run from the south side of the facility to the Mississippi. These are numbered 001 through 006, starting with the downstream outfall.

Storm water from plant roofs and the active parts of the facility reach the outfalls by way of piped roof drains or yard storm sewer inlets. A very small part of the plant property, that located near the river and outside of flood control dikes, has the potential for storm water to reach the river by direct runoff. It is estimated that the area with direct runoff is no more than 5% of the total plant property.

Outfalls 001 through 005 have water reclamation lift stations installed. These collect process water for recycling within the plant. During normal operations, these outfalls have no discharge of process water. During times of storm when the lift station pumps cannot keep up with the increased storm flow, the lift stations overflow to the river.

ATTACHMENT B

Part A—General Information Operating Permits and Licenses

Listed below are the active environmental permits and licenses.

<u>Description</u>	<u>Number</u>	<u>Agency*</u>
Hazardous Waste Generator	IAD 005270160	EPA
<u>WATER DISCHARGE PERMIT</u>		
NPDES Permit	88-7167099	IDNR
<u>POTABLE WATER SUPPLY (NONCOMMUNITY)</u>		
Crissey House Well	8278801	IDNR
Kelly Cottage Well	8278802	IDNR
<u>SURFACE AND GROUNDWATER USE</u>		
Water Withdrawal Permit	06395	IDNR
<u>AIR POLLUTION CONTROL PERMITS</u>		
#4 Ingot Furnace	74-A-165	IDNR
#7 Aluminum Holding Furnace	75-A-355	IDNR
#8 Aluminum Melting Furnace	75-A-356	IDNR
#17 Aluminum Melting Furnace	76-1-060	IDNR
#15 Fluxing Unit	77-A-115	IDNR
#18 Aluminum Melting Furnace	79-A-007	IDNR
#11 Aluminum Holding Furnace	76-A-353	IDNR
#3 Ingersol Milling Machine	79-A-008	IDNR
— Coil Sampling Station	83-A-077	IDNR
#14 Aluminum Melting Furnace	Letter permit (PCB)	EPA
#2 Aluminum Melting Furnace	85-A-065	IDNR
#2 Aluminum Holding Furnace	85-A-066	IDNR
#2 Complex 622 Filter Unit	85-A-067	IDNR
#4 Scalper	79-A-186	IDNR
#4 Scalper	79-A-187	IDNR
#3 Aluminum Melting Furnace	87-A-043	IDNR
#3 Aluminum Holding Furnace	87-A-044	IDNR
#3 Complex 622 Filter Unit	87-A-045	IDNR
#4 Aluminum Melting Furnace	89-A-175	IDNR
#4 Aluminum Holding Furnace	89-A-176	IDNR
#4 Complex 622 Filter Unit	89-A-177	IDNR
100 Inch Rolling Mill	88-A-158	IDNR
100 Inch Rolling Mill	88-A-159	IDNR
#12 Foil Laminator	89-A-027	IDNR
#1 Cold Mill	89-A-052	IDNR

ATTACHMENT B (continued)

RADIOACTIVE MATERIALS USE

Plantwide Materials Use Permit	0162-1-82-FG	IDPH*
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WASTE DISPOSAL PERMITS

Oil-Contaminated Sand	890987-161040007	IEPA
Oily Filer Media	860272-161040001	IEPA
Aluminum-Lithium Scrap	8609070-161040007	IEPA

CONSTRUCTION PERMITS

Wetlands Enhancement Project		
Construction Permit	CENCR-OD-S-070-0X6-1- 170560	DOE
Construction Permit	89-1	IDNR
Flood Plains Permit	FP-89-14	IDNR
Section 401 Certification	COE Project 170560	IDNR

Note: * IDPH = Iowa Department of Public Health
 IDNR = Iowa Department of Natural Resources
 EPA = U.S. Environmental Protection Agency
 IEPA = Illinois Environmental Protection Agency
 DOE = Department of the Army — Corps of Engineers

ATTACHMENT C

Part A—General Information

Process Description

Davenport is an aluminum manufacturing fabrication plant and as such includes facilities for casting, hot and cold rolling, plus other related processes. Since Davenport Works is covered by the Aluminum Forming Point Source Category, Effluent Limitations Guidelines, 40 C.F.R. Part 467, process descriptions and production rates are given in terms consistent with these Guidelines. A large number of materials other than aluminum, such as solvents, fuels, rolling oils, etc., are used in the processing of aluminum plate, sheet, and foil. Since these are common in the industry, and were considered in the development of the effluent limitations guidelines, these materials are not specifically listed in this permit request.

