



April 27, 2001

Richard P. Davisson
Sponge-Jet, Inc.
P.O. Box 243
Elliot, ME 03903

Dear Rich,

Below is the revised letter originally dated May 5, 1998:

I have reviewed the noise dosimeter data from your survey on May 4, 1998. From the information that you downloaded, I understand that data were collected using the Quest Technologies, Q-100 Noise Logging Dosimeter. Measurements were made based on an A-weighted scale, slow response, and a threshold of 80 dB. Two individuals, a blaster and a helper wore the monitoring devices, each for a 4-hour time-period. The blaster had a calculated 8-hour time-weighted average (TWA) of 120.5 dB, with a maximum of 133.9 dB and a minimum of 69.9db. The helper had a calculated 8-hour time weighted average of 102.0 dB, with a maximum of 115.1 dB and a minimum of 69.9 dB. The pertinent elements of the survey report are attached.

Based on this data, I would recommend that hearing protection be worn at all times when using the Sponge-jet Feed Unit blast nozzle. For the helper, a single set of hearing protection, either plugs or muffs is acceptable. The Occupational Safety and Health Administration (OSHA) requires that hearing protection attenuate noise to an 8 hour time weighted average of 90 dB for the normal worker. For workers with existing noise-induced hearing loss (called a standard threshold shift), hearing protection must attenuate the noise exposure to an 8-hour time-weighted average of 85 dB. Since regular hearing protection has a noise reduction rating (NRR) of approximately 25 dB, even with the correction factor of 7 dB (based on NIOSH Method #2), the exposure for the helper would be a TWA of about 84 dB. This would be within the allowable OSHA exposure criterion for workers with both normal and previously noise-induced hearing loss.

The blaster on the other hand would need additional protection. Both plugs and muffs would need to be used. The noise reduction rating of the two pieces of protection would be the higher NRR of the two, plus 5 dB. For example, one common plug is called "MAX", with an NRR of 33 dB. If this plug were added to a muff with an NRR of 29 dB, the maximum attenuation would be 33 plus 5, minus the 7dB-correction factor. This would equal an attenuation of 31dB. The exposure then would be 89.5 dB. This would be allowable for workers with normal hearing but not for those with previous noise induced hearing loss. I would recommend that exposures for the blaster be reduced with engineering controls if at all possible.

Should you have any questions, please don't hesitate to give me a call.

Sincerely,

Deborah R. Roy, MPH, RN, COHN-S, CET, CSP
President, SafeTech Consultants, Inc.

BLASTER RESULTS:

QUEST TECHNOLOGIES
Q-100 Noise Logging Dosimeter

Unit Version Number: 2.07 Serial Number: QA6020021

Name: Sponge-Jet, Inc. Operator: Blaster

Work Area: 75 feet x 45 feet x 14 feet high ceiling industrial workshop

Comments: Blaster was in the room described above, and was operating the Sponge-Jet Feed Unit blast nozzle, blasting Silver Sponge Media against steel. Air was exiting the .5 inch venturi blast nozzle at 80psi at 250CFM. Nozzle opening was hand held, extending 8 to 15 inches beyond the hand of the operator.

Dosimeter Calibration:

Pre-survey 110.0dB 04-MAY-98 @ 08:21:36

Calibrator:

Serial Number: U6170023 Calibration Date: 1/5/98

Auto Settings:

Auto-On Disabled Mode - Date 01-JAN Time 12:00:00 Duration 00:00 H:M

Dosimeter 1 Parameters:

Range	70-140dB	Weighting	A	Time Constant	Slow
Criterion	90dB	Threshold	80dB	Exchange Rate	5dB
Prj Period	8.00H	Upper Limit	115dB		

Dosimeter 2 Parameters:

Range	70-140dB	Weighting	A	Time Constant	Slow
Criterion	90dB	Threshold	90dB	Exchange Rate	5dB
Prj Period	8.00H	Upper Limit	115dB		

BLASTER RESULTS:

Time Summary:

Number of Events 1
Event Started Event Stopped
04-MAY-98 @ 12:30:55 04-MAY-98 @ 16:38:40 Event 1

Total Run 4:07:41 Total Pause 13:47:50

Data Summary [Dosimeter 1, A / Slow, Threshold 80dB, Exchange Rate 5dB]

Peak Level 145.2dB 04-MAY-98 @ 14:01:17
Max Level 133.9dB 04-MAY-98 @ 16:10:53
Min Level 69.9dB 04-MAY-98 @ 12:31:20
UL Time 2:05:25
Lavg 120.5dB Dose 3564% SEL(5) 189.8dB
TWA 115.8dB Dose[8] 6906%
TWA[8.00] 120.5dB Dose[8.00] 6906%

Data Summary [Dosimeter 2, A / Slow, Threshold 90dB, Exchange Rate 5dB]

Peak Level 145.2dB 04-MAY-98 @ 14:01:17
Max Level 133.9dB 04-MAY-98 @ 16:10:53
Min Level 69.9dB 04-MAY-98 @ 12:31:20
UL Time 2:05:25
Lavg 120.5dB Dose 3560% SEL(5) 189.8dB
TWA 115.7dB Dose[8] 6899%
TWA[8.00] 120.5dB Dose[8.00] 6899%

BLASTER RESULTS:

Event 1

Name: Sponge-Jet, Inc. Operator: Blaster

Work Area: 75 feet x 45 feet x 14 feet high ceiling industrial workshop

Comments: Blaster was in the room described above, and was operating the Sponge-Jet Feed Unit blast nozzle, blasting Silver Sponge Media against steel. Air was exiting the .5 inch venturi blast nozzle at 80psi at 250CFM. Nozzle opening was hand held, extending 8 to 15 inches beyond the hand of the operator

Event Started Event Stopped
04-MAY-98 @ 12:30:55 04-MAY-98 @ 16:38:40

Run Time 4:07:41

Data Summary [Dosimeter 1, A / Slow, Threshold 80dB, Exchange Rate 5dB]

Peak Level	145.2dB	04-MAY-98 @ 14:01:17		
Max Level	133.9dB	04-MAY-98 @ 16:10:53		
Min Level	69.9dB	04-MAY-98 @ 12:31:20		
Lavg	120.5dB	Dose	3564%	SEL(5) 189.8dB
TWA	115.8dB	Dose[8]	6906%	
TWA[8.00]	120.5dB	Dose[8.00]	6906%	

Data Summary [Dosimeter 2, A / Slow, Threshold 90dB, Exchange Rate 5dB]

Peak Level	145.2dB	04-MAY-98 @ 14:01:17		
Max Level	133.9dB	04-MAY-98 @ 16:10:53		
Min Level	69.9dB	04-MAY-98 @ 12:31:20		
Lavg	120.5dB	Dose	3560%	SEL(5) 189.8dB
TWA	115.7dB	Dose[8]	6899%	
TWA[8.00]	120.5dB	Dose[8.00]	6899%	

HELPER RESULTS:

QUEST TECHNOLOGIES
Q-100 Noise Logging Dosimeter

Unit Version Number: 2.07 Serial Number: QA6010099

Name: Sponge-Jet, Inc. Operator: Helper

Work Area: 75 feet x 45 feet x 14 feet high ceiling industrial workshop

Comments: Helper was in the same room described above, but was 30 feet away from blaster/blast nozzle, operating Sponge-Jet equipment and handling media recycling chores.

Dosimeter Calibration:

Pre-survey 110.0dB 04-MAY-98 @ 09:23:11

Calibrator:

Serial Number: U6170023 Calibration Date: 1/5/98

Auto Settings:

Auto-On Disabled Mode - Date 01-JAN Time 12:00:00 Duration 00:00 H:M

Dosimeter 1 Parameters:

Range	70-140dB	Weighting	A	Time Constant	Slow
Criterion	90dB	Threshold	80dB	Exchange Rate	5dB
Prj Period	8.00H	Upper Limit	115dB		

Dosimeter 2 Parameters:

Range	70-140dB	Weighting	A	Time Constant	Slow
Criterion	90dB	Threshold	90dB	Exchange Rate	5dB
Prj Period	8.00H	Upper Limit	115dB		

HELPER RESULTS:

Time Summary:

Number of Events 1
Event Started Event Stopped
04-MAY-98 @ 13:30:54 04-MAY-98 @ 17:37:55 Event 1

Total Run 4:07:00 Total Pause 14:02:07

Data Summary [Dosimeter 1, A / Slow, Threshold 80dB, Exchange Rate 5dB]

Peak Level 132.8dB 04-MAY-98 @ 15:18:21
Max Level 115.1dB 04-MAY-98 @ 17:08:24
Min Level 69.9dB 04-MAY-98 @ 13:31:00
UL Time 0:00:01
Lavg 102.0dB Dose 272.5% SEL(5) 171.3dB
TWA 97.2dB Dose[8] 529.5%
TWA[8.00] 102.0dB Dose[8.00] 529.5%

Data Summary [Dosimeter 2, A / Slow, Threshold 90dB, Exchange Rate 5dB]

Peak Level 132.8dB 04-MAY-98 @ 15:18:21
Max Level 115.1dB 04-MAY-98 @ 17:08:24
Min Level 69.9dB 04-MAY-98 @ 13:31:00
UL Time 0:00:01
Lavg 101.9dB Dose 267.4% SEL(5) 171.2dB
TWA 97.1dB Dose[8] 519.6%
TWA[8.00] 101.9dB Dose[8.00] 519.6%

HELPER RESULTS:

Event 1

Name: Sponge-Jet, Inc. Operator: Helper

Work Area: 75 feet x 45 feet x 14 feet high ceiling industrial workshop

Comments: Helper was in the room described above, but was 30 feet away from blaster/blast nozzle, operating Sponge-Jet equipment and handling media recycling chores.

Event Started Event Stopped
04-MAY-98 @ 13:30:54 04-MAY-98 @ 17:37:55

Run Time 4:07:00

Data Summary [Dosimeter 1, A / Slow, Threshold 80dB, Exchange Rate 5dB]

Peak Level	132.8dB	04-MAY-98 @ 15:18:21		
Max Level	115.1dB	04-MAY-98 @ 17:08:24		
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Lavg	102.0dB	Dose	272.5%	SEL(5) 171.3dB
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Min Level	69.9dB	04-MAY-98 @ 13:31:00		
Lavg	101.9dB	Dose	267.4%	SEL(5) 171.2dB
TWA	97.1dB	Dose[8]	519.6%	
TWA[8.00]	101.9dB	Dose[8.00]	519.6%	