ALASKA LEGISLATURE COMMITTEE FILES 1987-1988 8672
4812 HLAB HB 201 - HB 218

384

Organic Solvent-Induced Encephalopathy in Industrial Painters

Douglas H. Linz, MD; Patricia L. de Garmo, ANP; William E. Morton, MD, DrPH; Arthur N. Wiens, PhD; Bruce M. Coull, MD; and Robert A. Maricle, MD

Although organic solvents are essential components of an industrial economy, they are not used without risk. The relationship between excessive exposure to organic solvents and subsequent development of chronic encephalopathy has been recognized for nearly 100 years.

Fifteen industrial painters who underwent evaluation in an occupational health clinic for symptoms that they related to their work were found to have a high prevalence of neurasthenic symptoms, most frequently, memory loss and personality change. Although neurologic and screening laboratory examinations showed no consistent abnormalities, psychological tests documented poor short-term memory and an array of neuropsychologic deficits. Personality profiles revealed depression, anxiety, and preoccupation with somatic concerns.

These findings agree well with previous reports of "chronic painter's syndrome." Heightened awareness among industrial physicians and prospective studies to evaluate existing threshold limit values and personal protective equipment requirements are indicated.

Over a period of 14 months, 15 industrial painters were seen in the Occupational Health Clinic at the Oregon Health Sciences University with health complaints that they related to their work. Struck by the remarkable similarity in symptoms reported by the initial three or four painters, the authors reviewed the medical literature and undertook an evaluation of these and subsequent painters along lines suggested by the literature review. A copy of this literature review can be obtained from the authors upon request. The clinical findings of the 15 painters comprise the subject of this report.

From the Departments of Internal Medicine (Dr Linz); Nursing (Ms de Garmo); Public Health and Preventive Medicine (Dr Morton); Medical Psychology (Dr Wiens); Neurology (Dr Coull); and Psychiatry (Dr Maricle), Oregon Health Sciences University, Portland. (Dr Linz, Ms de Garmo, and Dr Morton are also on the staff of the Occupational Health Clinic, Oregon Health Sciences University.

Address correspondence to: Oregon Health Sciences University, 3181 SW Sam Jackson Park Rd, Portland, OR 97201 (Dr Morton).

0096-1736/86/2802-11962.00/0

Methods

The 15 industrial painters completed the clinic's 12-page questionnaire, providing information about their symptoms, job characteristics and exposures, work histories, health problems, and family and reproductive histories. The questionnaire, developed prior to the opening of the clinic, is used to obtain information on all patients seen in the clinic regardless of occupation or exposures. Because a relatively consistent pattern of symptoms occurred in the painters, the authors felt a need to assess whether the symptoms of the painters were related to their work-site exposures rather than to other factors such as unemployment, financial stresses, and pending litigation. Such factors are common in patients seen in the Occupational Health Clinic and might well affect symptom reporting. A recent report[1] ascribed cognitive and affective symptoms, including "impaired memories, lowered spirits, irritability, and a loss of interest in former activities," to premorbid psychological factors, pending litigation, and other causes. Such findings emphasized the importance of including a comparison group with similar stressors.

Physical examinations were performed with particular attention to those components suggested by the painters' symptoms. Neurologic consultation was obtained in six painters because of suspected abnormalities on screening examination. Laboratory evaluation included standardized multichannel automated chemistry panels, urinalyses, and complete blood counts.

A neuropsychologic evaluation[2–3] by different examiners was performed on all 15 painters. This included a patient interview, the Revised Wechsler Adult Intelligence Scale (WAIS-R), measures of auditory and visual

memory function (Rey Auditory Verbal Learning test and Rey-Osterreith Complex Figure test), the Halstead-Reitan Neuropsychology test battery, aphasia screening tests, and the Minnesota Multiphasic Personality Inventory. The Halstead-Reitan battery consisted of the following: Halstead Category test, Tactual Performance test, Seashore Rhythm test, Speech Sounds Perception test, Finger Tapping test, Trail Making test, Strength of Grip test, Sensory-Perceptual Examination, and Tactile Perception test. This particular battery of tests was [illegible] straint for test administration, it was possible to evaluate a comprehensive set of neuropsychologic functions. In addition, because the comparison workers did not also undergo neuropsychologic evaluation, it was imperative to select standardized tests for which normative scores were available. (WAIS-R[4] Rey Auditory Verbal Learning test,[2(426)] Rey Osterreith Complex Figure test,[2(401,448)] and Halstead-Reitan Neuropsychology test battery.[5]

In interpreting and presenting the neuropsychologic test data, the authors made several assumptions. First, we assumed that the painters were not in any way systematically preselected on any of the variables in this test battery, ie, that above-average or below-average individuals were not drawn disproportionately into the occupation. Accordingly, average normative group scores, available for each of the tests, were used as a comparison standard. For example, a full scale intelligence quotient (IQ) of 100 was assumed to be the appropriate normative comparison group for the painters. It was further assumed that, if the performance of an individual fell one standard deviation (16th percentile) below the mean for the normative group, impairment could be suspected. If performance fell two standard deviations (second percentile) below the normative mean, the individual was assumed to be atypical. Thus, assuming that the sample of 15 painters did not differ significantly from the normative sample, about 16% would be expected to score one standard deviation or more below the mean.

Functions assessed included motor functioning, auditory perceptual sensitivity, spatial perception/construction/reasoning, new learning and memory, attention/concentration/tracking, and higher order cognitive functions. The test for significance of a proportion was used to assess the statistical probability of the observed *vs* the expected number of painters scoring at the levels of one and two standard deviations below the normative means.

Psychiatric interviews were obtained for four patients, computed tomographic (CT) brain scans for three, EEG for eight, and electromyograms (EMGs) and nerve conduction velocity measurements for seven patients. Specimens for determination of specific metals and other substances with known or suspected neurotoxic effects were obtained when indicated by exposure history. Work-site measurements of ambient organic solvent concentrations were not available.

Results

Work-site descriptions, job titles, and exposure data for the 15 industrial painters are listed in Table 1. They were employed at three work-sites. All of the painters

TABLE 1

Data on Industrial Painters

Case	Title	Sex	Age	Date of Examination	Exposure Duration	No. of Months Since Last Exposure
Work site A. Employees of light equipment manufacturer; exposed to toluene, xylene, methyl ethyl ketone, acetone, ethyl acetate, ethyl benzene, isobutyl acetate, n-butyl acetate, hexane E, mineral spirits, and naphthalenes; used new paint booth with ventilation design defect.						
1	Industrial painter	F	37	6/82	5 yr (6 wk)*	2
3	Industrial painter	F	24	8/82	3 mo (5 wk)*	3
5	Industrial painter	F	36	8/82	4 mo (8 wk)*	2
Work site B. Employees of heavy equipment manufacturer; exposed to toluene, xylene, ethyl benzene, paraffins, naphthalenes, kerosene, mineral spirits, methyl ethyl ketone, trichlorethylene, and methylene chloride; used paint booths with inadequate waterfall ventilation until air-supply respirators were installed in 1981.						
2	Industrial painter/sandblaster	M	35	6/82	13 yr	4
4	Industrial painter/sandblaster	M	34	8/82	5 yr	8
6	Industrial painter/sandblaster	M	37	8/82	16 yr	3
14	Industrial painter/sandblaster	M	33	7/83	4 yr	30
Work site C. Employees of heavy equipment manufacturer; exposed to toluene, xylene, ethyl acetate, petroleum distillates, and mineral spirits; used paint booth with inadequate ventilation; used respirators with poor fit and with insufficient cartridges for changes; air-supply respirators made mandatory in 1981.						
7	Industrial painter	M	41	9/82	8.7 yr	11
8	Industrial painter	M	40	3/83	3.4 yr	21
9	Industrial painter	M	35	3/83	10 yr	4
10	Industrial painter	M	33	3/83	10 yr	9
11	Industrial painter	M	56	3/83	17 yr (+7 other)†	21
12	Industrial painter	M	40	4/83	8 yr	32
13	Industrial painter	M	40	5/83	20 yr	2
15	Industrial painter	M	56	8/83	5 yr	16

* Period in faulty paint booth.
† Years in other industrial painting jobs.

had worked with cleaning and painting equipment in ventilated paint booths and had charcoal-canister respirators available, although use was inconsistent. A major portion of the painters' work time was spent cleaning surfaces with organic solvents. Other activities included priming, painting, and occasional stripping of old paint. Cans in unventilated compartments of the large machinery being painted. Many painters described extensive skin exposure from dipping rags into solvents without gloves.

The painters ranged in age from 24 to 56 years at the time of examination. The duration of exposure varied widely, from weeks in the presence of a malfunctioning paint booth ventilation system to many years when problems with occupational hygiene were somewhat less dramatic. The authors were unable to develop a satisfactory estimate of dose exposure and no measurements of airborne solvent concentrations were available. None of the painters had hobbies or other activities with significant organic solvent exposure.

The 15 painters and the comparison group of 30 nonpainters, seen during the same time period, were similar with respect to age, sex, and education level, but the painters were more apt to be unmarried and unemployed (not statistically significant). Occupations of control workers and their distribution were as follows: four electricians, four wood products workers, three clerical workers, three heavy equipment operators, two mechanics, two welders, two laborers, a warehouseman, a maintenance worker, an engineer, an industrial cleaner, a mason, a carpenter, a butcher, an oyster shucker, a farm worker, and a textile worker. Duration of the employment for the comparison group ranged from 0.1 to 33 years (mean of 6.7 years). Potential toxin exposures were highly variable depending on their employment, but included some organic solvent exposure for 16 of the 30 workers.

Symptoms

All of the painters, and none of the nonpainters, described the workplace occurrence of symptoms consistent with recurrent acute organic solvent intoxication. These included episodic feelings of drunkenness, ataxia, dysarthria, nausea, shortness of breath, dizziness, headache, disorientation, and, occasionally, combativeness. Four painters had had one or more syncopal episodes at work and one had required emergency hospital treatment. All the painters reported a need for frequent fresh-air "breaks."

Chronic symptoms reported by the painters and nonpainters are presented in Table 2. Painters differed from nonpainters in relating significantly higher frequencies of poor memory, personality change, sleep disturbance, taste-smell abnormalities, dizziness, headache, decreased coordination, and chronic cough. Key symptoms were diminished short-term memory function and a change in personality, often more noticeable to family members or close associates than to the painters themselves. Painters and nonpainters did not differ significantly with respect to other common symptoms, including tension, nervousness, morning fatigue, indigestion, or back pain.

TABLE 2

Prevalence of Symptoms Among Painters and Nonpainters

	Painters		Nonpainters		Significance of Difference
	No.	%	No.	%	
Chronic cough (daily or work days only)	8	53.3	4	13.3	<.05
Headache (weekly or more often)	[illegible]	[illegible]	[illegible]	[illegible]	<.05
Dizziness (daily or more often)	6	40.0	3	10.0	<.05
Sleep disturbance	10	66.7	9	30.0	<.05
Decreased coordination	8	53.3	5	16.7	<.05
Abnormal taste or smell	13	86.7	10	33.3	<.005
Personality change	12	80.0	6	20.0	<.0005
Decreased memory	15	100.0	5	16.7	<.0001
Morning exhaustion	8	53.3	8	26.7	NS
Heartburn/indigestion	4	26.7	3	10.0	NS
Back pain	2	13.3	7	23.3	NS
Tension/strain	9	60.0	20	66.7	NS
Nervousness	5	33.3	11	36.7	NS
Chest pain	6	40.0	4	13.3	NS

Eight painters, four of whom were employed at work site B, reported the periodic occurrence of symptoms suggestive of a seizure disorder. Two had experienced major motor seizures, as well as temporal lobe seizures consisting of brief episodes of staring, lip-smacking, and bizarre behavior followed by unresponsiveness. These spells were preceded by auras of light-headedness, headache, feelings of unreality, and facial rubbing, and followed by postictal fatigue and somnolence. Two painters had experienced only temporal lobe seizures, according to their medical histories. These four had all worked for the same employer at work site B. The remaining four gave histories of circumscribed periods of complete amnesia, raising the suspicion of seizure activity.

Medical histories suggested other possible contributions to symptoms in three painters. Case employee 11 had evidence of possible concomitant mild lead poisoning, (blood lead 40 μg/dL, free erythrocytic protoporphyrin 83 μg/dL). Case employee 14 had a previous head injury resulting in unconsciousness. Case employee 6 had a diastolic blood pressure of 124 mm Hg. Exclusion of these three subjects from a repetition of the analysis of the 12 remaining painters and 30 nonpainters resulted in no changes in the probability calculations listed in Table 2, except that dizziness no longer differed significantly between the two groups ($P < .10$).

As shown in Table 3, there were no significant differences between the two groups in the prevalence of other factors that influence symptom-reporting, such as shift work, previous application for workers' compensation, previous diagnosis of work-related disease, physical activity at work, job stress, and job satisfaction. Smoking, alcoholic beverage consumption and self-health assessment did not differ significantly between painters and nonpainters. Six of the 15 painters had had a previous diagnosis of occupational asthma, caused by hypersensitivity to diisocyanates, and five were receiving workers' compensation for injuries, three for back injuries and two for other musculoskeletal problems. Prevalence

TABLE 3

Prevalence of Confounding Characteristics Among Painters and Nonpainters*

	Painters		Nonpainters	
	No.	%	No.	%
Shift work (Day shift work)	5	33.3	15	50.0
Union membership	12	80.0	24	80.0
Occupational injury or illness leading to termination	5	33.3	9	30.0
Previous application for workers' compensation	5	33.3	9	30.0
Previous diagnosis of work-related disease	6	40.0	9	30.0
Self-reported activity				
Physical activity on job (much or extreme)	11	73.3	20	66.7
Job stress	10	66.7	16	53.3
Job satisfaction	10	66.7	19	63.3
Smoking currently	9	60.0	11	36.7
Ethanol consumption (current)	10	66.7	20	66.7
Health ranking (moderate limitations or worse)	11	73.3	20	66.7

* Significance of differences between painters and nonpainters is >.05.

rate of workers' compensation claims among nonpainters was similar.

Physical Examinations

Physical examinations, performed on all painters, revealed significant hypertension in two and lung examination revealed wheezing in two. Neurologic examinations showed abnormalities that were limited to diffusely altered mental status testing in one painter and evidence of mild distal neuropathy with reduced two-point discrimination in four painters. Physiologic tremor was increased in three painters.

Laboratory Evaluation and Specialized Diagnostic Testing

Routine laboratory testing, performed on all painters, revealed no consistent pattern of abnormality. Mild increases in lactate dehydrogenase and serum glutamate-oxaloacetic acid transferase, pyuria, and microhematuria were present in one painter each and mild leukocytosis (white blood cell count $<15.000/mm^3$) in two others.