A. Rolling with Neat Oil Subcategory

1. Core (includes roll grinding, sawing, annealing, aging and degreasing)

Average Monthly production (off pounds) — 75,142,000

Maximum Monthly production (off pounds) — 97,490,000

B. Rolling with Emulsions

1. Core (includes rolling, roll grinding, aging, annealing, and sawing)

Average Monthly production (off pounds) — 244,891,000

Maximum Monthly production (off pounds) — 203,869,000

2. Ancillary Operation — Direct Chill Casting

Average Monthly production (off pounds) — 70,598,000

Maximum Monthly production (off pounds) — 90,003,000

C. Ancillary Operations Associated with Both Rolling with Neat Oil and Rolling with Emulsion Subcategories

1. Solution Heat Treatment

Average Monthly production (off pounds) — 9,577,750

Maximum Monthly production (off pounds) — 10,823,000

2. Cleaning or Etching Bath

Average Monthly production (off pounds) — 9,329,000

Maximum Monthly production (off pounds) — 10,400,000

3. Cleaning or Etching Rinse

Average Monthly production (off pounds) — 9,329,000

Maximum Monthly production (off pounds) — 10,400,000

ATTACHMENT D

Part A—General Information

Direct Discharges

Process water, contact and non-contact cooling water and storm water from plant operations are reclaimed through lift stations on five of the six plant outfalls. During periods of high rainfall, overflow occurs at the lift stations and water is discharged to the river. Over sixty percent of the water used is recycled. Dye tests conducted on the reclamation and mill water systems have shown that within 30-60 minutes, water has been thoroughly mixed and distributed throughout the plant. Therefore, water discharged has been reused numerous times and in many processes before reaching an outfall for ultimate discharge. Therefore, discharge in any particular outfall cannot be attributed to a particular process or operation.

The descriptions below are for each specific outfall.

Outfall 001

This outfall is normally zero discharge of process water. A lift station reclaims water for reuse except for periods of excessive rainfall when the lift station overflows or during periods of maintenance downtime. This outfall experiences no seasonal variation nor does it have any batch discharges associated with it. Although this outfall services primarily the cold rolling area of the plant, because of the plant's integrated water recycling system, water reclaimed through, or discharged from, this outfall cannot be attributed to any specific processes.

Outfall 002

This outfall is normally zero discharge of process water. A lift station reclaims water for reuse except for periods of excessive rainfall when the lift station overflows or during periods of maintenance downtime. This outfall experiences no seasonal variation nor does it have any batch discharges associated with it. This outfall receives condensate discharge from an air pollution control unit (carbon air stripper) used to remove perchloroethylene from air discharges. Although this outfall services primarily the foil rolling and sheet finishing areas of the plant, because of the plant's integrated water recycling system, water reclaimed through, or discharged from, this outfall cannot be attributed to any specific processes.

Outfall 003

This outfall is normally zero discharge of process water. A lift station reclaims water for reuse except for periods of excessive rainfall when the lift station overflows or during periods of maintenance downtime. This outfall experiences no seasonal variation nor does it have any batch discharges associated with it. Although this outfall services primarily the cold and foil rolling and foil laminating areas of the plant, because of the plant's integrated water recycling system, water reclaimed through, or discharged from, this outfall cannot be attributed to any specific processes.

Outfall 004

This outfall is normally zero discharge of process water since the process water from the plant is reclaimed via lift station for reuse. Although this outfall services primarily the hot rolling areas of the plant, because of the plant's integrated water recycling system, water reclaimed through, or discharged from, this outfall cannot be attributed to any specific processes.

