



Shell Oil Company • Shell Chemical Company
Interoffice Memorandum

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JULY 23, 1980

FROM: INDUSTRIAL HYGIENIST
TO: SUPERINTENDENT - MAINTENANCE - NORTH
SUBJECT: SEPTEMBER, 1981 CCU SHUTDOWN - INDUSTRIAL HYGIENE REQUIREMENTS

Supplemental Safety and Industrial Hygiene requirements for personnel who will be involved in the September, 1980 Catalytic Cracker Shutdown have been outlined in the attached guideline. The precautionary measures to be required during the shutdown are based on good industrial hygiene practice and address potential problem areas which have been associated with cat cracker shutdowns. Recognized potential health hazards which have been taken into consideration include airborne catalyst dust, welding fume, noise exposure from grinding and chipping, and exposure to polycyclic aromatic containing materials such as slurry oil and residual coke deposits. Additional requirements or modifications to the prepared guideline will be specified as experience is developed in this area.

Individuals involved in the CCU Shutdown should be reminded to wear the appropriate type of respiratory protection and protective clothing. Air-supplied respirators are to be worn by personnel performing welding and arc cutting; other personnel are to use air-purifying masks as specified. Efforts should be made in so far as practical to minimize skin contact with slurry oil during the initial stages of opening lines in the fractionator slurry system. Crafts should be informed of the hazardous properties of slurry oil as covered by the attached material safety data sheet.

Vacuuming of clothing and adequate washing by personnel is recommended before eating and leaving work. Other precautionary measures not specifically included in the attached guideline which will aid in minimizing exposure potential include improved ventilation, and the periodic vacuuming of settled particulate.

Questions concerning the required precautionary measures should be directed to the Safety and Industrial Hygiene Department.

P. J. Snyder

P. J. Snyder

LAM 010453

PJS/gri

DFMC-06648

Industrial Hygiene Guideline1. Respiratory Protection RequirementsA. Available Equipment

1. Scott full-face air-purifying mask with high efficiency dust cartridges (Part No. 652L)
2. MSA full-face constant flow airline mask with attached protective welding lens (Part No. 461-699 and Part No. 449-646)
3. MSA half-face constant flow welder's airline mask (Part No. 460-862)

B.

Contaminant or Activity	Minimum Respiratory Protection
<u>Vessel Entry</u> 3rd Stage Separator, Regenerator Reactor at all times including - cleaning - preparation work - inspection - observation Fractionator & furnace during dust generating activities	Cartridge Dust Mask (No. 1 above)
<u>Fractionator and Slurry Oil System</u> High boiling aromatic oils	A. <u>If a heavy cool liquid:</u> None normally required. B. <u>If a solid requiring chipping:</u> Cartridge Dust Mask (No. 1 above)
<u>Sandblasting - Non-Silica Containing Grit</u>	A. <u>Sandblasters:</u> Blaster's Air-line Hood B. <u>Helpers, Transients:</u> Cartridge Dust Mask (No. 1 above)
<u>Cat Cracker Catalyst Dust</u>	Cartridge Dust Mask (No. 1 above)

Vessel Entry

3rd Stage Separator, Regenerator
Reactor at all times including

- cleaning
- preparation work
- inspection
- observation

Fractionator & furnace during dust
generating activities

Cartridge Dust Mask (No. 1 above)

Fractionator and Slurry Oil System

High boiling aromatic oils

- A. If a heavy cool liquid:
- None normally required.
- B. If a solid requiring chipping:
- Cartridge Dust Mask (No. 1
above)

Sandblasting - Non-Silica Containing
Grit

- A. Sandblasters:
- Blaster's Air-line Hood
- B. Helpers, Transients:
- Cartridge Dust Mask (No. 1
above)

Cat Cracker Catalyst Dust

Cartridge Dust Mask (No. 1 above)

Contaminant or Activity	Minimum Respiratory Protection
<u>Welding</u> Stainless Steel: - Hex Metal (chrome) - Plenum - Cyclones - Fluffing Lines - Precipitator Clips - Etc.	<u>Inside</u> <u>Welders:</u> Airline Mask (No. 2 or 3 on the previous page) <u>Helpers, Transients:</u> Cartridge Dust Mask (No. 1 on the previous page)

2. Use of Wash Facilities and Protective Clothing

- A. Appropriate protective clothing, to prevent skin contact as far as practical (including slicker suits) washing after incidental contact and daily showering at the end of the shift required for all personnel who have anticipated exposure potential to polycyclic aromatic containing materials:
 - All cleaning, preparation work inside vessels including fractionator, and on slurry oil system; removing or washing slurry oil and coke deposits.
- B. Appropriate protective clothing, to prevent skin contact as far as practical, washing after incidental contact, and daily showering at the end of the shift made available.
 - unflanging slurry system lines
 - slurry system pump removal and cleaning
 - ancillary fractionator personnel
 - etc.
- C. Vacuuming of dust on clothing, washing prior to eating, and leaving work required for all personnel cutting, grinding, welding or otherwise exposed to chrome containing metals.

 Vacuuming of clothing by other personnel recommended but not required.
- D. Where asbestos is encountered, special precautionary measures will be implemented which are consistent with the Shell DPMC Asbestos Safety Order.