Eight of nine painters with a history of exposure to lead-containing paints had acceptable levels of blood lead and normal serum free erythrocytic protoporphyrins (FEP). One painter had a blood lead level of 0.40 mg/L (normal if less than 0.30 mg/L) and FEP 83 μg/dL (normal if less than 50 μg/dL), suggesting possible lead intoxication. Eleven of 15 painters with respiratory complaints and known exposure to diisocyanates had pulmonary function testing with methacholine challenge performed. Although baseline pulmonary function testing was normal in all, six had positive methacholine challenge testing (>20% reduction in FEV_1).

Eight of 15 painters had waking and sleep EEGs because of suspected seizure disorders. All waking records were normal. However, with sleep studies, paroxysmal discharges diagnostic of a seizure disorder were demonstrated in three patients; all were employed at work site B. CT brain scans obtained in these three painters were normal. EMGs and nerve conduction velocities documented [illegible] peripheral neuropathy in five of seven symptomatic painters tested.

Results of neuropsychologic testing verified symptoms of cognitive disturbance. Tests were performed after EDTA-chelation therapy in the painter suspected of possible lead poisoning and after control of hypertension in the painter with significant hypertension. Intelligence quotients (IQs) from the Wechsler Adult Intelligence Scale-Form R (WAIS-R) were: verbal IQ mean, 89.7 (range 71–105); performance IQ mean, 90.9 (range 78–109); and full-scale IQ mean, 89.3 (range 76–105). Evidence of possible or probable deterioration from a premorbid intellectual potential was noted in five painters (33%), as determined by comparing scores on subtests that were often sensitive to organic impairment (ie, Digit Span, Arithmetic, Block Design and Digit Symbol subtests) to scores on subtests more resilient to such impairment (ie, Information, Vocabulary, and Similarities).

The results of the neuropsychologic assessments for the 15 painters compared with normative scores are shown in Table 4, which reveals that nearly uniformly a larger proportion than 16% of the painters scored one standard deviation or more below the normative means. On a test of simple motor speed (Finger Tapping-preferred hand), only three of the painters scored at the 16th percentile or below, and one of the three scored two standard deviations below the normative mean for this test. Thus, on this particular test and function, the painters did not differ significantly from expected score levels.

On the measure of hand strength (Hand Dynamometer test-preferred hand), a larger proportion (33%) of the painter group scored one or more standard deviations below the mean than would have been expected by chance (16%). Furthermore, 3/15 painters scored two or more standard deviations below the normative mean, a probability of less than .001. Going from simple motor speed and strength to visuomotor coordination tests, the painter group scored below expected levels on both the Trail Making Test A and the WAIS-R Digit Symbol subtest. The two tests involve response speed, motor persistence, visual scanning, and sequencing ability. As a cognitive component was introduced along with the motor functions in these two tests, the painters experienced problems with the cognitive-visuomotor coordination.

The two auditory perceptual sensitivity tests proved quite difficult for many of the painters, as did the spatial perception/construction/reasoning tests, especially the Tactual Performance test and the Rey complex figure test. New learning and memory tests were all difficult for the painters; on the Rey Auditory Verbal Learning test, 14/15 of them scored one or more standard deviations below the normative group mean. The attention/

TABLE 4

Neuropsychologic Test Scores for 15 Painters Compared with Normative Group Scores

Test	Painters					
	<1 SD			<2 SD		
	N	Proportion Observed (expected = 0.16)		N	Proportion Observed (expected = 0.02)	
Motor functioning						
Simple motor speed/strength						
H-R*: Finger Tapping-preferred hand	3	.20	.674	1	.07	.168
H-R: Hand Dynamometer-preferred hand	5	.33	.067	3	.20	.001
Visuomotor coordination						
Trail Making: Test A	6	.40	.011	5	.33	.001
WAIS-R: Digit Symbol	10	.67	.001	2	.13	.002
Auditory perceptual sensitivity						
H-R: Seashore Rhythm test	9	.60	.001	5	.33	.001
H-R: Speech Sounds	9	.60	.001	7	.47	.001
Spatial perception/construction/reasoning						
Nonvisual						
H-R: Tactual Performance test						
Total time	8	.53	.001	7	.47	.001
Visual						
Rey-Osterreith Complex Figure Test						
Copy Trial	6	.40	.011	4	.27	.001
WAIS-R: Block Design	5	.33	.067	0	.00	.582
Object Assembly	5	.33	.067	0	.00	.582
Picture Completion	5	.33	.067	0	.00	.582
Picture Arrangement	7	.47	.001	2	.13	.002
New Learning and memory						
H-R: Tactual Performance test						
Total time	8	.53	.001	7	.47	.001
Memory	14	.93	.001	6	.40	.001
Location	6	.40	.011	3	.20	.001
Rey Auditory Verbal Learning test						
Trial I	14	.93	.001	4	.27	.001
Trial V	13	.87	.001	13	.87	.001
Rey-Osterreith Complex Figure test						
Recall Trial	8	.53	.001	4	.27	.001
Attention/concentration/tracking						
Trail Making: Test B	13	.87	.001	10	.67	.001
WAIS-R: Arithmetic	8	.53	.001	0	.00	.582
Digit Span	9	.60	.001	2	.13	.002
Digit Symbol	10	.67	.001	2	.13	.002
Higher order cognitive functions						
Old learning and verbal skills						
WAIS-R: Information	7	.47	.001	1	.07	.168
Vocabulary	3	.20	.674	0	.00	.582
Reasoning and judgment						
WAIS-R: Similarities	4	.27	.246	2	.13	.002
Comprehension	2	.13	.764	1	.07	.168
General level						
WAIS-R: Verbal scale IQ	6	.40	.011	3	.20	.001
Performance scale IQ	6	.40	.011	1	.07	.168
Full scale IQ	7	.47	.001	3	.20	.001
Cognitive flexibility						
H-R: Categories test	13	.87	.001	8	.53	.001

* Abbreviations used are: H-R, Halstead-Reitan; WAIS, Wechsler Adult Intelligence Scale-Revised.

concentration/tracking tests were also difficult for the painters, and the proportions of painters scoring one or more standard deviations below expected scores exceeded statistical probabilities at less than the .001 level on all of the tests.

Finally, on the tests designated as assessing higher order cognitive functions, the painter group scored at essentially normative levels on the WAIS-R subscales of vocabulary and comprehension but below the expected level on the full-scale IQ score. The latter observation

is consistent with the interpretation that the test reflects some impairment or drop from original or premorbid levels. The painters had a great deal of difficulty with the Halstead-Reitan category test. This test requires the formulation of abstractions to categorize geometric visual displays and evaluates current learning, abstract concept formation, and mental efficiency. As a group, these painters showed notable impairment on tests of cognitive flexibility, attention/concentration/tracking, new learning and memory, spatial perception/construction/reasoning, and auditory perceptual sensitivity.

It should be noted that the data are reported for the 15 painters as a group. Within this group there were marked individual differences. For example, some painters appeared very impaired and others appeared minimally impaired. Some had had above-average intellectual levels premorbidly and others had been at clearly below-average ability levels. The assumption that the painters, as a group, were probably of average ability premorbidly is supported by some of the test scores that are typically the most resistant to impairment, eg, the vocabulary subscale score.

The Halstead-Reitan neuropsychologic test results and Halstead Impairment Indices are summarized in Table 5. Halstead Impairment Indices exceeded 0.5 in 12 painters (80%), providing evidence of diffuse organic impairment. Aphasia tests on painters revealed dysarthria in four, dyspraxia in four, and acalculia in two, whereas agraphia and dyslexia were each present in only one painter. In total seven painters (47%) had some evidence of aphasia. These painters all had Halstead Impairment Indices of 0.57 or higher.

Painters as a group demonstrated clinically significant elevations (mean test score >70) on MMPI scales measuring somatization, depression, hysteria, anxiety, and schizoid tendencies. Psychiatric interviews failed to indicate primary, major psychiatric illness and supported the formulation that the onset of personality deterioration was temporally associated with recurrent episodes of acute organic solvent intoxication and coincident with the development of neurologic symptoms in the four painters interviewed. Psychiatric evaluations also emphasized the devastating impact, at times, of memory loss and personality change on the family and work life of painters, even when deficits in neuropsychologic evaluations were relatively mild or subtle.

Seven painters underwent evaluation for rehabilitation at another institution approximately 1 year after the initial evaluation and in the absence of further organic solvent exposure. At that time clinical neurologic examinations were normal in all subjects, but four manifested cognitive impairment and one was regarded as unusually mentally slow. Abbreviated neuropsychologic tests showed that all had impairment of visual-spatial perception, regulatory function, short-term memory, abstraction ability, and motor skills. Two had abnormal EEGs. Testing by the evoked response test battery (visual, brain stem, sensory) showed at least one abnormal response in six patients. The nerve conduction test battery (24 measurements) showed six of the seven patients to have two to seven abnormal test results each, primarily sensory latency prolongation or absence of response.

TABLE 5

Prevalence of Organic Brain Damage Among Painters According to Halstead-Reitan Neuropsychologic Test Results

Impairment Indication	No.	%
Halstead Categories test (≥51 errors)	14	93.3
Tactual Performance test		
Total (≥15.2 minutes)	8	53.3
Memory (0–5 blocks remembered)	5	33.3
Localization (0–4 blocks)	11	73.3
Seashore Rhythm test (0–25 correct)	11	73.3
Speech Sounds Perception test (8+ errors)	9	60.0
Finger Tapping test (0–50 taps, preferred hand)	12	80.0
Halstead Impairment Index* >0.5	12	80.0

*Halstead Impairment Index = number of subtest scores in brain damage range.

Discussion

The results of this study confirm the existence of chronic encephalopathy in organic solvent-exposed painters. Painters had significantly higher prevalence rates of symptoms, previously described as a neurasthenic syndrome,[6] than did control workers. Neurologic examinations showed mild distal neuropathy in four painters. Neuropsychologic evaluation showed learning and memory deficits, impaired neuropsychologic functioning, and personality problems. Five painters had sensorimotor peripheral neuropathy on EMG and nerve conduction studies and three had focal paroxysmal EEGs, confirming a clinical suspicion of partial complex (temporal lobe) epilepsy. Painters demonstrated a spectrum of severity of symptoms and signs ranging from those with symptoms of the neurasthenic syndrome, but only mild abnormalities on neuropsychologic and nerve conduction studies, to those with evidence of both organic brain syndrome and peripheral neuropathy. Job retraining in this latter group has proven difficult because these painters have difficulty learning new skills.

This toxic encephalopathy, consisting of both the neurasthenic symptom complex and objective neuropsychologic deficits, was presumably caused by organic solvent exposure rather than some other factor associated with industrial painting. This etiologic association is strengthened by the documentation of similar problems in organic solvent-exposed nonpainters,[7–10] in whom organic solvent exposure is the only common denominator. Chronic neurologic problems are also seen in the nonoccupationally related organic solvent abuse syndromes of alcoholism and glue sniffing.

In Sweden, organic solvent-induced neurologic and neuropsychologic problems have been the subject of intensive investigations for more than 10 years, and patients with these diseases now constitute the largest group of patients seen at many occupational medicine clinics there,[11] replacing the more traditional occupational illnesses.

The availability of detailed neuropsychologic testing has resulted in a sensitive method to screen for early CNS dysfunction in individuals at high risk for neurotoxic syndromes. It permits objective verification of neurologic and psychologic deficits in patients with neurasthenic symptoms. Cognitive deficits and personality changes can be documented.

Recent reviews on behavioral toxicology highlight the role of neuropsychologic testing in the diagnosis of occupationally related organic brain syndromes.[12–16] Specific recommendations have been made for the design of epidemiologic field studies in occupational neurotoxicity.[6] An abbreviated neurobehavioral test battery, administered on-site to facilitate the early detection of neurotoxicity in workers exposed to hazardous substances, has been described.[17,18] As these testing procedures become more widely utilized and accepted, clinicians will have a powerful tool to evaluate workers' neuropsychologic symptoms.

The development of partial complex epilepsy has not been associated with industrial painting. There has been only one report[19] of an association between work-related solvent exposure and new onset seizure disorders; seizures have been reported in toluene-containing glue sniffers.[20] Several studies, however, specifically excluded individuals with seizures from evaluation.[6,21–23]

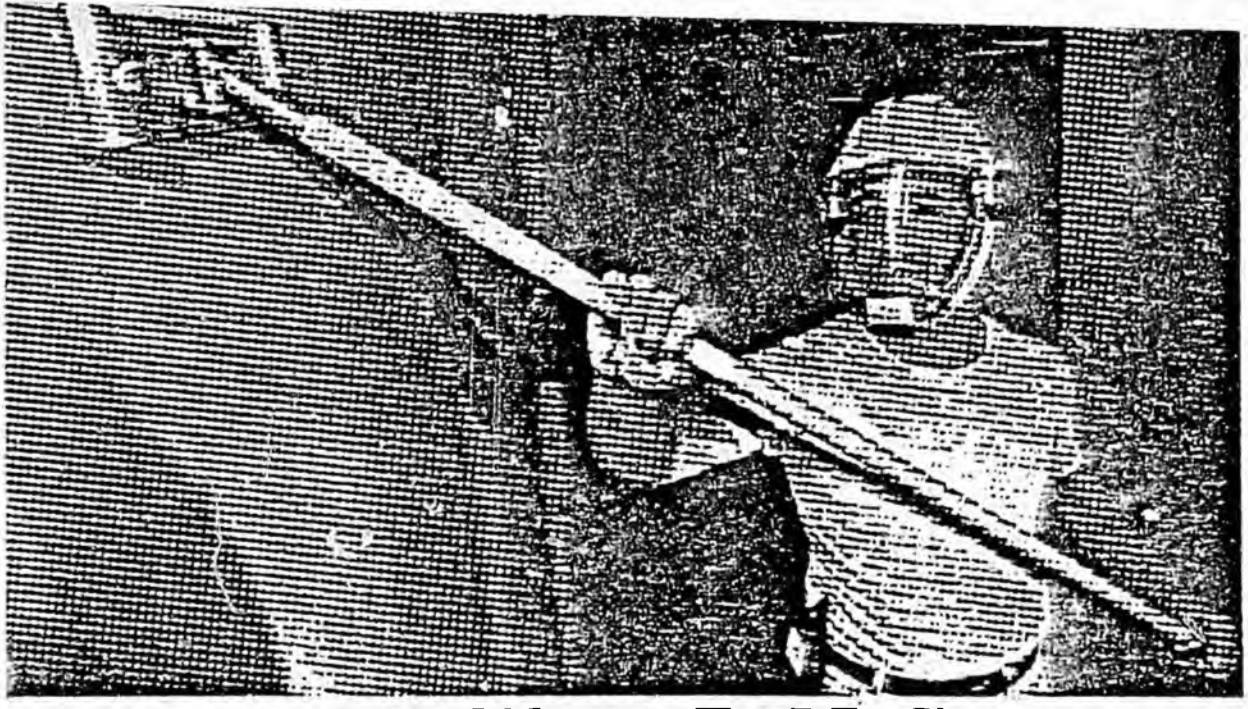
The authors offer several recommendations for the evaluation of organic solvent-exposed individuals with neuropsychologic symptoms. A history of otherwise unexplained acute intoxications while working, suggesting excessive exposure, should be sought. Patients should be asked about memory problems and personality changes, and this history should be confirmed by family members. If the history suggests possible toxicity, psychologic evaluation, including specific tests of intelligence, memory, personality, and neuropsychologic function, should be obtained. Screening tests for other potential medical, toxic, or psychiatric conditions that might be responsible for the patient's symptoms should be obtained. Previous measures of intelligence and personality, if available, can assist the psychologist in making a determination as to whether deterioration from a premorbid level of functioning has occurred. Psychiatric evaluation is useful in some patients to assess the possibility of underlying psychiatric conditions. EMGs, nerve conduction velocity measurements, EEGs, CT brain scans, and other anatomic and physiologic tests of nervous system integrity should be obtained as indicated on an individual basis.