Normal flow in this outfall is blowdown from the intake river water (mill water) treatment plant. This is a batch blowdown that occurs for 5-30 minutes every 1-3 hours. In addition, this outfall contains the periodic batch discharge from blowdown of a clarifier at the water reclamation system and continuous blowdown from a cooling tower. There is no seasonal variation associated with this outfall other than elimination of cooling tower blowdown during winter months.

ATTACHMENT D (continued)

Outfall 005

This outfall is normally zero discharge of process water. A lift station reclaims water for reuse except for periods of excessive rainfall when the lift station overflows or during periods of maintenance downtime. This outfall experiences no seasonal variation.

This outfall contains a batch discharge of neutralized waste water from the regeneration cycle of a deionized water production facility. This batch discharge occurs about once per 8 hour shift. However, under normal circumstances, the discharge is recycled. Although this outfall services primarily the hot rolling area of the plant, because of the plant's integrated water recycling system, water reclaimed through, or discharged from, this outfall cannot be attributed to any specific processes.

Outfall 006

This outfall contains a continuous 7 day per week flow with no seasonal variation other than elimination of a cooling water blowdown during the winter months. This outfall contains an infrequent batch discharge from a manual ingot surface etch operation. This operation involves etching an ingot with 1-5 gallons of an acid solution, followed by 1-5 gallons of caustic solution, both then followed with a water rinse.

The primary source of water for discharge in this outfall is contact cooling water from ingot casting and non contact cooling water from process heat exchanges on oil cooling systems and equipment cooling. The outfall also receives continuous blowdown from a cooling tower in the summer months. However, because of the integrated water recycling and reuse system in the plant, the quality of this water cannot be attributed solely to the ingot casting operation since a given quantity of water has most likely been utilized in most other plant processes before it reached the ingot plant and outfall 006.

ATTACHMENT E

Part B—Specific Information **Waste Abatement/Pollution Control**

GENERAL IN PLANT ABATEMENT PRACTICES

Davenport Works has three completely separate sewer systems to collect liquid discharges and transport them to the appropriate place for treatment and/or discharge. These three systems are: the sanitary sewer, the industrial waste sewer, and the storm sewer.

Sanitary sewer

The sanitary sewer collects only sanitary wastes from the plant's restroom, shower, and cafeteria facilities. It is transported via buried piping and lift stations to a point west of the plant where the plant's sewer system connects to the municipal system. Ultimate treatment and discharge of the sanitary waste stream is through the Davenport Water Pollution Control Plant located on Concord Street in Davenport, Iowa. No industrial waste water is discharged into the sanitary sewer.

Industrial Waste Sewer

Oily waste water and other contaminated waste water from around the plant site is conveyed through an industrial waste sewer system to a central industrial waste treatment facility (Abcor Ultrafiltration System). This sewer system collects only industrial waste water, and does not collect sanitary wastes, storm water flow, or non-contact cooling water.

Storm sewer

Davenport Work's storm sewer system is used to collect storm water, non-contact cooling water, and some contact process water. This water is conveyed to a water reclamation system for reuse or to the Mississippi River through the facilities outfalls.

Area Drainage

All above ground storage tanks are protected by containment dikes. These prevent discharge of product into any sewer system in the event of a tank rupture or leak.

A closed oil lagoon has a clay cap installed which diverts storm water away from the area and into outfall 004.

POLLUTION CONTROL EQUIPMENT

General

An Abcor ultrafiltration (UF) treatment system is used to treat waste waters from around the plant. Capacity of the treatment system is 100,000 gallons per day. Waste streams directed to this treatment system, via the industrial waste sewer, are predominately oily wastes from the hot rolling and cold rolling. However, waste oils, etc., from pits and sumps, sawing and milling operations, roll grinding facilities, and general maintenance operations are also directed to this facility.

