

PS IND 01 PS Hearing Conservation Program

Introduction	This program is designed to minimize occupationally induced hearing loss. Its elements apply specifically to this facility because the potential exists for average area noise levels to exceed 85 dB(A)
Hearing conservation policy	The DOW and SCG-DOW group are commits to comply hearing conservation regulatory and Dow requirement. The hearing conservation program shall be established when the average area/task noise level meet or exceed 85 dBA.
Regulatory Compliance	This written program details the means by which this facility will meet the requirements of the Dow Chemical Company's <u>Global EH&S Standard for Hearing Conservation</u> as well as Thailand regulations by Department of Labor Protection and Welfare announced on rules and procedures prepared Hearing Conservation Act B.E.2553 (A.D.2010) in place of business.
Responsible person	Person responsible for administering and reviewing the Facility Hearing conservation program is: EHS delivery specialist and IH specialist.
Area/task Monitoring	The date of the last area/task noise survey was 27 th October 2016. Next monitoring in 2016 +3 years. See area noise monitoring result at \\Mtntr1\mtp_ps\Approved\Responsible Care\Employee Health & Safety\Industrial Hygiene\Hearing Conservation Program\2016 PS Noise Contour Map update.xls As a result of area/task monitoring, some areas/tasks were found to be associated with noise levels at or above 85 dB (A), requiring the need for qualitative personal exposure assessment. The area is with noise levels above 85 dB (A) are listed below. If process, task, or equipment changes occur which may result in an alteration of this list, area/task monitoring will be repeated for the affected area/task(s). Otherwise, repeat area/task monitoring every 3 years as EIA require. Note: According to EH&S Consolidated Audit on Oct, 2006, the facility was recommended to conduct the area/task noise survey again and then use the noise contour map to verify/update current designated areas (with blue line and warning sign for hearing protection required) which are classified as high noise level area.

Area with noise levels above 85 dB(A)

1. Finishing Area
2. Hydraulic Area
3. MRU
4. Air compressor
5. Diesel generator (when equipment running)
- ~~6. Feed area~~

Hearing Conservation Program Continued

Personal Exposure Assessment	Qualitative personal exposure assessment was performed in part of the Qualitative exposure assessment program for Chemical Physical and Biological agents (QEA). Estimated full-shift exposure levels for the following job assignments were greater than 85 dB as 8 hour time-weighted average in 2015-2017.										
	<table border="1"> <thead> <tr> <th>Job role</th> <th>Tasks</th> <th>95% UCL Results (dBA)</th> <th>%Dose</th> <th>Range (dBA)</th> </tr> </thead> <tbody> <tr> <td>Operator</td> <td>Field reading</td> <td>88.6</td> <td>228</td> <td>86.3-94.4</td> </tr> </tbody> </table>	Job role	Tasks	95% UCL Results (dBA)	%Dose	Range (dBA)	Operator	Field reading	88.6	228	86.3-94.4
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Operator	Field reading	88.6	228	86.3-94.4							
Exposure Limits	When personal exposure to noise meets or exceeds the Dow Industrial Hygiene Guide (IHG) of 85 dB(A) as an eight-hour time-weighted average (TWA) and 85 dB as 8 hour TWA and applying a 3 dB doubling rate, exposure control(s) shall be used to reduce exposure below this level.										
Noise Hazard Identification	All existing sources of noise greater than 85 dB (A) have been identified via area noise monitoring and are documented. Noise hazards arising from new equipment installation, existing equipment modification, or process alteration are identified and documented at the time of the change. Line management considers the impact of such changes on area noise levels and personal noise exposure prior to implementation. In accordance with Management of Change procedures, Industrial Hygiene Specialist is consulted. Where temporary equipment produces noise levels at or above 85 dB(A), employees are informed of the requirement for hearing protection via temporary signs or verbal communication.										
Feasibility Assessments	An assessment is performed by Delivery and IH according to an established procedure to determine the most feasible method of exposure control.										

Hearing Protection Types

Hearing protection devices approved for use in this facility are selected by the site PPE team and approved by Responsible Care Leader. Approved hearing protection devices must have an NRR rating of at least 20 and must be able to control exposures to the exposure limits. It is recommended that dual protection be worn when levels exceed 105 dB(A). Approved devices include:

Hearing Protection Devices	Manufacturing Noise Reduction Rating (NRR)
Ear Plug (Foam yellow plug) Brand: Moldex; Model: Softies™ 6600	33 dB(A)
Ear Muff Brand: BestSafe/ HVC-27 Brand: Bilsom 728	27 dB(A) 25 dB(A)

The Noise reduction rate that meet Dow requirement can be calculated as Dow calculation template as link [Noise Reduction Calculation.xls](#) NRR for double protection can be fined from this template.

Hazard communication and demarcation

The following communication/demarcation procedures are in place:

- signs posted at the boundaries of a unit
- signs posted in the vicinity of the equipment
- signs/labels on equipment (hand tools)
- through Safe Work Permit
- through Pre-Task analysis
- Warning blue line

Area's/tasks where hearing protection is required

For the following area's/tasks hearing protection is required. These areas are demarcated as shown in the last column.

Area /task	Noise level (dB(A))	Hearing protection type	Communication/ Demarcation
Finishing Area	91-93	Plugs or Muffs	Warning blue block line/Signs/SWP/PTA
Hydraulic Area	89-90	Plugs or Muffs	Warning blue block line/Signs/SWP/PTA
MRU	84-88	Plugs or Muffs	Warning blue block line/Signs/SWP/PTA
Air Compressor	89-91	Plugs or Muffs	Warning blue block line/Signs/SWP/PTA
Diesel Generator Area (only while machine running)	90-91	Plugs or Muffs	Warning blue block line/Signs/SWP/PTA

Exceptions

The use of hearing protection is not required:
 - No signs or blue line indicated in that area

Training

All personnel who are required to wear hearing protection devices have been trained on the appropriate use and maintenance of such devices according to Site Industrial Hygiene Training Program.
 Personnel in job assignments listed above with average full-shift exposures of 85 dB (A) or greater receive periodic training on exposure reduction. Training takes place upon assignment to the job classification and at least once every three years.

Audiometry

All personal with personal exposure above 85 dBA (8h TWA) are provided the opportunity to participate in the baseline and periodic audiometric program. A list of the names of people eligible for this exam has been provided to the Health Services organization so the workers can be offered the audiometric test. The test is done on the yearly basis. Refer to physical check up program.

Reporting

Hearing loss cases are reported according to the criteria of Dow's

The following number of cases , which were related to this facility have been reported:

Year/time frame	Number of cases
1994 – To date	No hearing loss has been reported by Health Services.

