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SEP INVESTIGATION REPORT

The Knapheide Mfg. Co.
1701 North 16th Street
Quincy, IL 62301

October 23, 1995

PREPARED FOR:

THE KNAPHEIDE MFG. CO.
QUINCY, IL 62301

PREPARED BY:

SCHREIBER, GRANA & YONLEY, INC.
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ENVIRONMENTAL ENGINEERS

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OCT 26 1995
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October 23, 1995

Mr. Ruben McCullers
Environmental Scientist
USEPA Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Dear Mr. McCullers:

On behalf of The Knapheide Mfg. Co., we are submitting the enclosed "Supplemental Environmental Projects Report". This report has been prepared by Schreiber, Grana & Yonley, Inc. in accordance with the Supplement Environmental Project Investigation Plan dated May 5, 1995 which was approved by EPA.

If you have any questions or need any additional information, please feel free to contact me at (314) 349-8399 or Mr. Gerry Korb at (217) 222-7131

Sincerely,

SCHREIBER, GRANA & YONLEY, INC.

for Robert J. Schreiber, Jr., P.E.
President

jb

cc: Gerry Korb
Sandra Oberkfell
Dan Punjak

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PART I
COMPLIANCE AUDIT

I. INTRODUCTION

On July 10, 1995, the compliance audit team comprised of Mssrs. Robert J. Schreiber and Viraf Palsetia from Schreiber, Grana & Yonley, Inc. arrived at The Knapheide Mfg. Co. site at 1701 North 16th Street in Quincy, Illinois at approximately 9:30 a.m. Upon arrival, the purpose of the compliance audit was explained to the facility representatives during the opening conference. Facility representatives present during the opening conference (and subsequent facility walk-through) were: Gerry Korb, Bryce Butler and Gary Mohr.

The procedure for the walk-through phase of the audit was to tour the plant starting from the areas where raw materials are received and then to the processes and the end product storage areas. The audit team also visited the outside surrounding land areas near the plant building. Another site visit was made on August 30, 1995 to complete review of the environmental records at the facility. The items resulting from plant tour were discussed during the closing conference on July 10, 1995 with the facility representatives. A summary of the findings during the walk-through audit and from the environmental records review are explained below:

II. AIR POLLUTION

The facility operates eight (8) paint booths, three (3) bake ovens, welding equipment, wood-working machine with cyclone dust collector and one gas-fired boiler. The facility currently operates under the air pollution operating permit (# 001065AFY) issued on September 28, 1994 by IEPA. As required by Permit condition 5a, the facility keeps records on monthly usage and VOM content of the coating and solvent. Based on this usage data, records are also kept for calculations of monthly weight-average VOM content of the coating and solvent used. Standard condition #8 of the Permit requires the facility to keep a maintenance record for each piece of air pollution control equipment. No maintenance record was available for the cyclone dust collector at the time of this audit.

35 Illinois Administrative Code 212.306 requires a manufacturing facility to pave all normal traffic pattern roads and parking areas or to treat them with water, oils or chemical dust suppressants. Knapheide uses the option of treating traffic areas with chemical dust suppressants. 35 IAC 212.306 requires a written operating program meeting requirements specified in Section 212.309, 212.310 and 212.312. Such written operating program for use of chemical dust suppressant was not available at the facility at the time of this audit.

III. WATER POLLUTION

An application for wastewater discharge permit from the City of Quincy was applied for by Knapheide in December 1993. The facility discharges sanitary wastewaters, non-contact cooling water and process water in the sanitary sewers. The non-contact cooling water is generated from the spot welding equipment. Process water placed in sanitary sewers is generated from the alkaline cleaning and rinsing operations for components prior to painting. Knapheide has not been issued the wastewater discharge permit by the City of Quincy yet.

During the walk-through, two pipes were observed to be coming out of the plant building which discharge blow-down from the air compressors. One discharge pipe is from the north wall near NW corner of the building, while the other is from the south wall near the transformer. There was no discharge occurring from these two pipes at the time of the walk-through. 35 IAC 309.102(a) requires an NPDES permit if the discharges from these pipes leave the facility property boundary. We recommend that the air compressors blow down be hooked up to the sanitary sewers to avoid any potential need for an NPDES discharge permit.

40 CFR 112.3 requires preparation and implementation of a Spill Prevention Control and Countermeasure (SPCC) Plan if the facility has above-ground storage of oil in excess of 1,320 gallons or has a single container holding oil in excess of 660 gallons. Facility has two above-ground tanks, each approximately 300 gallons in capacity, containing gasoline and diesel fuel respectively. To evaluate the applicability of the SPCC Plan requirements, the number of 55-gallon containers of different types of oil at the facility were counted during the August 31, 1995

walk-through of the plant. The facility had two containers of transmission fluid, two containers of compressor oil, one container of hydraulic oil, and one container of motor oil on August 31, 1995. Since the actual above-ground storage of oil was below 1,000 gallons, the requirements of SPCC plan preparation do not apply to Knapheide. However, Knapheide will have to ensure that the above-ground storage of oil never exceeds 1,320 gallons.

IV. HAZARDOUS WASTE

Knapheide currently generates the following two hazardous wastes based on the manifests reviewed for off-site shipments made in 1995 until June 20, 1995.