3. Hearing Conservation Measures

LAM 010455

Contaminant or Activity	Required Protective Measures
Arcing, Grinding, Hammering, Chipping 	Appropriate hearing protection required. By personnel directly involved in these activities and in the immediate vicinity of the noise source.

ATTACHMENT I

Shell Oil Company • Shell Chemical Company
Interoffice Memorandum

JULY 23, 1980

FROM: INDUSTRIAL HYGIENIST

TO: SUPERINTENDENT - MAINTENANCE - NORTH

SUBJECT: SEPTEMBER, 1980 GCU SHUTDOWN - INDUSTRIAL HYGIENE
REQUIREMENTS

1982 Olefins^{Feed} Hydrotreater

Supplemental Safety and Industrial Hygiene requirements for personnel who will be involved in the AUGUST 1980, OLEFINS FEED HYDROTREATER SHUTDOWN have been outlined in the attached guideline. The precautionary measures to be required during the shutdown are based on good industrial hygiene practice and address potential problem areas which have been associated with shutdowns. Recognized potential health hazards which have been taken into consideration include airborne catalyst dust, welding fume, noise exposure from Grinding, Chipping, AND ARE GRINDING and exposure to polycyclic aromatic containing materials such as residual coke deposits. Additional requirements or modifications to the prepared guideline will be specified as experience is developed in this area.

Individuals involved in the HYDROTREATER SHUTDOWN should be reminded to wear the appropriate type of respiratory protection and protective clothing. Air-supplied respirators are to be worn by personnel performing welding and arc cutting; other personnel are to use air-purifying masks as specified. Efforts should be made in so far as practical to minimize skin contact with slurry oil during the initial stages of opening lines in the fractionator slurry system. Crafts should be informed of the hazardous properties of slurry oil as covered by the attached material safety data sheet.

Vacuuming of clothing and adequate washing by personnel is recommended before eating and leaving work. Other precautionary measures not specifically included in the attached guideline which will aid in minimizing exposure potential include improved ventilation, and the periodic vacuuming of settled particulate.

Questions concerning the required precautionary measures should be directed to the Safety and Industrial Hygiene Department.

P. J. Snyder

P. J. Snyder

LAM 010450

PJS/gri

DPMC-06845

Cat Cracker Shutdown

Industrial Hygiene Guideline

1. Respiratory Protection Requirements

A. Available Equipment

1. Scott full-face air-purifying mask with high efficiency dust cartridges (Part No. 652L)
2. MSA full-face constant flow airline mask with attached protective welding lens (Part No. 461-699 and Part No. 449-646)
3. MSA half-face constant flow welder's airline mask (Part No. 460-862)

B. Contaminant or Activity	Minimum Respiratory Protection
<u>Vessel Entry</u> 3rd Stage Separator, Regenerator Reactor at all times including - cleaning - preparation work - inspection - observation Fractionator & furnace during dust generating activities	Cartridge Dust Mask (No. 1 above)
<u>Fractionator and Slurry Oil System</u> High boiling aromatic oils	A. <u>If a heavy cool liquid:</u> None normally required. B. <u>If a solid requiring chipping:</u> Cartridge Dust Mask (No. 1 above)
<u>Sandblasting - Non-Silica Containing Grit</u>	A. <u>Sandblasters:</u> Blaster's Air-line Hood B. <u>Helpers, Transients:</u> Cartridge Dust Mask (No. 1 above)
<u>Cat Cracker Catalyst Dust</u>	Cartridge Dust Mask (No. 1 above)

LAM 010451

DPMC-06846

Contaminant or Activity	Minimum Respiratory Protection
<u>Welding</u> Stainless Steel: - Hex Metal (chrome) - Plenum - Cyclones - Fluffing Lines - Precipitator Clips - Etc.	<u>Inside</u> <u>Welders:</u> Airline Mask (No. 2 or 3 on the previous page) <u>Helpers, Transients:</u> Cartridge Dust Mask (No. 1 on the previous page)

2. Use of Wash Facilities and Protective Clothing

- A. Appropriate protective clothing, to prevent skin contact as far as practical (including slicker suits) washing after incidental contact and daily showering at the end of the shift required for all personnel who have anticipated exposure potential to polycyclic aromatic containing materials:
 - All cleaning, preparation work inside vessels including fractionator, and on slurry oil system; removing or washing slurry oil and coke deposits.
- B. Appropriate protective clothing, to prevent skin contact as far as practical, washing after incidental contact, and daily showering at the end of the shift made available.
 - unflanging slurry system lines
 - slurry system pump removal and cleaning
 - ancillary fractionator personnel
 - etc.
- C. Vacuuming of dust on clothing, washing prior to eating, and leaving work required for all personnel cutting, grinding, welding or otherwise exposed to chrome containing metals.

Vacuuming of clothing by other personnel recommended but not required.
- D. Where asbestos is encountered, special precautionary measures will be implemented which are consistent with the Shell DPMC Asbestos Safety Order.

3. Hearing Conservation Measures

Contaminant or Activity	Required Protective Measures
Arcing, Grinding, Hammering, Chipping	Appropriate hearing protection required. By personnel directly involved in these activities and in the immediate vicinity of the noise source.

LAM 010452

DPMC-06847