One disturbing feature of organic solvent-related toxic encephalopathy is that symptoms and objective neurologic and psychologic deficits have developed with low airborne organic solvent concentrations in both Sweden[9] and Finland.[23] Work-site solvent concentration measurements in these studies were approximately one-third of the current permissible exposure limit values in the United States[24] as established by the Occupational Safety and Health Administration. Reevaluation of the adequacy of current recommendations for protective standards and procedures seems necessary.

Given the indispensability of organic solvents and this redocumentation of the association between excessive exposure and subsequent chronic CNS impairment and disability, workers with unavoidable exposures should receive preemployment neuropsychologic tests and periodic retesting for early recognition of CNS effects.

References

1. Brodsky C: Psychological factors contributing to somatoform diseases attributed to the workplace. *J Occup Med* 1983;25:459–464.
2. Lezak MD: *Neuropsychological Assessment*, ed 2. New York, Oxford University Press, 1983.
3. Reitan RM, Davison LA: *Clinical Neuropsychology: Current Status and Applications*. New York, Hemisphere, 1974.
4. Wechsler D: *WAIS-R Manual*. New York, Psychological Corporation, 1981, p 47.
5. Fromm-Auch D, Yendall LT: Normative data for the Halstead-Reitan neuropsychological tests. *J Clin Neuropsychol* 1983;5:221–238.
6. Elofsson S, Gamberale F, Hindmarsh T, et al: Exposure to organic solvents: A cross-sectional epidemiologic investigation on occupationally exposed car and industrial spray painters with special reference to the nervous system. *Scand J Work Environ Health* 1980;6:239–273.
7. Buiatti E, Cecchini S, Ronchi O, et al: Relationship between clinical and electromyographic findings and exposure to solvents in shoe and leather workers. *Br J Ind Med* 1978;35:168–173.
8. Lindstrom K: Changes in psychological performances of solvent-poisoned and solvent-exposed workers. *Am J Ind Med* 1980;1:79–84.
9. Lindstrom K: Psychological performance of workers exposed to various solvents. *Work Environ Health* 1973;10:151–155.
10. Knave B, Persson HE, Goldberg JM, et al: Long-term exposure to jet fuel: An investigation on occupationally exposed workers with special reference to the nervous system. *Scand J Work Environ Health* 1978;2:152–164.
11. Flodin U, Edling C, Axelson O: Clinical studies of psychoorganic syndromes among workers with exposure to solvents. *Am J Ind Med* 1984;5:287–295.
12. Weiss B: Behavioral toxicology and environmental health science. *Am Psychol* 1983;38:1174–1187.
13. Valciukas JA, Lilis R: Psychometric techniques in environmental research. *Environ Res* 1980;21:275–297.
14. Seppalainen AM: Applications of neuropsychological methods in occupational medicine. *Scand J Work Environ Health* 1975;1:1–14.
15. Hanninen H: Twenty-five years of behavioral toxicology within occupational medicine: A personal account. *Am J Ind Med* 1985;7:19–30.
16. Mellus JM, Schulte PA: Epidemiologic design for field studies: Occupational neurotoxicity. *Scand J Work Environ Health* 1981;4:(suppl)34–39.
17. Baker EL, Feldman RG, White RF, et al: Monitoring neurotoxins in industry: Development of a neurobehavioral test battery. *J Occup Med* 1983;25:125–130.
18. Baker EL, Letz R, Fidler A: A computer-administered neurobehavioral evaluation system for occupational and environmental epidemiology. *J Occup Med* 1985;27:206–212.
19. Juntunen J, Hupli V, Hernberg S, et al: Neurologic picture of organic solvent poisoning in industry: A retrospective clinical study of 37 patients. *Int Arch Occup Environ Health* 1980;46:219–231.
20. Escobar A, Aruffo C: Chronic thinner intoxication: Clinicopathologic report of a human case. *J Neurol Neurosurg Psychiatry* 1980;43:986–994.
21. Arlien-Soborg P, Bruhn P, Gyldensted C, et al: Chronic painter's syndrome: Chronic toxic encephalopathy in house painters. *Acta Neurol Scand* 1979;60:149–156.
22. Husman K: Symptoms of car painters with long-term exposure to a mixture of organic solvents. *Scand J Work Environ Health* 1980;6:19–32.
23. Hanninen H, Eskelinen L, Husman K, et al: Behavioral effects of long-term exposure to a mixture of organic solvents. *Scand J Work Environ Health* 1976;4:240–255.
24. *General Industry: OSHA Safety and Health Standards* (29 CFR 1910.1000), US Department of Labor, Occupational Safety and Health Administration, Government Printing Office, 1983, pp 598–604.



DRYWALL TAPERS' HEALTH HAZARDS

Health hazards in the drywall trade primarily affect the respiratory system. But all systems of the body may be harmed. Health hazards include exposure to drywall spackling compounds, carbon monoxide in the work area generated by various types of internal combustion engines and bystander exposure to the hazards of other trades.

SPACKLING COMPOUNDS

Drywall spackles contain a variety of substances. Mineral fibers or particles make up from 70 to 95 percent of a typical compound. These include: calcium carbonate, limestone, talc, quartz or silica, fiber glass and asbestos.

The remaining ingredients are gelling agents, thickeners, emulsions, dispersants, solvents and preservatives.

Spackling compounds are formulated for easy application, minimum shrinkage, good slump resistance, proper balance between adhesion and cohesion, and well-controlled drying characteristics.

With the well known exception of the removal of asbestos from drywall compounds in 1974 in response to nationwide complaints from IBPAT tapers, manufacturers are not always inclined to put tapers' health considerations at the top of their lists when they decide what goes into their products.

So drywall tapers must take care not to experience needless exposure to spackles used at work.

Exposure to spackle compounds can occur through INHALATION, when dusts are breathed; through SKIN ABSORPTION, when hands are

dipped in spackle or when spackle collects on the skin, and through INGESTION when inhaled spackle is coughed up and swallowed or when spackle accumulates on food, hands or cigarettes.

Mineral Dusts

Exposure to the mineral fibers or particles in spackles through inhalation usually occurs when dried spackle is sanded or later during sweeping up. Those tapers who still use dry-mix are exposed when pouring dry-mix from bags. Sanding, sweeping and pouring dry-mix generate visible and invisible "dust clouds" containing fine fibers or particles which are easily inhaled by the tapers.

The size of the inhaled particle or fiber determines how far it goes into your respiratory system. Your nasal hairs and wet mucous membranes trap some of the particles, especially the larger ones. Those not trapped continue into your lungs where tiny hairs called cilia try to move them up and back out into your throat—where they are swallowed or ingested. This is the extent of your respiratory system's first line defense against these contaminants. Not all particles which enter your lungs are ejected. Those that remain are there for the duration.

Particles in the lungs do not pass on into the bloodstream. They tend to settle in and, depending upon their natures, they cause a variety of responses—from obstructive ventilatory dysfunction to cancer.

Over 48 percent of the drywall tapers examined in the 1975 health study by the Mount Sinai School of Medicine showed abnormalities in their chest x-rays. The tapers were given pulmonary function tests, and results showed very high rates of obstructive ventilatory dysfunction. Even among tapers who had NEVER SMOKED, 27 percent showed obstructive ventilatory dysfunction.

Pulmonary function tests can reveal obstructive ventilatory dysfunction. Too many drywall tapers suffer this respiratory impairment.

Are more tapers wearing respirators now than in 1975? Has removal of asbestos from drywall compounds eliminated the hazard? Who is to say that a similar investigation today might not show the same high rates of respiratory disorders? The sad fact is that many tapers have probably developed respiratory conditions since Dr. Selikoff conducted his much publicized study.

Take fiber glass, for example. Fiber glass replaced asbestos in some spackling compounds. The chemical composi-

tion of fiber glass is different from asbestos, but its physical structure is similar. Most scientists agree that fiber glass is probably not a carcinogen—a substance that causes cancer. But its physical structure is similar to asbestos, and some scientists have found that fiber glass causes some of the same harmful effects, even though it does not cause cancer.

Fiber glass under an electron microscope. Fiber glass is similar in physical structure to asbestos.

The smallest fiber glass fibers penetrate deep into the lungs, where they remain embedded. These fibers are like tiny knives, which painlessly cut and scar the lungs, making them inelastic. The lung tissue becomes thickened which blocks the exchange of oxygen and carbon dioxide. In other words, breathing becomes very difficult.

When tissue is thickened or scarred in this way, it is known as fibrosis. Pulmonary (lung) fibrosis can be severe enough to be disabling. In addition, when the exchange of oxygen and carbon dioxide is blocked, the heart has to work harder to supply enough oxygen to the body. This extra burden on the heart leads to heart attacks. Many deaths from heart attacks are actually brought on by respiratory conditions such as pulmonary fibrosis.

Bronchitis may also result after fiber glass is inhaled. As a reaction to irritation caused by this foreign substance, the lungs increase mucous production. If excessive mucous production becomes chronic—that is, long-term and ongoing, it is known as bronchitis. Chronic bronchitis is bad enough in itself, but it can develop into conditions which are far worse. The excess mucous in the lungs is an excellent breeding ground for infectious diseases, such as tuberculosis.

Excessive mucous restricts the air flow through small air passages and builds up pressure in the air sacs of the lungs. When the air sacs overexpand or break, they restrict the exchange of oxygen and carbon dioxide. This condition is known as emphysema. Emphysema causes the heart to overwork in its effort to supply oxygen.

What about those other mineral fibers or particles that may be in your spackle? Silica, or quartz, is found in some drywall compounds, accounting for over 10 percent of the formulation. When these compounds are sanded or swept up, tiny particles of silica or quartz become airborne and hover in the taper's breathing zone.

Perhaps you have heard of silicosis. It is a form of pulmonary fibrosis caused by breathing silica dust. Silicosis occurs

Silica seen through the electron microscope. The smallest particles penetrate deep into the lungs—and stay there.

frequently in abrasive blasters who use silica sand without wearing air-fed hoods. But it can happen just as naturally in a drywall taper who sands silica-containing spackle.

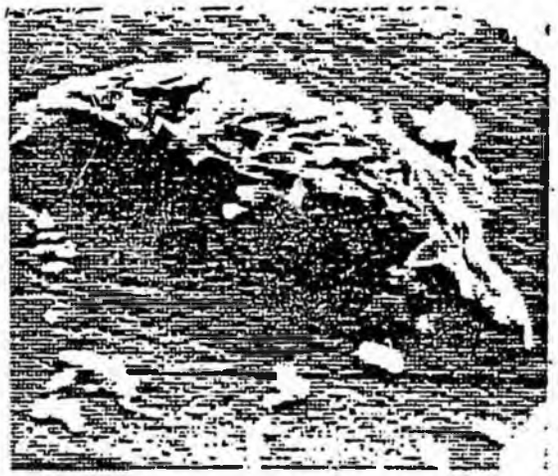
As with fiber glass, the tiniest silica particles penetrate deep into your lungs and stay there, scarring them and causing fibrosis, bronchitis or emphysema.

Then there is talc. Talc also causes a fibrosis known as talcosis, as well as bronchitis and emphysema. Talc may not be as common as fiber glass or silica. But talc poses a special problem. Talc can often be contaminated with asbestos fibers. An analysis of 50 commercial talcs by the Mount Sinai School of Medicine showed over 25 percent had asbestos contents greater than five percent. If asbestos-contaminated talc is sold as a raw material to a drywall compound manufacturer, the manufacturer may not be aware of the contamination.

Sometimes it seems we just can't escape from asbestos! But drywall tapers can avoid exposure to asbestos-contaminated drywall compound by avoiding inhalation of ANY drywall compound.

Finally, there is still asbestos itself. No one knows exactly how many drywall tapers have asbestos in their lungs as a result of inhaling spackling compounds. But informed scientists estimate that a very large number of those who worked with asbestos-containing spackle for up to 10 years or more are very likely to have developed an asbestos-related condition.

Asbestosis is one condition which results when asbestos embedded in the lungs cuts and scars the lung tissue. Asbestosis is a form of fibrosis. But asbestosis is not the most serious complication of asbestos ex-



Talc causes talcosis. It may also be contaminated with asbestos.

posure. Asbestos also causes cancer of the lung, cancer of the lining of the lung (mesothelioma), cancer of the stomach and cancer of the colon. Cigarette

smoking greatly increases the probability of asbestos-caused lung cancer. Cancers caused by asbestos are irreversible; they do not go away.

Asbestos seems to be ubiquitous—that is, it's everywhere. If you don't inhale ANY spackle, you won't inhale spackle containing asbestos.

IBPAT recently surveyed affiliated drywall taper local unions to find out whether abestos-containing spackle is still in use. The survey uncovered no use of spackles with "CONTAINS ASBESTOS" on the labels. But there is always a small chance that asbestos will sneak back into these products.

The most important lesson drywall tapers can learn from the episode involving asbestos is that you can never assume someone else has tested and approved a product to ensure your personal health and safety when you use it.

Even if your spackle only contains calcium carbonate, a relatively harmless substance, you must avoid exposure to it. Again, the very small particles of calcium carbonate will stay in your lungs. So why let them get there in the first place? Foreign substances like these have no place in your lungs. Most Americans already pull enough undesirable substances into their lungs each day. Drywall tapers don't need to add to the burden by unnecessarily inhaling their spackling compounds.

Vapors and Liquids

Besides the mineral fibers or particles that make up most of any spackle's contents, there are smaller amounts of other substances—some of them mysterious.

A small amount of solvent—from 1 to 3 percent—aids the drying of applied spackle. Mineral spirits is used in one formulation, but the solvent may vary from product to product.

Drywall tapers do not think of themselves as using solvents in their work, unless for clean up. Yet five percent of the tapers examined by Dr. Selikoff exhibited some sort of neurological symptom associated with solvent exposure, such as the "pre-narcotic" symptoms of headache, dizziness, nausea or drowsiness. Perhaps those tapers also painted from time to time. But it may also be that there is enough solvent in spackle to produce these effects.