1. Waste Flammable Liquid: This hazardous waste is generated from cleaning the paint guns with MEK. The hazardous waste codes for this waste stream used are D001/D007/D008/D035/F003/F005. The amount shipped off-site during the period from 1/1/95 to 6/20/95 was 6,380 gallons (i.e., 46,510 lbs.).

2. Waste Flammable Solid: This waste stream consists of waste paint fillers and paint residue swept from paint booth floors. The hazardous waste codes used for this waste stream are D001/F003/F005. The amount shipped off-site during the period from 1/1/95 to 6/20/95 was 14,850 gallons (i.e., 40,392 lbs.).

Both of the above-mentioned hazardous wastes are currently shipped off-site to Pollution Control Industries, East Chicago, Indiana for energy recovery.

One 55-gallon satellite accumulation container near utility body paint booth for waste MEK had an open funnel placed through the bung when no waste was being added to this container at the time of this walk-through. This situation can be considered as an open container holding hazardous waste. 35 IAC 725.273(a) cross-referenced by 35 IAC 722.134(a)1.A requires any container holding hazardous waste to always be closed except when it is necessary to add or remove waste.

V. NON-HAZARDOUS SOLID WASTE

The following non-hazardous wastes are generated by Knapheide:

1. Used Oil: The used oil generated from plant machinery is shipped off-site for recycling to recover heat value. Based on 1995 manifests, Knapheide generates an average of 55 gallons per month. The used oil is shipped to Pollution Control Industries, East Chicago, IN 46312.

2. Empty Containers of paint thinner and hardener are sent off-site to Pollution Control Industries, East Chicago since June 1995. Prior to this date, these empty containers were placed in dumpsters for disposal at sanitary landfill. Other empty 55-gallon drums are picked up by a metal recycler.

VI. PCBs

There are a total of three transformers at the site outside the south wall of the building. Per the facility representative, they are non-PCB transformers. No evidence of spills was observed near these transformers at the time of the facility walk-through inspection.

VII. SARA TITLE III

Knapheide has submitted the appropriate reports required under SARA Sections 312 and 313 for calendar years 1993 and 1994. For calendar year 1993, a Tier II report was submitted for steel materials containing manganese, nickel, chromium and zinc and Form Rs were submitted for chromium, nickel, manganese and Toluene. For calendar year 1994, a Tier II report was submitted for steel materials and LV gray prime paint as well as Form Rs were submitted for chromium, nickel, manganese, toluene, xylene, methyl ethyl ketone, methyl isobutyl ketone and n-butyl alcohol.

VIII. RECOMMENDATIONS

As a result of this compliance audit, the following recommendations are being made:

1. All maintenance/repair performed on the cyclone dust collector system must be kept in the plant records.

2. Prepare and maintain a written operating program for use of chemical dust suppressant for the parking and traffic areas of the plant. This operating program needs to be written to meet the requirements of sections 309, 310 and 312 of 35 IAC 212.

3. Connect the piping carrying blowdown from air compressors to the sanitary sewers after obtaining approval of the City of Quincy.

4. The waste MEK container near utility body paint booth must be kept closed when not adding waste to it.

PART II
SUPPLEMENTAL ENVIRONMENTAL PROJECTS (SEPs) RECOMMENDATIONS

Based on the site visit at the existing temporary facility, and a review of current operations and anticipated operations at the new facility, we are recommending the following SEPs for possible implementation at the new plant location:

1. Pave the Parking Areas and Driveways: This action will benefit the environment by reducing fugitive dust emissions in air. Paving of these areas is not required by any environmental regulations.
   Projected Cost: $667,357

2. Construct a stormwater holding basin along with stormwater drainage: We recommend construction of drainage systems for stormwater to enter into a holding basin on the site. The stormwater collected can then be used for the fire water needs at the site. This will enhance preservation of groundwater and will allow for less water to be treated at the public water supply system.

   Projected Cost: $137,308

3. Installation of Non-CFC air-conditioning system: CFCs are known to cause damage to the environment by depleting ozone at the stratosphere. Installation of non-CFC air conditioning systems at the new plant will reduce potential depletion of ozone, thereby benefiting the environment.

   Projected Cost: $150,000

4. Installation of Electrodeposition (EDP) Painting System: This process for painting will result in significant reduction of VOC/HAP emissions as compared to the current method of spray application. EDP system can achieve transfer efficiency above 95%, hence eliminating the loss of paint resulting from overspray from spraying operations. In addition, the coating used in EDP tanks are waterborne solutions, thus, reducing VOC/HAP emissions. These emission reductions are of significant benefit to the environment. These emissions will be below the emission level required by law.

   Projected Cost: $3,728,000

5. Installation of high volume low pressure (HVLP) guns: For those parts which will still require spray painting, we recommend using the high volume low pressure spray guns. For this operation, a turbine is used to generate and deliver atomizing air. The turbine draws in filtered air, which is driven through several stages at up to 10,500 rpm. The result is a high volume of warm, dry atomizing air that is delivered to the spray gun at less than 7 psi. This low pressure air gives greater control of the spray, with less overspray because of the absence of

the blasting effect common with conventional high-pressure spray systems. Reduction of overspray using HVLP guns will result in less VOC/HAP emissions from painting operations. Such reductions are not required by law.

Projected Cost: $4,000

6. High-Efficiency Lighting: Installation of high efficiency lighting such as metal halide or sodium vapor would result in lower use of electrical power which in turn would contribute to reduction in emissions at the utility generation plants.

Projected Cost: $423,800