Processed effluent from this treatment facility is discharged into a water reclamation system for reuse in the plant. There is no direct discharge from this facility into the Mississippi. Waste oil sludge, 6,000 gallons per day average, is generated at this facility. This is pumped to an on-site oil reclamation facility (owned and operated by PORI, International, a Baltimore, Maryland company) where it is processed into fuel oil. Fuel oil produced is burned on site in a Hawkeye aluminum melting furnace. Water from the PORI treatment facility is recycled within the Hawkeye facility as mill water. Filter media from the PORI operation goes to a Browning Ferris landfill in Milan, Illinois.

Water Reclamation

A central water reclamation system reclaims non contact and contact cooling water and process water from throughout the plant. The system includes a clarifier for oil removal, cooling towers, and pumps to return the water to the plant's mill water supply system. This facility reclaims around 17 million gallons of water per day for reuse, approximately 60% of the water used in normal operations.

Surface oil removed from the clarifier is pumped to the UF system discussed above. Periodic blow-down of settled solids from the clarifier contributes to the suspended solids loading in outfall 004. Approximately 2-3 cubic yards/month of debris removed from the clarifier (oil leaves, grass, etc.) is collected and sent to BFI's industrial waste landfill in Milan, Illinois.

PRACTICES/EQUIPMENT SPECIFIC TO OUTFALLS

Outfall 001

A lift station is in place on this outfall to reclaim process water through the above described water reclamation system. The lift station contains dual pumps. However, when storm flow exceeds the capacity of both pumps, excess flow discharges to the Mississippi. Under normal conditions, this lift station makes outfall 001 a no flow outfall, storm water discharge only.

Outfall 002

A lift station is in place on this outfall to reclaim process water through the above described water reclamation system. The lift station contains dual pumps. However, when storm flow exceeds the capacity of both pumps, excess flow discharges to the Mississippi. Under normal conditions, this lift station makes outfall 002 a no flow outfall, storm water discharge only.

Downstream from the lift station is a permanently installed surface baffle across the outfall. This would intercept an oil spill in the event the lift station were out of service at the time of a spill.

Outfall 003

A lift station is in place on this outfall to reclaim process water through the above described water reclamation system. The lift station contains dual pumps. However, when storm flow exceeds the capacity of both pumps, excess flow discharges to the Mississippi. Under normal conditions, this lift station makes outfall 003 a no flow outfall, storm water discharge only.

Downstream from the lift station is a permanently installed surface baffle across the outfall. This would intercept an oil spill in the event the lift station were out of service at the time of a spill.

Outfall 004

A dual pump lift station on this outfall normally reclaims all process water through the above described water reclamation system. In the event of high storm water flow, excess water above the capacity of the pumps is discharged to the Mississippi via the outfall.

Water routinely discharged to the river in outfall 004 is blowdown from the mill water treatment plant and water reclamation system.

Outfall 005

Water discharged to this outfall includes regenerate waste from the plant's central DI water production facility. This waste is neutralized prior to discharge to outfall 005.

A lift station is in place on this outfall to reclaim process water through the above described water reclamation system. The lift station contains dual pumps. However, when storm flow exceeds the ca-

capacity of both pumps, excess flow discharges to the Mississippi. Under normal conditions, this lift station makes outfall 005 a no flow outfall, storm water discharge only.

Downstream from the lift station is a permanently installed surface baffle across the outfall. This would intercept an oil spill in the event the lift station were out of service at the time of a spill.

Outfall 006

Water discharge from an etch bath and rinse operation that used to discharge into 006 has been diverted to the inlet side of the mill water treatment plant for treatment (neutralization) and reuse instead of discharge.

ATTACHMENT F

Part B—Specific Information **Solid Waste/Sludge Generation**

The generation and disposal of solid wastes and/or sludge from Davenport Works operations is impossible to segregate by discharge point as requested on Part B of the application since most wastes are generated in several, if not all, locations of the plant site. The following will discuss the various wastes generated and current disposal practices. Where specific permits are required, the permits are itemized on Attachment B.