If a drywall taper applies 1.5 gallons of spackle in one hour and the spackle contains 3 percent mineral spirits, it would be possible to "liberate" about three-fourths of a pound of mineral spirits per hour into the air. Also, tapers frequently dip bare hands and arms into containers of compound. Many solvents are absorbed through the

skin and circulated throughout the body in the bloodstream.

Skin absorption is a common route of exposure to many substances. Many people do not realize that substances can be absorbed through the skin.

The skin absorption potential also exists for the remaining ingredients, especially the preservatives or antimicrobials. For example, one spackle formulate includes 0.01 percent Dowicide (A) antimicrobial. This is a very small amount of a product which is 97 percent sodium o-phenylphenate tetrahydrate. Dow's material safety data sheet cautions that this substance will cause skin burns and should be flushed from the skin immediately. The tiny amount in the spackle may not be enough to burn your skin, but it may be enough to irritate your skin, eyes and mucous membranes.

Dow's material safety data sheet also states that Dowicide (A) antimicrobial is "not likely to be absorbed through the skin in ACUTELY toxic amounts" (emphasis added). This leaves the question of long-term absorption of small amounts unanswered. You can answer it for yourself in your own way by keeping your bare hands out of the spackle.

Remember: if something is irritating to your eyes, nose, throat or skin, it could be an indication that it is harmful if your exposure to it is ongoing.

What Is in the Product?

How do you find out what your spackle contains? Try the label, but do not be surprised if the ingredients do not appear there. If you feel you can, you should ask your employer to write for a material safety data sheet for the product. If not, you can write for it yourself. Write to the manufacturer and enclose a copy of the label. If you get no results or if you have questions about the material safety data sheet when you get it, you can write to: IBPAT/OSH, 1750 New York Avenue, N.W., Washington, D.C. 20006.

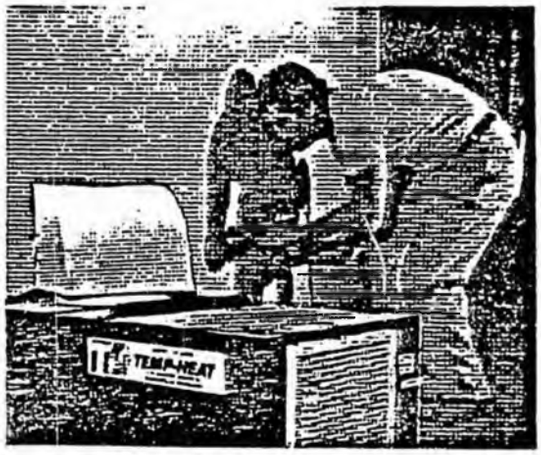
To learn the contents of a product, you can try reading its label. But do not be surprised if the ingredients do not appear there.

CARBON MONOXIDE

Carbon monoxide is another health hazard for drywall tapers. Carbon monoxide is released during the incomplete burning of fuels. Internal combustion engines, such as compressors and space heaters, re-

lease carbon monoxide. Many tapers are exposed to carbon monoxide when using space heaters to keep warm on cold winter days.

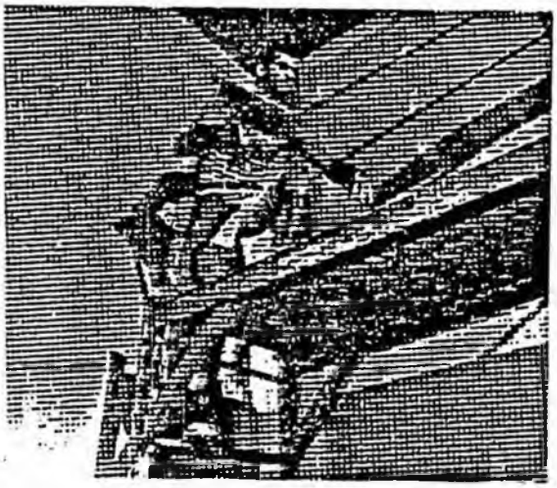
Carbon monoxide causes headaches, dizziness and drowsiness. Repeated and long-term exposure can increase blood pressure and cause heart problems. You cannot detect carbon monoxide with your senses. It is tasteless, colorless and odorless. If you are working with an acoustical spray rig and compressor, keep it tuned. A well-tuned compressor releases less carbon monoxide than a poorly tuned one. If you use a space heater to keep warm, you might crack a window to ventilate the work area. Also, you can either work without a heater or wear an air-fed respirator.



Carbon monoxide from space heaters can be a health hazard for drywall tapers.

BYSTANDER EXPOSURES

The workers around you may create health hazards by using certain materials. For instance, nearby painters can expose a taper to organic solvent vapors or harmful mists of paints. This is known as "bystander exposure." Bystander exposure is a common problem in the construction trades. In fact, the construction industry is a veritable smorgasboard of ever changing health and safety hazards. If nearby workers from another trade are wearing personal protective equipment, that's a sure sign they are generating health hazards—and you are certainly not immune.



The construction industry is a veritable smorgasboard of health and safety hazards.

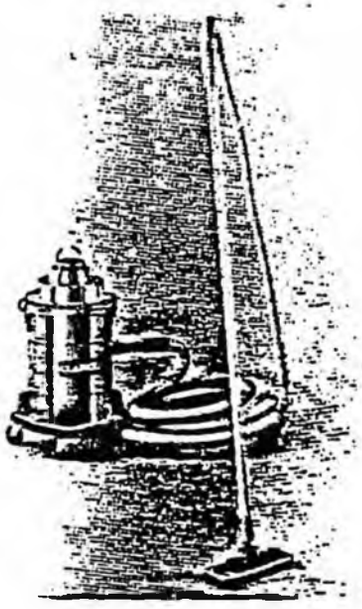
As you learned in the "Health Hazards" chapter, products used in the workplace can contain harmful substances. Do not assume that the contents of your products have been tested and stamped "safe" by some government agency. Most of the time this is simply not true.

HAZARD CONTROL

The only way to ensure your own personal protection is to avoid exposure to products in the workplace through the use of hazard control measures like substitution, engineering controls, administrative procedures and personal protective equipment.

The replacement of asbestos in drywall compounds with fiber glass or other substances is a good example of substitution as a hazard control measure. Likewise, if a compound is irritating to you or your co-workers, perhaps your employer can be persuaded to find another product which is not. This too would be substitution.

Engineering controls are rarely used in the construction trades. A primary engineering control is ventilation — using portable fans and ducts. Wet-sweeping during clean up is a good engineering control for drywall tapers. And pre-mixed spackle is a form of engineering control that reduces exposures to dusts formerly generated during pouring. Another example of an engineering control is a pole sander with a vacuum attachment developed by one company. The motive for this invention was to avoid making messes in certain areas, but its function can just as well be to vacuum up that airborne dust and keep it out of the drywall taper's breathing zone.



A pole sander with a vacuum attachment is an engineering control which can reduce exposure to dusts.

Administrative procedures in the drywall trade would include rotating tapers among various jobs as well as ensuring that tapers are not working while other trades—such as painters—are generating hazards nearby. Another good administrative procedure would be adequate product labels giving the product's contents and the protective measures necessary for safe handling of the product.

Finally, you must wear personal protective equipment. To prevent inhalation of airborne dusts during drywall taping, you need a particulate-removing air-purifying respirator. A DOUBLE-strap dust mask is adequate in most cases. To prevent skin absorption, you can wear gloves and long-sleeved garments. Read the chapter on "Personal Protective Equipment."

The best advice is to handle all products with care and, most especially, avoid inhaling dusts or vapors.

IBPAT's Union-Industry Pension Fund is one of the largest and best managed in the United States. If you practice what you learn in this book, you will improve the odds of collecting your own pension and enjoying it with your loved ones in the best of health.

"SOLVENT NEUROTOXICITY"

"Paint Products and Your Nervous System"

Over 100,000 chemicals are used in American industry. Five hundred-seventy-five are officially considered dangerous in large doses by the U. S. Federal Government. But no class of chemicals is more subtle or treacherous in its effects than the neurotoxins. Neurotoxins can damage the human nervous system even in small doses and cause a variety of behavioral and emotional symptoms.

A neurotoxin is anything that is toxic or poisonous to the nervous system. The largest and most widely dispersed groups of neurotoxins are organic solvents. Solvents dissolve fats or greases and other organic materials. Some scientists speculate that solvents are somehow attracted to the fatty tissues of the nervous system.

Solvents are used heavily in many industries: electronics, film processing, plastics, textiles and petroleum. But one of the heaviest users of solvents is the painting industry.

Daniel Doe was paralyzed from the neck down after spraying lacquer for three days on a construction job. It was one of the 18-year old's first jobs.

Each year, an estimated 450,000 union and non-union painters apply 860 million gallons of paint composed of over 3,000 different chemical and mineral substances. Solvents make up a substantial portion of this paint -- some 290 million gallons.

NBC Nightly News presented a six-minute "Special Segment on Neurotoxins" in 1985. IBPAT was a primary resource for the report, which focused on painters.

Painters are particularly at risk of solvent exposure because they often have difficulty in controlling the amount of ventilation at the worksite. Many studies of painters in this country and abroad have identified significant evidence of toxicity to the brain.

Painters' Syndrome

In Sweden researchers first identified a condition they labeled "CHRONIC PAINTERS'

SYNDROME," in which prolonged and repeated exposures to solvents among housepainters was found to result in brain-size atrophy. In other words, the brains of the painters had actually decreased in volume as a result of their exposures to paint solvents.

Those who work with solvents know that they can easily make a person "high." Painters are often viewed as excessive imbibers of alcohol. Indeed, solvent intoxication and alcohol inebriation share many common characteristics. Unfortunately, some who use solvents find their effects exhilerating -- even pleasant -- perhaps without even realizing it.

In a sense, they may even become physically addicted to the vapors themselves, in much the same way that a person becomes addicted to alcohol or other drugs, according to Edward Baker, M. D., of the Harvard University School of Public Health.

Early Warning Signs

Your nervous system gives strong and clear signals when it is getting too much of a neurotoxic substance. A previously unexposed person who enters an atmosphere of solvent vapors will experience some strong initial reactions. These might include eye and nose irritation, light-headedness, dizziness, the sensation of floating or being "high," tingling in the hands and feet, and perhaps headache.

A leading researcher of solvent neurotoxicity is Edward Baker, M. D., of the Harvard School of Public Health. Dr. Baker uses computerized tests to assess solvent damage among painters and other workers.

You must carefully watch for those early symptoms to occur and do something about reducing your exposure then, rather than simply continuing to be re-exposed and having the symptoms go away -- which they certainly will after a period of time.

Chronic Symptoms

Over time -- often as long as years -- other chronic symptoms develop slowly if the solvent exposure continues: tremors, lack of coordination, paralysis, impotence, sensory damage, lowered alertness, loss of memory, decreased intellectual functioning, irritability, depression, hallucinations, vomiting, insomnia, narcosis, psychosis, unconsciousness and death.

Those who suffer chronic neurotoxic effects find it difficult to do simple everyday tasks. Failing memory leads some to make notes on everything they do. They may have trouble recalling common facts such as frequently dialed phone numbers. Chronic and repeated bouts of mental confusion and even brief blackouts can result in frequent errors in activities such as driving a car, for example. And sometimes the individual may actually find it impossible to perform "motor function tasks" such as buttoning and unbuttoning clothing.

IBPAT Member Tom Pasalaqua was disabled due to solvent exposure. His medical evaluation showed "decreased visual-motor speed and coordination, problems with verbal conceptualizing, anxiety, depression, and significant fall-off in cognitive ability." In daily life, this means that he could not go to the store for a quart of milk without getting lost and forgetting his errand.

Medical Diagnosis

If solvent neurotoxicity among painters and others is so widespread, why is more not being done to prevent it? One reason is the effects -- even when documented in scientific studies -- may be difficult to diagnose in an individual.

Other diseases or disorders, like emphysema, lung cancer or blood disease, can be more readily detected through specific medical tests designed for that purpose. The neurotoxic effects of solvents are much more insidious.

Neurotoxins interfere with at least four distinct aspects of central nervous system functions: memory, visual/motor performance, verbal concept formation, and mood. Different substances affect the nervous system differently, but most solvent neurotoxins alter several of these functions at once. Psychological tests have been adapted by medical doctors and neuropsychologists to detect subtle changes in the nervous system which frequently occur with solvent exposure. The Harvard School of Public Health has developed a standardized battery of these neurobehavioral tests to allow comparisons among groups and individuals. Harvard has computerized the tests so they can be given on micro computers. IBPAT members in several local unions have been given these tests in group health screenings.

Scientists say they do not completely understand how specific solvents affect the nervous system on a molecular level. But the fact that solvents routinely cause moderate to severe nervous system damage in those who use them is beyond dispute. Even low doses of certain solvents can have a profound impact on the individual.

David Friel, an IBPAT member for 16 years, has "no memory at all." Before physicians diagnosed his condition as "toxic organic brain syndrome," he received many misdiagnoses. His early symptoms included severe skin rashes. His solvent disorder destroyed his family and ruined him financially.

Premature Aging

Now more and more people are concerned that persistent exposure to solvents may lead to a variety of health problems down the road that may have significant impacts on people's lifestyles, their ability to perform their work and many other activities. One area of concern is that exposure to solvents may accelerate the aging process and cause the brain and other parts of the body to age at a more rapid rate. We certainly don't understand the aging process very well. But some of the manifestations of premature aging, like memory problems and difficulty concentrating that are associated with certain forms of dementia, are ones that are also associated with excessive exposure to solvents among various studies that have been done in this country as well as in other parts of the world.

Self-Evaluation

Painters must recognize the acute and chronic symptoms of solvent neurotoxicity.

Persistent self-evaluation of acute symptoms by the individual painter is important to prevent either significant overexposure while it's happening or cumulative damage to the brain in the long term. Even though the acute symptoms may go away, the chronic effects -- the damage to the brain and peripheral nervous system -- may occur and persist in the absence of those acute warning signals that occur early on. This really emphasizes the importance of detecting those early symptoms at a time when you are still sensitive to them rather than after the fact when you are starting to ignore those early signals and then may be developing more evidence of chronic, irreversible damage.

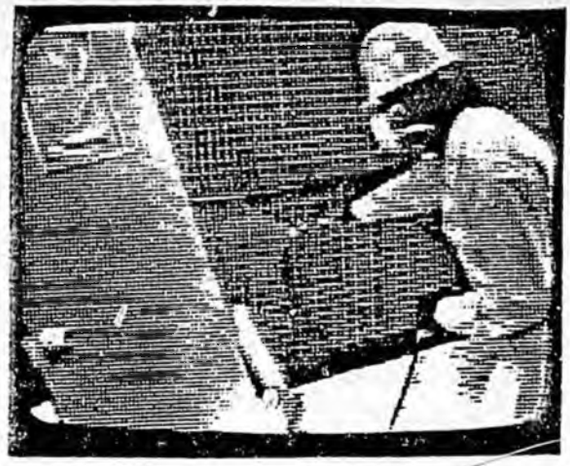
Kate Osborne was a perky 52-year old grandmother who visibly aged 30 years following a three-day exposure to paint stripper

containing methylene chloride and toluene. An IBPAT member for six years, Mrs. Obsorne loved painting but can no longer tolerate any exposure to paints or even household chemicals. Such exposures trigger a recurrence of her symptoms of "floating," numbness in the mouth, and severe disorientation. "It was just like I was in another world," she says. "It just wasn't real anymore." Mrs. Osborne recently settled a product liability suit against the manufacturer of the stripper. But she is disabled, her life "ruined." She says, "Sometimes I wish I had died."

Product Labeling

Scientific research and education of painters and consumers raise other issues such

as better testing of products before their introduction on the market and more complete product labeling. The National Paint and Coatings Association has recently issued new product labeling guidelines for its member paint manufacturing companies. The guidelines acknowledge the voluminous research on solvent neurotoxicity and the hazard education program of the International Brotherhood of Painters and Allied Trades.



The NPCA guidelines recommend two warnings of interest to IBPAT members:

> *Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.*

This warning is recommended for all solvent-containing products. For industrial solvent-containing products, this warning is added:

> *Wear appropriate, properly fitted respirator (NIOSH/MSHA approved) during and after application unless air monitoring demonstrates vapor/mist levels are below applicable limits.*

The new guidelines are voluntary, but the warnings should begin appearing on the products in your workplaces soon. Remember: your union played a key role in the release of these improved labeling guidelines. (For a free copy of the complete guidelines, write: IBPAT/OSH, 1750 New York Avenue, N. W., Washington, D. C. 20006.)

Unfortunately, the typical paint product label will continue to state, "Use with Adequate Ventilation." How does the product user know what is "adequate ventilation?"

The International Brotherhood of Painters and Allied Trades, IBPAT, has developed a computerized hazard index program and solvent data base for painters, contractors and others to use to calculate solvent concentrations before painting begins. IBPAT has developed one method to assign "ventilation requirements in cubic feet of air" which could appear on every paint product label. The program also computes fan sizes and flow rates -- and selects proper respirators, including specific model numbers, instantaneously.

Choosing Your Protection

To estimate your own exposure to solvents during painting, you may use the IBPAT/OSH Respirator Selection Tables for Painters. The Tables give you a mathematical formula for calculating solvent vapor concentration and show you how to select the respirator that will adequately protect you. Use of these Tables is taught in a video module called "Respirator

Selection for Painters." To see this tape, contact your local union representative or apprenticeship coordinator.

In considering protection from solvent exposure, do not forget skin absorption. Most painters know that solvents harm the skin by depleting the fats, causing drying and cracking. Did you also know that most solvents penetrate the skin, passing right through it into your bloodstream? One study showed that immersing your hands in xylene for only 15 minutes will produce a level of xylene in your blood equal to the level found after eight hours of inhaling the vapors during painting!

Think about that the next time you clean a surface with solvents. You must wear protective gloves. And never wash your hands in solvents. You wouldn't wash in acid, would you? Yet washing in solvent can be just as harmful in the long run. Wear gloves and use barrier creams, such as 'Protective Glove' or 'Liquid Glove.'

Anything you can do to reduce your exposure to solvents will be a benefit to the long-term health of your body and your mind.

We're now learning more about solvent neurotoxicity as a result of recent research. But if individuals who are regularly exposed to solvents ask their personal physicians what to do as a result of being exposed to solvents everyday, many physicians are hard-pressed to know what kinds of signs or symptoms to look for or how to evaluate them medically, given that knowledge. So for that reason, it's particularly important for individuals who are exposed to become familiar with some of the toxic manifestations of exposure to solvents.

You can obtain copies of scientific reports and other useful information for your physician and yourself by writing to: IBPAT/OSH, 1750 New York Avenue, N. W., Washington, D. C. 20006.

IBPAT Member Rick Rimmer developed a solvent-induced disorder after many years of spraying. He told local television reporters about an episode of acute neurotoxic poisoning in which, "I was numb, just felt like needles sticking in me. I couldn't hear. I couldn't speak. I couldn't get up. I couldn't do anything."

The brain and central nervous system are probably the single most precious part of the human organism. Our brains house most of our personalities and nearly all of our subjective experience. When the brain is affected by chemical neurotoxins, the very essence of the individual is severely altered.

Today's workers, employers, manufacturers and consumers face an increasing daily danger to health when over-exposure to solvents occurs. What each person decides to do about it, and how much importance is placed on the problem by all of us, ultimately will decide the fate of people just like you.

Rocky Mountain News Covers Painters' Health Problems

Painters' health disorders caused by toxics in paint products received widespread publicity recently in the Sunday edition of the *Rocky Mountain News*. The leading newspaper in the Rocky Mountain region, the *News*' Sunday circulation is 350,000. The article prompted TV-news reports by all major Denver stations.

This is the greatest publicity given to painters' neurological disorders since a *New York Times* Sunday feature sparked national media coverage of the problem in 1981.

The general public traditionally thinks of painting as a comfortable, risk-free occupation. This misconception is finally being attacked with informative reports such as those in the *News* and the *Times*. Publicity like this is waking people up to the truth—that hundreds of toxic chemicals used in the painting industry pose one of the most serious health threats among all occupations.

General President S. Frank Raftery told the *News* that toxic chemicals in paints are "a major health threat to painters that rivals or exceeds the better known health threats to asbestos workers."

The *Rocky Mountain News* article focuses on IBPAT Member David Friel's personal struggle with "toxic brain syndrome." The disease developed after 16 years' spray painting with oil, enamel, epoxies and other solvent-containing products. Some studies may indicate that up to 30 percent of professional painters could be affected to some degree by toxic brain syndrome. The disease is characterized by depression, anxiety, loss of memory, slowed speech, and other symptoms.

Brother Friel's wife Linda told the *News* that the family first noticed a change in his behavior in 1976. "He'd come home from work and just start hollering at me and the children for no reason. It was so unlike him. But we didn't know what was wrong then." Friel's condition deteriorated for the next two years. His memory began to fade and he suffered from unexplained depression. Linda Friel told the *News*, "He'd come home from work, sit on the couch and just start crying. We'd ask him what was the matter but he wouldn't answer. He just kept crying and crying." Aside from these disorders, Friel also suffered from bloody rashes on his feet, legs and torso. "His wife would have to follow him as he walked across the kitchen floor in his stocking feet, cleaning up the bloody footprints Friel left behind," said the *News*.

Brother Friel didn't stop painting until 1979 when a serious near-accident finally made him realize there really was something wrong with him. "That's the way people who have this disease react," Friel said. "They think everybody else is screwed up and not them." Linda Friel believes it is vitally important for painters' spouses to be aware and alert for signs of health problems their mates may be experiencing.

Brother Friel is aware now of what toxics in the paints he worked with were doing to him. As he told the *News:*

> "It's scary for something like that to happen to you. It's like me walking up to you and telling you that something you've been doing for 10 or 20 years is bad for you. You bought a house, raised a family and provided for them. Then one day somebody walks up to you, taps you on the shoulder and tells you that you've got to quit and go mow lawns or something."

David Friel still lives with the symptoms of toxic brain syndrome today, and doctors say he probably will for the rest of his life, according to the *News* article. "I guess the worst thing is that I can't depend on myself anymore. I have a big hang-up about whether I'm right or wrong when I make decisions. I just can't remember how to do things I used to do all the time," Friel said. A week before the *News* article was published, memory problems and the recurring numbness in Friel's hands forced his current employer to put him in a simpler and lower paying job in the company's packaging department. Friel's reduced earning capacity has placed tremendous financial strain on the family — making an already tragic situation worse.

David Friel

Many painters tend to ignore symptoms of toxic brain syndrome. IBPAT / OSH Project Director Marilyn Larson told the *News* that painters have difficulty finding doctors who know enough about the disease to diagnose the symptoms correctly. "The symptoms are often mistaken for signs of psychological illness," she told the *News*. "The whole area of occupational health is so new that many doctors just don't know what to look for.

IBPAT has dedicated the "Decade of Job Safety and Health" to warning its members of the health hazards of their trades and teaching them how to protect themselves from these

Rocky Mountain News

Weather
Warmer
Page 167

124th year, No. 339 Denver, Colo. March 27, 1983 50¢

Solvents as Intoxicants

A Florida jury recently found Brother Albert McAleer of Dallas Local 53, innocent of driving while intoxicated because he apparently was suffering from symptoms of inebriation caused by exposure to solvents.

Brother McAleer was arrested last March after police said his car was weaving on the road. But testimony at his trial indicated that a routine day of painting had made Brother McAleer's blood-alcohol reading go from a normal level of 0.01 on a Breathalyzer test to 0.11 by exposure to painting materials. Florida's legal level of intoxication is 0.10. But not all solvents register on a breathalyzer test.

In the April 1979 issue of The Painters and Allied Trades *Journal*, Dr. Edwin C. Holstein of New York's Mount Sinai School of Mediciue addressed this issue in his Ask The Doctor column. He said,

"In the Mount Sinai study of health hazard in the painting trades, we found that most painters have suffered light-headedness, dizziness or mental confusion from working with solvents and other materials.

"Some painters have even blacked out. Epoxy is one of the worst offenders.

"One whiskey is not going to make you black out. But liquor affects your brain the same way that the solvents do. So the two together are double trouble, and may be enough to put you out. Likewise sleeping pills, tranquilizers, 'nerve pills,' sedatives and even many nonprescription cold remedies do not mix well with solvents—or liquor!

"So here are some do's and don'ts if you are working with substances that make you light-headed:

"1) DO make every effort to provide good ventilation while you work. Perhaps fans ought to be a standard part of a painter's equipment.

"2) DO be double-certain that you use every safety measure possible on ladders, scaffolds and other dangerous places. Painters have a very high accident rate. We suspect, but have not yet proven, that this is because so many painters are 'drunk' from the solvents they breathe.

"I believe that a light-headed or 'high' painter on a scaffold is in danger. Learn to be conscious of safety every minute, and develop automatic work habits that will protect you from danger.

"3) DON'T get the solvents on your clothes or skin if at all possible. Many of them will go right through your skin and into your body. This will increase the light-headedness.

"4) DON'T drive until the 'high' feeling has worn off. For most painters this takes 10 to 30 minutes in fresh air.

"5) DON'T drink or take tranquilizers, sedatives or cold remedies until you are home.

"6) DO see your doctor if you black out. It could be due to heart trouble, epilepsy or other disorders."

PAGE 35
WEDNESDAY, NOVEMBER 13, 1985

THE WALL STREET JOURNAL.

Labels on Household Products Begin To Warn of Long-Term Health Threats

By Barry Meier
Staff Reporter of The Wall Street Journal

Warning: The warning labels on some household products may be inadequate to protect users' health from potential damage by insidious chemicals.

Almost all concerned—many manufacturers and marketers as well as consumer groups and regulators—now appear to agree with that judgment. So new types of labels are on the way for some paints, varnishes, lacquers and other do-it-yourself aids.

Conventional consumer-product labels warn only of immediate threats—of poisoning if a toxic substance is swallowed, for instance, or of fire if a flammable one is ignited. The exception has been cigarette packages. These have long stated that "smoking is dangerous to your health" and are beginning to be more specific about the risks involved.

Now the labels on more products will tell of so-called chronic (as opposed to acute) health hazards, some of which may result in severe illness or death 10 years or more after the initial exposure. Paint users, for example, will be told, in this or similar language, that "reports have associated repeated and prolonged occupational exposure to solvents with permanent brain and nervous-system damage."

Some States Act

The labeling so far is mostly voluntary, although at least four states have begun to require chronic-hazard labels on many arts-and-crafts supplies such as pottery glazes and printing inks. In the paint industry, the National Paint and Coatings Association last January urged its members to alert consumers to the neurotoxic risks posed by certain solvents. This followed Scandinavian studies that linked the solvents to brain damage in professional painters, not part-time do-it-yourselfers.

"This is the broadest step the industry has taken on chronic-hazard labeling on consumer products," says Patrick J. Hurd, an attorney for the trade group.

Propelling such labeling drives is increasing evidence that some chemicals pose chronic health risks. Also a factor is producers' fear of lawsuits. A new federal law requiring the disclosure of chemical hazards to workers is raising liability concerns among manufacturers who use the substances. Product-liability lawyers have been known to base suits on claims "that a company told workers about a hazard but didn't tell consumers," says Steven R. Sides, the manager of health affairs for the paint association.

Of course, some people would like to see more-complete labels than the ones being volunteered. The anticipated paint labels, for example, are deemed wanting by Rodney D. Wolford, the health and safety director of the International Brotherhood of Painters and Allied Trades, a major labor union.

Some paint labels are expected to warn users to increase air circulation, wear a respiratory mask or leave the room if they experience "eye watering, headaches or dizziness." But, according to Mr. Wolford, the labels won't make it plain that such symptoms indicate overexposure of the sort that might, if it were repeated and prolonged enough, lead to nerve damage. Without more-direct labels, he says, users might miss the point entirely.

> **CALIFORNIA, Illinois, Oregon and Tennessee require chronic-hazard labels on many materials used by artists and craftsmen.**

But for consumers who wonder how to defuse a stated threat, the new labels may be less baffling than current ones. Some companies plan to expand use instructions such as "Use With Adequate Ventilation." Right now, many paint-can labels keep people guessing about what "adequate ventilation" is. "It's an open window at both ends of the room," suggests Alan Shefts, the operations manager at Pearl Paint Co., a New York retailer. Suggests Fred Hirsch, also of Pearl, "It means that people should use exhaust fans."

Some of the new labels will advise people to "open windows and doors or use other means to ensure fresh-air entry during application and drying."

Meanwhile, the government is being asked to require chronic-hazard labels on some products without voluntary ones. The Consumer Federation of America, a coalition claiming to represent some 200 consumer groups, seeks cancer-risk labels on paint strippers and spray paints made with a solvent called methylene chloride.

On the basis of animal studies, methylene chloride is deemed a potential cause of cancer in humans. And although the solvent isn't particularly potent as carcinogens go, at least in laboratory tests, staff scientists of the federal Consumer Product Safety Commission say the way people use products containing methylene chloride poses one of the highest cancer risks ever calculated for a consumer product.

The finding was made because many consumers magnify the potential risk by using paint strippers in basements and other rooms with little ventilation, says Sandra Eberle, a program manager with the commission.

The safety commission is considering what to do about methylene chloride.

While the agency ponders chronic-hazard labeling, California, Illinois, Oregon and Tennessee will soon require such labeling on many materials used by artists and craftsmen. "Artists were often getting exposed to the same level of toxics as workers—without any protection," says Michael McCann, the executive director of the New York-based Center for Occupational Hazards, a foundation-supported advocate of such state actions.