LIQUID OILY WASTE WATER AND WASTE OILS

Oily waste water and waste oils are generated throughout the plant in most operations. The majority of this waste is generated in the hot and cold rolling of aluminum plate, sheet, and foil, although a substantial amount is also generated from pit pumping, draining of hydraulic systems, and similar operations. All waste oil and oily waste water is treated on site by an ultrafiltration waste treatment system, which treats approximately 100,000 gallons per day. Water from the treatment is recycled on site as process water. Oily sludge, approximately 6,000 gallons per day, is sent to an on-site contract oil reclamation firm. PORI International. PORI processes the oily sludge to produce a fuel oil, a dry filter cake, and a waste water stream. The fuel oil is burned on site as fuel in an aluminum melting furnace. Approximately 1 million gallons per year of oil is produced. Dry filter cake from their operations is sent off site for landfill disposal in the Browning-Ferris landfill located in Milan, Illinois, and the water is treated by PORI and discharged into the Hawkeye mill water system for reuse.

OILY FILTER MEDIA AND FILTER CLOTH

Neat and emulsified rolling oils are filtered for dirt removal, generating approximately 20-3 cubic yards per day of dry, oily solid waste material. This is sent to the Browning-Ferris Landfill in Milan, Illinois, under non-hazardous manifest and under an Illinois Special Waste Permit.

NORMAL PLANT REFUSE AND GARBAGE

Plant operations generate approximately 100 cubic yards per day of normal, non-hazardous refuse and garbage (paper, floor sweepings, empty containers, scrapped materials, etc.) that are amenable to normal landfill disposal. This material is disposed at the Browning-Ferris landfill in Milan, Illinois.

RCRA WASTES—SOLVENTS, THINNERS, PERCHLOROETHYLENE, ETC.

Solvent-type wastes are generated from routine maintenance operations and from the foil laminating production area. In addition, perchloroethylene is used in several coil cleaning operations in the plant. An on-site, totally enclosed recovery still reclaims a significant amount of the perchloroethylene for reuse. The still bottoms, along with waste solvents, thinners, etc., are accumulated in drums for shipment to off-site reclaimers on a regular basis. These materials currently are sent to Safety Kleen Corporation, Elgin, Illinois, or Waste Research and Reclamation Co., Inc., Eau Claire, Wisconsin, as manifested RCRA wastes.

Air pollution control equipment on the perchloroethylene cleaning lines utilize carbon filtration on the air stream. This carbon, when exhausted, is drummed and shipped to Chemical Waste Management's incinerator facility in Chicago, Illinois, for incineration as a manifested RCRA waste.

TSCA WASTE

Historical use of polychlorinated biphenyl has resulted in the generation of some PCB contaminated solid and liquid wastes. Solid wastes are shipped to the Chemical Waste Management landfill in

Emelle, Alabama or to their incinerator facility in Chicago, Illinois. All liquid PCB contaminated wastes are sent to the Chemical Waste incinerator in Chicago.

ASBESTOS

Asbestos containing waste is generated from ongoing asbestos removal projects. This material is removed by qualified contractors and is disposed in the Browning-Ferris landfill in Milan, Illinois.

EMPTY DRUMS

Empty product drums are sent to R.V. Hopkins, a drum reclaimer, in Davenport, Iowa, for cleaning and ultimate resale.

OTHER

Numerous other non-hazardous waste materials that have a secondary value are sold to scrap dealers for reclamation. These include scrap aluminum and steel, aluminum dross (a byproduct from aluminum melting), paper, batteries, etc.

ATTACHMENT G

Part B—Specific Information Sampling and Analytical Methods

Total Suspended Solids	S.M. 209 C	Weekly Grab
Oil & Grease	S.M. 503 A	Weekly Grab
pH	S.M. 423	Weekly Grab
Aluminum	S.M. 303 C	Weekly Grab
Chromium	S.M. 303 A	Weekly Grab
Cyanide	S.M. 412 B & C	Weekly Grab
Zinc	S.M. 303 A	Weekly Grab
Perchloroethylene	EPA Method 624	Biweekly Grab
Flow	Area/Velocity	Weekly Measurement

Note: S.M. is the 16th Edition of Standard Methods

ATTACHMENT H

FLOW SCHEMATIC

[Omitted]

ATTACHMENT I

MAPS

[Omitted]