Amending Aerosol Spray Can

In Easton, Pa., the manufacturer Binney & Smith Inc., whose products include an aerosol spray used to coat artists' drawings, has amended the product's label to read: "Exposure may cause nervous system damage or kidney damage or harm to the developing fetus. . . . Avoid using if pregnant or contemplating pregnancy."

The more specific—and chilling—the labels, the more likely they are to be heeded, health activists argue. But almost everyone agrees that more than labels is required of industry if people are to be made aware of potential hazards. So last week the paint association, for example, set aside funds for a program to help retailers alert consumers about the hazards of solvents.

But how far will paint makers go? "When you look at paint advertisements everyone is having fun and smiling," says Mr. Wolford, the union official. "But it's awful hard to smile when you're wearing a respirator."

Modern Paint and Coatings

Formerly PAINT AND VARNISH PRODUCTION
OCTOBER 1985 VOL. 75, NO. 10

International Review

NPCA Leader Explains U.S. Paint Laws To British

By Derek Eddowes
European Correspondent

WE TRY IN THIS column, month by month, to cast a dragnet over the European surface coatings industry. From time to time, we manage to enmesh a reasonably-sized fish (for which please read: item of newsworthy information). At others, all we can offer are a few minnows which may, nevertheless, tickle the palate of our readers. Moreover, some of those minnows (for which please read: snippits of information) have a habit of growing out of all recognition—like lead and organic solvents.

This month, we have concocted a veritable bouillabaisse of items, some large and some small, with particular reference to the United Kingdom's paint industry, a microcosm of the larger European industry.

We promise not to refer to fish again but we may be excused for using that analogy, having just returned from Scotland where salmon and other aquatic delicacies are of some merit. We also attended the annual conference of the Paintmakers Association of Great Britain, held at Gleneagles, one of Britain's most prestigious hotels.

Association President John Myland, managing director of a small but highly-specialized paint company, suggested the conference was a forum where old friendships could be renewed and chief executives of fiercely competitive companies could find common ground. Many topics were aired and views expressed. It is possible that the annual meeting of the National Paint and Coatings Association might follow a similar pattern.

Keith Vander Hyde, NPCA president, was a welcome guest at Gleneagles. Others were Klaus Deinst, retiring [illegible] Paint Association, and a number of chief executives of U.K. paint companies which now have European owners: Ben Sipila of Donald Macpherson, now a subsidiary of Tikkurilan Oy, Finland; Sten Skoog of Becker Paints; and Lars Reistam of Goodlass Wall and Co., the bride of AB Whilm. Becker of Sweden.

Vander Hyde warned the conference about certain ill winds currently besetting the American paint industry. Laws designed to enforce clean-up of chemical dumps, the rights of workers to have information about chemical hazards in the workplace, and similar requirements for people living near a chemical or paint plant were discussed. These difficulties were appreciated since Europe has similar legislation.

What came across strongly from Vander Hyde was that the U.S. paint industry was trying to get ahead of likely contentious issues, assuring lawmakers that the industry is perfectly willing to play by those rules. But it wants a voice in ensuring that the rules are equitable, cost effective and not burdening to the manufacturing sector.

Overall profitability in the U.K. paint industry in 1984 declined in actual terms by 3.6 percent compared with 1983. A major contributor to this decline is the rapid increases in the costs of raw materials faced by the industry.

The U.K. paint industry did not come out of the lead-in-paint issue with any credit, despite the fact that the voluntary guidelines it established years ago were a basis for EEC legislation. Now, with a vastly more sinister thundercloud on the horizon, a far more positive approach is being adopted. That thundercloud is, of course, the issue of neurotoxic effects of organic solvents, the so-called "chronic painter's syndrome."

Delegates were silenced by parts of the American video broadcast, prepared by the Brotherhood of Painters and Allied Trades, alleging neurotoxic effects of solvents. Similar claims have been made against organic solvents in Scandinavia and, more recently, in West Germany. "How long before it hits the headlines in the United Kingdom?" was the trenchant comment.

Government departments already are looking at the problem and it could be that, if no action is taken, either on a U.K. or European basis, events could rapidly overtake the industry which would be forced to put warning labels on products containing solvents in much the same way as is done in the United States. So seriously does the Paintmakers Association view this problem that, together with several major chemical companies, it is putting up funds to initiate a detailed case-referent study of the illness pre-senile dementia with reference to solvent exposure. Principal investigators will be Professor Elaine Murphy of the Department of Psychogeriatrics, Guy's Hospital, and Dr. H.A. Waldron of the Institute of Occupational Health, London School of Hygiene and Tropical Medicine.

Sales and Profitability

It was disclosed during the conference that in 1984, total sales of the U.K. paint industry showed a modest volume increase of one percent over the previous year. Sales value was three percent higher. Productivity was 12.8 percent higher in terms of value and 8.8 percent higher in volume, despite the fact that the industry's total workforce declined by 8.6 percent between 1984 and 1983, mainly in the general and administrative areas.

The unpalatable fact, however, was that overall profitability of the industry declined in actual terms by 3.6 percent compared with 1983. This works out to about seven percent as a percentage of sales and nine percent as a percentage of net assets. A significant contributor to this decline is, without doubt, the rapid increases in raw material costs faced by the industry. These increased by nearly 10 percent up to the end of 1984 but are rising ahead at an even greater rate presently. A main culprit is titanium pigments but other raw materials, including aromatic solvents, tall oil and

Another Work-Related Death? No—Murder!

Today, hazardous work exposures are playing a deciding role in the prosecution of "murderers" and other "criminals" in the United States. Following are three court cases that involve such legal decisions.

Landmark Corporate Convictions

In an unprecedented decision last year, three corporate officials were found guilty of murdering a worker who inhaled cyanide fumes at his jobsite. These convictions marked the first verdict for corporate homicide in U.S. history.

Stefan Golab, a 61-year-old Polish immigrant, inhaled cyanide fumes as he prepared to clean a large tank at Film Recover Systems, Inc., a company located outside of Chicago.

Judge Ronald J. P. Banks sentenced the Film Recovery Officials—including the company president, plant manager and plant foreman—to 25 years in prison and fined them $10,000 each. The convicted vice president remains free in Utah where the governor has twice refused to extradite him.

Judge Banks said Golab's death was "no accident, but murder." Banks held that the evidence presented throughout the two-month trial clearly demonstrated that Golab died from breathing in cyanide fumes under "totally unsafe" workplace conditions and that company officials were "totally knowledgeable" of the hazards.

Prosecutors at the trial presented compelling evidence indicating that workers were ordered to scrape the skull and crossbones warning off drums of cyanide. Testimony revealed that workers were allowed to wear cotton gloves around the corrosive chemicals.

Former employees also testified how workers experienced daily nausea, dizziness and vomiting at the plant, and how all of these symptoms were ignored by company officials. They also told how they were never warned of the deadly hazards associated with cyanide exposure.

In an interview with *Occupational Safety and Health Magazine*, Cook County State's Attorney Richard Daley described the Film Recovery plant as a "huge gas chamber". Daley sought the murder verdicts under a section of the Illinois murder statute that states that a prosecutor does not need to show a defendant had intention to kill but only that he or she "knowingly created a strong probability of death and great bodily harm."

Film Recovery prosecutor Jay C. Magnuson said: "Exposing workers to something as dangerous as cyanide gas is nothing less than firing a weapon into a crowd. You have created a strong probability of death. No intention is needed at that point."

Judge Banks also found the defendants guilty of 14 other counts of reckless conduct in connection with injuries suffered by other Film Recovery workers.

Legal experts on both sides of his decision agree the murder convictions represent a legal landmark. The Philadelphia Area Project on Occupational Safety and Health's Safer Times publication said that these convictions "are a welcome breakthrough in a legal system which historically protects management." The *Wall Street Journal* quoted attorney Daley saying that the verdicts "mean that employers who knowingly expose their workers to dangerous conditions leading to injury or even death can be held criminally responsible for the results of their actions."

The Film Recovery murder convictions send a clear warning to corporate management about its liability when putting workers lives at risk.

The incident also demonstrates the inadequacey of present inspection and monitoring procedures by the Occupational Safety and Health Administration.

OSHA had made a records or "paper" inspection of the Film Recovery plant four months before Stefan Golab's death. This means OSHA looked only at the company's own injury records, comparing them to the national average. Because the plant's injury record was not above that average, no inspection of jobsite conditions was made. Routine inspections of jobsite conditions and larger fines are the only way to enforce health and safety regulations.

D.A. Forms Special Unit

In the past, similar incidents have merely resulted in shockingly small corporate fines. However, the tide may now be turning.

In Los Angeles County last year, the District Attorney established an Occupational Safety and Health Unit as a special prosecuting force to work specifically on work-related deaths.

In a recent interview, the unit's director, Special Assistant District Attorney Jan Chatten-Brown explained: "Our commitment is to handle fatalities and serious injuries where there are repeated incidents—an employer doesn't seem to be responsible to what we consider to be grossly inadequate administrative process provided by CAL-OSHA."

Chatten-Brown delivered a clear warning to employers: "Jail and prison sentences will be imposed. Employers should be liable for their actions. You must raise your standard of care to employees."

Two Solvent Intoxication Cases

In a related case, a 27-year-old Florida painter was found innocent of driving while intoxicated after the defense proved that the defendant was at the time "high from paint" and not from drinking alcohol.

Testimony at the trial demonstrated that a routine day of exposure to painting materials had caused his blood-alcohol reading to go from a normal leval of 0.01 on a Breathalyzer test to 0.11. Florida's legal intoxication level is 0.10. Trial evidence—a paint can label—showed that 65 percent of the paint he used was pure alcohol.

In another chemical intoxication case, a 23-year-old lawnkeeper was convicted of first degree murder after strangling a customer in her yard, despite his claim that he was driven insane by pesticide poisoning. The lawnkeeper's attorney argued that organo-phosphates used in the lawn work had intoxicated his client, leaving him unable to distinguish right from wrong.

Despite compelling testimony relating the neurotoxic hazards of organo-phosphates, they lost the case.

Public Support

The public apparently approves of such criminal prosecutions as well. The *Detroit Free Press* conducted a poll the day after the Illinois convictions asking if murder is "too harsh a charge for negligent employers." Eighty percent of the respondents said no.

A Western Illinois University law professor who worked on the Film Recovery case notes that the "polls indicate a recognition of the seriousness of corporate and white-collar crime. The public's perception of acceptable risks may be changing, especially with the growing publicity over toxic substances."

Catastrophes such as Love Canal and the Bhopal disaster and increased news coverage of such incidents have dramatically increased the public's awareness of the dangers of toxic substances and procedures using them

A recent NBC Nightly News special on solvent neurotoxins focused attention on toxic chemicals associated with solvents used in the painting trades. That report featured IBPAT painters and demonstrated the potentially serious effects to the human nervous system that can be associated with exposure to solvents in paints and laquers.

National Public Radio also recently featured a special two-part series on neurotoxins in the paint trades and IBPAT Health and Safety Director Rod Wolford was interviewed on NBC's Today Show in October.

Making Headlines

Solvent poisoning is making headlines and becoming the central issue in court battles between employees and employers, employees and manufacturers, and employees and the general public. While the outcomes of these particular cases are after-the-fact decisions and don't solve the problem of removing workplace hazards, the accompanying publicity may help increase public awareness about the dangers of solvents—an area that has concerned our trades for more than two decades.

More importantly, these court cases—particularly the Film Recovery Case—may pressure management to take responsibility for providing a safe and healthful workplace and motivating workers to make and demand changes.

For instance, following a court decision, the DWI-accused painter vowed to purchase and use "the best chemical cartridge respirator available."

Chemical Plant Accused Of Concealing Deaths

A labor coalition in December accused Rohm and Haas, a chemical concern, of trying to cover up the cancer deaths of four employees, exposed to what some scientists have called the most potent carcinogen known.

The union group, the Philadelphia Area Project on Occupational Safety and Health, charged that there is undeniable evidence that leaks of the carcinogen, bis-chloremethyl ether or BCME, has endangered other employees at the plant in Bridesburg and people in its neighborhood in Northeast Philadelphia.

Unions participating in the coalition include the United Automobile-Workers, the Oil, Chemical and Atomic Workers, the American Federation of State, County and Municipal Employees and the Communications Workers of America.

The group's charges are based on an investigation by the federal Occupational Safety and Health Administration, which recently cited Rohm and Haas for six "serious" violations.

OSHA found that the company had failed to train employees adequately on personal protective equipment, and that its leak-detection system was deficient. The federal Environmental Protection Agency ordered the company to correct the hazards and proposed fines of $3,600.

The New York Times

—NEW YORK, SUNDAY, APRIL 12, 1981—

Toxic Paint Chemicals Raise Alarm as Threat To Health of Workers

By BEN A. FRANKLIN

WASHINGTON, April 11 — Three years ago, in response to an increasing number of its members who were reporting strange and debilitating illnesses, the International Brotherhood of Painters and Allied Trades started running an "Ask the Doctor" column in its journal. The letters poured in.

"I told the foreman I was getting numb around the mouth and in my hands," one painter wrote. "A stationary object would move as I walked toward it," wrote another. And according to another, "When we came in to work each day we had to haul dead rats out of the rooms we had painted the night before."

There are about 400,000 painters, paint makers, sign painters, silk screen printers and tile and carpet layers in the United States who work with coatings or adhesives made with aromatic hydrocarbons and other solvents, often in places without enough ventilation. Many of them have complained for years of dizziness or intoxication while on the job.

But recently, as paint manufacturers have incorporated new chemicals in their products and as the toxicity of some, such as toluene and benzene, have become more widely known, many industry, Government and union officials have come to share the conclusion of Frank Raftery, the painters' union president, who said:

"Toxic chemicals are a major threat to painters that rivals or exceeds the better-known health threats to asbestos workers and even to coal miners."

Dr. John Froines, a Government toxicologist who is acting director of the National Institute for Occupational Safety and Health, agreed that the chemical compounds in paint presented "new and serious problems."

"We are concerned about the hazards of painting to such an extent," he said, "that we are conducting extensive research into the carcinogenic and neurotoxic effects in the workplace. Obviously, further research is needed to evaluate these problems."

Neurotoxins are poisons that destroy nerves or nervous tissue, resulting in neuropathy, or a dysfunction of the way the nervous system usually works.

Major segments of organized labor have shown increased concern about the effects that these and other toxic substances have upon employees in the workplace. In the last year the painters' union, the United Automobile Workers and the American Federation of Labor and Congress of Industrial Organizations have set up special departments to investigate the problem.

Few Actions Against Makers

Relatively few negligence or product liability cases have been brought against the manufacturers of the chemicals, paints, lacquers, adhesives and plastics that contain potentially neurotoxic formulations with names like methyl-n-butyl ketone, toluene diisocyanate and dimethylaminopropionitrile. According to Rodney Wolford, an occupational safety official at the painters' union, the first symptom of neuropathy is depression, and "the poisoned workers find it very hard to write us about it, much less to bring lawsuits."

Among painters and others exposed to solvents for long periods in poorly ventilated areas, the symptoms of toxicity often begin with on-the-job dizziness, exhilaration, headache, blurred vision and slurred speech. Sometimes they progress to hallucination and permanent disorientation, paralysis and other symptoms of injury to the central nervous system.

A mortality study conducted for the painters' union among workers in New York found their life expectancy to be 11 years less than the average American's.

In 1975, a pioneering medical survey of 1,000 painters, paint makers, tile and carpet layers and wood finishers found that 71 percent of those studied reported some toxin-related disorientation on the job. As many as 4 percent said they had lost consciousness while working.

The study by Dr. Irving J. Selikoff of Mount Sinai Medical School found that painters exposed to solvents were more likely to have accidents, such as falls from scaffoldings, and that they had potentially dangerous difficulties driving home from work.

Study by Johns Hopkins

More recently, a study of paint hazards by the Johns Hopkins University School of Public Health found that there were "minimally, over 300 toxic materials and 150 carcinogens potentially present in paints." Fifty-seven percent of the paint solvents identified in the study are listed in the Registry of Toxic Substances compiled by the occupational safety institute.

One of the first acts of the Reagan Administration was to table a proposal for more explicit labeling of all the hundreds of thousands of products containing chemicals that are known to cause symptoms of toxicity in high concentrations. The products are used by an estimated 25 million American workers, according to the Labor Department's Occupational Safety and Health Administration, which developed the proposed regulations in nearly five years of negotiation with the chemical industry.

Under the proposal, the labels would have listed the products' ingredients, given more specific directions for their use and described symptoms and treatment of toxic reactions.

A Labor Department spokesman said that, at the request of the Chemical Manufacturers Association, the proposed regulations were being reconsidered as part of the Administration's plan for a general reduction in regulations. It is not clear when regulations will be proposed again or, if they are, in what form.

State Action Sought on Rules

Since the proposed labeling regulations have been tabled, representatives of labor have been moving on state legislatures in an effort to enact all or part of the labeling rules on a state-by-state basis.

But if states adopted conflicting requirements for the labeling or the use of potentially toxic substances, one chemical trade association official said, "That would drive the industry right up the wall, and we might end up actually going for some Federal regulation."

Industry spokesmen differ on how hazardous the paint chemicals are as well as on the need for better labeling. Robert A. Roland, president of the chemical manufacturers' organization here, calls his industry, which makes other toxic substances in addition to solvents, "the second-safest in the country, next only to the dry goods and retail industry."

The association contends that the proposed Federal regulations were far too stringent.

But Patrick Hurd, an industrial hygienist at the National Paint and Coatings Association, which Mr. Roland ran until he moved to the chemical association a year ago, said that "from our standpoint, there is a need for some sort of further hazard warnings on paint products."

Most consumers who take a weekend to paint a bedroom or an apartment are relatively free from toxic risks because many of the most popular consumer products are water-soluble latex-based paints, which have not been proved harmful. If oil-based paints that contain solvents are used by do-it-yourself painters, exposure is usually for brief periods.

But risks to artists are often high because they repeatedly use the same kinds of solvents and chemicals as do workers for commercial painting companies, "with no more knowledge of the hazards than you see in industry," according to Michael McCann, an industrial hygienist at the Center for Occupational Hazards in New York. Those exposed to varying degrees of risk, he said, included artists, silk screeners, home jewelry makers and stained-glass makers.

Today, according to OSHA, a new chemical compound, potentially a new neurotoxin, mutagen or carcinogen, or all of the above, comes into the American workplace every 20 minutes of every working day.

The labels on most containers reveal little about the contents, with most bearing only trade names. And manufacturers who might otherwise list contents are confronted with "nested trade names," raw materials supplied to them by other manufacturers who decline to disclose the contents on the ground that they are trade secrets. The containers for some paint products for industrial use bear only code numbers.

Existing Federal regulations require the manufacturers of each potentially toxic substance to file with the agency a "material safety data sheet," theoretically available to workers exposed to toxic agents. But according to the Labor Department, the data sheets, if they are ever seen by those who could benefit from them, are often barely more informative than the labels.

Alarm Rises Over Paint Chemicals as Health Threat

The New York Times/Nik Kleinberg

A painter wearing a protective air mask spraying overhead pipes at a construction site on Long Island

Among the important information that safety advocates say is missing from most labels are instructions on the early symptoms of overexposure or emergency treatment.

"Remove to fresh air," is a commonly advised remedy on paint labels for toxic effects, such as intoxication or unconsciousness. But for many professional painters, long-term exposure brings either habituation or sensitization, a form of allergy.

"We don't hear about a lot of these solitary cases because the first symptom is depression," Mr. Wolford of the painters' union said in an interview. "The sick painters are out there, sitting at home depressed and unemployed.

Most Benefit Claims Are Denied

"Many painters don't go soon enough to a doctor," he continued. "Most doctors know very little about neurotoxic illness. Most of these people don't get workmen's compensation benefits because it is very hard to show that these exotic illnesses are work-related. There is often a long latency period before symptoms arise, so 98 percent of the claims are denied.

"In the end, their friends reject them because they act queer and they are pathetic. People are apt to say they are!

Even neurotoxic epidemics affecting large numbers of people have only recently attracted wide public or scientific attention in America. But in the Scandinavian countries, studies of spray painters in the 1930's revealed gross distortions among them in behavioral problems and neuropathy — slowness in nerve conduction, for example — and lower life expectancy. Strict labeling and protective equipment rules have been invoked since then.

Study by Soviets Cited

And a translation of Russian literature on industrial neurotoxins, published here in 1978 by the occupational safety institute, also showed a wider use by doctors there of "behavioral and neuro-physiological methods" in the early diagnosis of chemical toxicity.

One Soviet study of worker habituation to industrial poisons was cited by Mr. Wolford of the painters' union as explaining "why some of our people have 'the Monday blues' and can't wait to get back to the job that is killing them after a weekend." He added, "They say they actually feel better when they work every day with this stuff than when they're away from it because their bodies develop a craving for aromatic hydrocarbons."

The Journal of the American Medical Association, saying that it knew of no previous such case, reported in February 1980 that several humored workers making polyurethane foam in two unrelated plastics factories had suffered an unusual neuropathy: They had difficulty urinating and had painfully distended bladders. Some of the men were impotent.

Symptoms at Second Plant

A new compound called dimethylaminopropionitrile had come on the market, advertised as an improved catalyst in polyurethane foam production, and companies in Jessup, Md., and Marblehead, Mass., began using it. After two doctors in Baltimore reported neuropathic symptoms among workers at the Maryland plant, Rebecca Moreland, a public health nurse, was assigned to investigate the cases. She telephoned Dr. David Wegman at the Harvard School of Public Health for help in isolating a suspected neurotoxin. That was on a Friday.

The next Monday, Dr. Wegman called her back with the requested aid and with some news.

Over the weekend, he reported, 11 workers at the Marblehead polyurethane plant had discovered they had similar

THE NEW YORK TIMES

Sunday, April 12, 1981

symptoms. The workers went to a hospital emergency room in Massachusetts.

About two-thirds of the production line workers at each plant were found to have neuropathic urinary dysfunction. Others also had paresthesia, a loss of sensation in their hands and feet. The product was immediately withdrawn from the market.

Even as paint toxicity is being recognized as a problem, however, a technologically compelling factor is entering the picture, a recent trend toward a whole new generation of paint formulations that may be as revolutionary as the post-World War II development of water-soluble house paints.

Lower Use Tied to Rising Costs

Mr. Hurd of the National Paint and Coatings Association said in an interview that the industry was "beginning to move away from solvent-based finishes and solvent hazards." New systems of water-thinnable, oven-baked automotive paints have been installed so far in a few places, among them the General Motors automobile assembly plant in Los Angeles. Solvents are still being used in most plants, but in much lower concentrations.

"I would like to think that this trend is a result of hazard control," Mr. Hurd said, "but it is probably the result of the rising costs of solvents."

Because solvent products are made largely from petroleum, the cost of solvents rises with the price of oil. The cost of using solvents also is higher in states with strict controls on the emission of hydrocarbons.

The Southern California Air Quality District, for example, levies an inhibiting tax on the hydrocarbon emissions of large industrial users of solvents. To avoid the tax, G.M. was formerly required to incinerate the solvent-laden exhaust air from its assembly line spray booths in Los Angeles in a superheated afterburner that was costly to run and maintain. Now, using water-thinnable auto paint, the G.M. plant pays no solvent pollution tax and has no afterburner costs.

AFL-CIO news

VOL. 30, NO. 42
SATURDAY
OCTOBER 19, 1985

Painters challenge OSHA on toxic hazards standard

The effectiveness of government standards in protecting workers against poisonous chemicals used in the workplace was questioned by the Painters at a House subcommittee hearing.

Rodney D. Wolford, director of the Painters' safety and health department, testified that hazard communication regarding toxic materials "must be a right for all workers—not just those in manufacturing."

The standard set by the Occupational Safety & Health Administration limits coverage to workers in certain industrial classifications developed by the Bureau of Labor Standards. Wolford stressed that workplace hazards are not limited to "artificial classifications" that do not reflect "when and where hazardous substances will be found and to what degree."

Testifying before the House Science & Technology Subcommittee on Investigations & Oversight, Wolford pointed out that the more than 450,000 painters in the U.S. workforce are exposed to paints that contain 150 known or suspected carcinogens and a greater number of other toxins that are capable of killing or maiming workers.

Overexposure symptoms

Citing a 1975 study of painters, Wolford noted that 74 percent were found to have experienced neurotoxic symptoms, such as nausea, dizziness or fatigue. Workers often are led to believe that the signs and symptoms of overexposure are a natural part of being a painter, he said.

Wolford told the subcommittee that an unpublished study by the union had found a "statistically significant relationship" between worker-reported neurotoxic symptoms and the gallons of paint applied per year.

He suggested that chemical exposures for a wide variety of workers can be significantly reduced "just by accepting that neurotoxins may cause 'temporary or permanent impairment or harm' and pose 'significant risk' which must be controlled by assuring no worker is exposed" in doses or for periods that cause symptoms to be manifested.

In noting the shortcomings of the federal hazard communication standard, Wolford said it fails to require any evaluation of labeling effectiveness. While labels may warn users to avoid prolonged contact or not to breathe the vapors, they do not say that acute neurotoxic effects such as headaches and dizziness are serious symptoms of overexposure.

Without evaluation of labeling, he said, all that is accomplished with certainty by OSHA's hazard communication standard is the reduction of liability for manufacturers.

Wolford suggested that the standard include an evaluation of label and training effectiveness and that manufacturers share the hazard training responsibilities and costs.

Further, he urged that both manufacturers and employers be subject to strict legal liability for failure to warn and train effectively, and scored a proposed Senate bill that would reduce manufacturer liability.

FILE COPY ONLY

EPIDEMIOLOGY BULLETIN

EPIDEMIOLOGY OFFICE
DIVISION OF PUBLIC HEALTH
DEPARTMENT OF HEALTH AND SOCIAL SERVICES
STATE OF ALASKA
3601 C Street Pouch 6333
Anchorage, Alaska 99502-0333
(907) 561-4406

Robert London Smith, Ph.D.
Commissioner
Department of Health
and Social Services

Editors: John Middaugh, M.D.
Tom Kosatsky, M.D.

EPIDEMIOLOGY BULLETIN NUMBER 11 WEEK ENDING JUNE 15, 1984

RESPIRATORY AND NEUROLOGIC SEQUELAE FOLLOWING ASPHYXIATION IN A STORAGE TANK

March 30, 1983, nine men working at a Kenai Peninsula oil well drilling site were examined at Central Peninsula Hospital, Soldotna for illness after they were overcome in a petroleum storage tank that was connected to the well. Information concerning their illness was gathered by the Soldotna physician who was on call the night the patients presented at the emergency room, by an investigator from the Department of Labor, and several months after the incident, by the Epidemiology Office, Division of Public Health. Given the loss of consciousness in several patients and the hurried nature of their rescue, a consistent story of events surrounding the mishap and rescue could not be clearly ascertained.

At about 9:00 p.m. on March 31, two men entered the 500 barrel storage tank through its top hatch in order to inspect what was thought to be a leak in the tubing connecting the well-head to the tank. The well-head itself had recently been purged with gaseous nitrogen. One or both of the men who entered the tank fainted, and two co-workers crawled in through the top hatch in an attempted rescue; it appears only that one of the four made his way out of the tank. Other workers then unbolted a side door allowing direct access to their fellows who were lying unconscious on the floor of the tank. At least five and perhaps more workers participated in this phase of the rescue. Some or all of them soon began to feel faint or had difficulty breathing. It is estimated that ten minutes was the most time spent by any person in the tank, and that rescuers who entered through the side door spent no more than two minutes inside.

Nine patients, 20-38 years old, were seen at Central Peninsula Hospital between 10:30-12:00 p.m., after evacuation by helicopter and road ambulance. Symptoms recorded by the emergency room physican included conjunctival and respiratory mucosal irritation, as well as weakness, nausea, and headaches (Table 1). Arterial blood gas determinations on five patients were normal. Chest radiograms on seven were unremarkable.

TABLE 1: EMERGENCY ROOM COMPLAINTS OF NINE PATIENTS ASPHYXIATED IN A STORAGE TANK

Patient	NAUSEA	LIGHTHEADEDNESS	WEAKNESS	FAINTED	BLURRY VISION	LIMB PAIN	HEADACHE	CHEST PAIN	RAPID BREATHING	SORE THROAT	BURNING EYES	CONGESTION	WHEEZE	COUGH	ESTIMATED TIME IN TANK
1	X	X			X		X			X					2-5 min.
2	X			X	X		X			X					5-10
3	X	X			X		X	X		X					6-8
4	X	X				X		X				X			2
5		X	X			X	X		X	X	X				2
6		X	X												2
7										X	X	X	X	X	?
8	X	X		X	X		X			X					5-10
9				X			X	X	X						5
Total (9)	5	6	2	3	4	2	6	3	2	6	2	2	1	1	

The following day, six of the nine patients were still symptomatic. Three of the six complained of headache and trouble concentrating; new findings included postural hypotension and incoordination. Four of the six patients (including one of the above) complained of sore throat and congestion; findings included red eyes and pharyanges and basal crepitations. Of the six patients symptomatic the day following their asphyxiation in the tank, four remained ill for one to several months—two with memory loss and incoordination, and two with recurrent cough and bronchospasm.

With the cooperation of the petroleum company which was operating the exploratory well where this incident occurred, we were able to obtain information concerning the environment inside the tank to which the nine patients were exposed. The tank itself was about 7'x10'x39' in dimension. Before being connected to the well-head, the tank was used to mix "drilling mud", the constituents of which were soda ash, caustic soda, potassium chloride, various organic polymers, cellulose, and filler. Prior to being used at the drilling site, the tank was cleaned with steam and water. The atmosphere in the tank was sampled approximately one hour after the incident, during which time the side door was open and air exchange would have occurred. Toxic gases such as phosgene, oxides of nitrogen, and chlorinated hydrocarbons were not identified in the sample. It was inferred that during the incident, the tank contained a high concentration of nitrogen let off from the well-head, with a correspondingly low concentration of oxygen.

The "Fireman Syndrome" of multiple rescuers collapsing one after another on entering a confined space is well documented. This episode illustrates the consequences of entering a confined space in which illness is occurring without appropriate precautions and without knowledge of the atmosphere inside that space. The illness associated with entering this tank was unusual: while neurologic deficits might relate to transient hypoxia or breathing an atmosphere rich in nitrogen and correspondingly poor in oxygen, the acute and chronic respiratory findings observed have no satisfactory explanation. Simple exposure to nitrogen or to an oxygen poor atmosphere does not explain acute or chronic respiratory disease.

(Contributed by George Garnett, M.D., Soldotna; Eric Shortt, Occupational Health Section, Alaska Department of Labor)

Case Study 1: Confined Space Exposure--E. A. Rockholt

Contractor: Clark Painting Company

Job Location: Airwick Corp.; #4 Cermack Blvd.; St. Peters, Missouri.

Work Area in which Incident Occurred: 20' x 25' x 8' room. No windows, one door for entrance.

Job: Applying Glidden Gli d-Guard Epoxy on walls and floor of room.

Method of Application: 9" roller, 4" brush.

Rate of Application: 10 gallons per day; 1.25 gallons per hour.

Number of Workers in Room: 2--E. A. Rockholt and Co-worker.

PPE Provided: Dust mask; provided only on day of incident.

Engineering Control: 20" fan blowing into room; provided only on day of incident.

Hours of Work Before Incident: 2-3 hours morning of October 27, 1978(?).

Description of the Incident: Missouri Painter Ed Rockholt and his co-worker were applying epoxy to the floors and walls of a room 20' x 25' x 8'. They used a 9" roller and a 4" brush. The rate of application was about 1.25 gallons per hour. The paint weighed about 10 pounds to the gallon and contained by weight 20 percent Isopropanol, 7 percent Toluol and 10 percent Methyl Ethyl Ketone. The room had only one door, which was kept open, but no windows. This worker fell ill in the space while working and suffered cardiac arrythmia followed two days later by a heart attack. Using NIOSH's formula for calculating steady state exposure in the room, we find that our workers were exposed to as much as 450 times the TLV as they worked (Attachment 1-1).

Other Comments: Mr. Rockholt also stated that "I knew the solvents must be bad because when we came in to work each day we had to haul dead rats out of the rooms we had painted the night before." Apparently, the rats died of solvent exposures. As common as 20' x 25' x 8' rooms and smaller which need painting are, it is not difficult to see that painters are daily exposed to atmospheric conditions which require special knowledge or training to insure safe performance of work.

A T T A C H M E N T 1-1

Solvent (from Glidden MSDS)	Steady State Exposure ppm (NIOSH Formula) Max.	Min.	TLV ppm Federal Law OSHA	Excessive Exposure (Times TLV) Max.	Min.	PPE Required (OSHA Max.	NIOSH) Min.	PPE Provided (Clark Painting Co.)
MEK	45,000	900	100	450 X	9 X	Airline	Organic	Dust Mask
Toluene	28,500	570	200	140 X	3 X	Resp.	Cartridge	
Isopro-panol	100,000	2,000	400	2500 X	5 X	full hood	w/ full face piece	

Case Study 1: Confined Space Exposure--E. A. Rockholt

Case Study 2: Confined Space Exposure--Westvaco

Contractor: International Reinforced Plastics, Denmark, SC

Job Location: Westvaco, Covington, West Virginia.

Work Area in which Incident Occurred: 8' wide, 100' high tower.

Job: Spraying fiberglass epoxies.

Method of Application: Spray

Rate of Application: Unknown.

Number of Workers in Room: 7 - 4 men, 3 women.

PPE Provided: Unknown.

Engineering Control: Unknown.

Description of the Incident: Seven IRP painters were applying fiberglass resins to the walls of the 8' wide, 100' high tower. At 3:20 a.m. the tower exploded and burned to the ground. All seven workers were killed and seven others were injured fighting the blaze. While the case is still being investigated and two $15 million damage claims are pending, build up of fumes and/or oxidization of the fiberglass compound has been implicated.

Other Comments: The wives of two of the men who lost their lives in the fire at Westvaco said their husbands had escaped from other industrial fires in recent years. Mrs. Ernest Holman of Springfield S.C., said her husband had beer in accidents before in his nine years with International Reinforced Plastics, "but he'd always managed to escape them." One fire, Mrs. Holman said, left two of her husband's co-workers badly burned, but her husband and another worker had escaped. Mrs. Odell Crum, Sr., whose 47-year-old husband was also killed, said her husband had escaped injury while working for the company when a fire broke out in 1972.

Case Study 3: David Friel

Contractor: Various.

Job Location: Denver, Colorado

Work Area in which Incident Occurred: Various confined spaces.

Job: Spraying primer and finish coating.

Method of Application: Spray.

Rate of Application: Unknown.

Number of Workers in Room: Various.

PPE Provided: Organic Cartridge Vapor Respirator.

Engineering Control: Various, often none.

Description of the Incident: David Friel worked as a spray painter for 15 years for various contractors; he had completed apprenticeship training and was mindful of safety on the job. In late 1977 he began exhibiting symptoms that his doctor would later diagnose as toxic organic brain syndrome brought on by exposure to dangerous solvents, often in confined spaces. He developed a skin rash on his feet (which gradually spread to his legs, waist, hands, arm and chest); he suffered periods of mild depression; his sex drive diminished; he was moody and very often fell into lapses of memory (for example, he often could not remember driving home from work). As his illness progressed, Mr. Friel began having crying spells daily. He complained of insomnia and lack of appetite. Mr. Friel's coordination began to deteriate completely; he experienced a near fall from a 150 feet height. It was this event that convinved him he would not be able to paint again. He has not worked as a spraypainter for more than a year; although his symptoms have receded, they have not vanished; the rash still occurs.

Other Comments: Mr. Friel's experience is not an isolated one, and damage done is not limited to physical disability. He has had to adjust to a lower paying job; he fears that his painter's pension will be lost, and the trauma of undergoing the symptoms described above have taken their toll. Mr. Friel's condition's medical future is unknown.

HB

205

(7)

HOUSE COMMITTEE REPORT

Date referred: 3/25/87

FURTHER REFERRALS: HESS
Finance

DATE: 4/16/87

The Labor & Commerce Committee has considered HB 205

"An Act relating to regulation of the practice of occupational therapy and physical therapy; and providing for an effective date."

RECOMMENDS:

[ ] replace with ______________

[ ] the same title

[ ] a new title

[ ] attached amendment(s)

[X] do pass

[ ] do not pass

[ ] no recommendation

[ ] individual recommendations

[ ] additional referral to the ______________ Committee

ADOPTS: [ ] __________ letter of intent

ATTACHES NEW FISCAL NOTE(s):

[X] fiscal impact

[ ] zero fiscal note

[ ] zero with analysis

[ ] same as previous fiscal note published ______________

[ ] same as previous zero fiscal note published ______________

SIGNING DO PASS:

Dave Donley

[signature]

Cliff Davidson

[signature]

[signature]

SIGNING OTHER RECOMMENDATIONS:

N. Furnace none.

Dave Donley

Chairman's signature

STATE OF ALASKA
THE LEGISLATURE

POUCH Y - STATE CAPITOL
JUNEAU, ALASKA 99811
907-465-3800

LEGISLATIVE AFFAIRS AGENCY

LEGISLATIVE REFERENCE LIBRARY

May, 1988

Copies of minutes listed below were originally included in this file. The minutes are available on the STAIRS database CMPR. In order to save space copies of minutes have not been left in the files.

Mary Van Nimwegen

H L+C 4-16-87 1:30 p.m.

STATE OF ALASKA 1987 LEGISLATIVE SESSION
FISCAL NOTE

Bill Version: HB 205
Publish Date: 3/25/87

REQUEST:

Revision Date:

Agency Affected: Commerce & Economic Dev.

Title: An Act relating to regulation of the practice of occupational therapy and physical therapy...

BRU: Occupational Licensing

Sponsor: Rep. Navarre

Components: All

Requestor:

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92
PERSONAL SERVICES	0	8.7	8.7	8.7	8.7	8.7
TRAVEL	0	1.1	1.1	1.1	1.1	1.1
CONTRACTUAL	0	3.1	3.1	3.1	3.1	3.1
SUPPLIES	0	.1	.1	.1	.1	.1
EQUIPMENT	0	0	0	0	0	0
LAND & STRUCTURES	0	0	0	0	0	0
GRANTS, CLAIMS	0	0	0	0	0	0
MISCELLANEOUS	0	0	0	0	0	0
TOTAL OPERATING	0	13.0	13.0	13.0	13.0	13.0
CAPITAL						
REVENUE	0	13.0	13.0	13.0	13.0	13.0

FUNDING: (Thousands of Dollars)

GENERAL FUND	0	0	0	0	0	0
FEDERAL FUNDS	0	0	0	0	0	0
OTHER	0	13.0	13.0	13.0	13.0	13.0
TOTAL	0	13.0	13.0	13.0	13.0	13.0

POSITIONS:

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

ANALYSIS: (Attach a separate page if necessary)

(See attached)

Prepared by: Jennifer Strickler, Management Analyst
Phone: 465-2144
Division: Occupational Licensing
Date: 4/9/87

Approved by Commissioner: J. Anthony Smith
Date:
Agency: Commerce and Economic Development

Distribution (by preparer):
- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)
- Senate Secretary

HB 205

The bill changes the composition of the State Physical Therapy board by adding two new members to represent the Occupational Therapy profession and amending the name of the board.

Aside from combining the two professions within one board, licensing of the occupational therapy profession is expected to cost $13,000.00.

Basically, the $13,000.00 consists of:

1) PERSONAL SERVICES: $8,700

- .40% of administrative support costs (.40% is based on the number of occupational therapists (100) divided by the total number of division licensees (27,049) which includes physical therapists);
- 10% of a Licensing Examiner; and
- 5% of an Investigator.

2) TRAVEL: $1,100

Costs for two members to attend one board meeting.

3) CONTRACTUAL: $3,100

- Professional Services (exam) costs;
- Communication costs;
- Advertising and Printing costs, etc.

4) SUPPLIES: $ 100

TOTAL: $13,000

The occupational therapy profession has expressed its willingness to pay licensing fees necessary to cover costs associated with regulating the profession, and costs are expected to be covered by program receipts. Therefore, licensing fees will be established to offset the costs of regulating the profession.

Department of Commerce & Economic Development / POSITION PAPER

HB 205: An Act relating to regulation of the practice of occupational therapy and physical therapy; and providing an effective date.

HB 205 proposes to amend the composition of the State Physical Therapy Board by adding the occupational therapy profession to the board and its licensing jurisdiction.

The bill basically conforms to guidelines of licensing legislation with the exception of Section 17, AS 08.84.150(b)(4). This provision exempts a practitioner from licensure if the individual practices occupational therapy in the state for 120 days or less in a calendar year. There is no way to track or ensure that an individual who claims exemption under this section is legitimately entitled to the exemption. This section would also defeat the purpose of licensing occupational therapists or assistants. The department suggests three possible alternatives to make this section enforceable:

1. establish a locum tenens permit provision for both the physical therapy and occupational therapy professions, similar to other licensed occupations (i.e., medical doctors). The permit would be valid for 120 days and requires applicants to possess a current license from another state, submit proof of national certification, hold a personal interview with a board member, and pay the required fees; or

2. specify the conditions under which a practitioner can practice in Alaska without obtaining licensure, such as to provide consulting services to licensed practitioners, or for educational purposes in conducting seminars, or for emergency purposes only; or

3. delete the entire exemption and require all practitioners to obtain an Alaska license.

The department was advised that there are approximately 100 occupational therapy practitioners in Alaska. The department was also advised of the profession's willingness to pay licensing fees necessary to cover costs associated with regulating the profession. Therefore, the department finds no reason why the profession should not be licensed. However, because of the uncertainty of the actual number of individuals that will seek licensure, and the need to depend on licensing fees to cover costs of the function, the department maintains a neutral position on HB 205 and strongly recommends that Section 17 be amended as mentioned above.

J. Anthony Smith, Commissioner
Department of Commerce & Economic Development

DATE: 4/2/87

6964t

GLNGER

APR 3 1987

March 31, 1987

Representative Dave Donley
P.O. Box V
Juneau Ak 99811

Dear Representative Donley,

I am writing to express my support of HB # 205 which would license Occupational therapists.

As a health care consumer and occupational therapist I urge you to support this bill.

Licensure of O.T.'s is necessary in order to insure that only properly trained and qualified personnel offer O.T. services in this state. Federal guidelines for medicare, nursing homes and PL 94-142 leave it to the state to regulate qualified personnel. Unqualified personnel can inflict very real harm to clients in

terms of neurological, neuro-muscular, orthopedic and psychological functioning.

Should you be interested in seeing the work of registered occupational therapists I would be happy to arrange a tour of Alaska Treatment Center for you or your committee members.

Thank you for your consideration of HB #205. Your support of this bill is important to health care consumers and families throughout our State.

Sincerely,

Ellen B Ryon OTR
7535 E. 28th
Anchorage AK 99504
333-7088 hm.
272-0586 wk

Mar. 30, 1987
GINGER

APR 3 1987

Dear Sir,

I support House BILL 205.

Regarding lincensure of occupational !
Therepists to assure Safe and quality
health care ~~there~~ to the consumer.

Thanks for your help.

Dorrelh young.

[illegible] Island Dr.
[illegible]

GINGER

Beth Daugherty
8520 Spendlove Dr
Anchorage, AK
99516

March 30, 1987

Dave Donley
House Comittee on Labor & Commerce
PO Box V
Juneau, AK 99811

APR 2 1987

Dear Representive Donley:

I am writing in support of House Bill #205, regarding Occupational Therapy. As a special education teacher in a pre-school program where many of the children need & receive O.T., I am aware of the importance of licensure for Occupational Therapists. Licensure will assure quality service to these many deserving little consumers. Since medical science is developing more & more ways of assuring the survival of more & more premature infants, we are receiving ever increasing numbers of children needing this service. This means that the number of therapists employed in the state of Alaska will increase and we need to be ready to insure the quality of their work..... for two reasons

1) Of course, primarily, we are concerned that the children receive the best care.
2) Secondly we'd like to avoid law suits.

Thankyou for your support of House Bill #205.

Sincerely,
Beth Daugherty
teacher

STATE OF ALASKA 1987 LEGISLATIVE SESSION
FISCAL NOTE

Bill Version : HB 205
Publish Date : 3/25/87

REQUEST:

Revision Date:

Agency Affected : Commerce & Economic Dev.

Title : An Act relating to regulation of the practice of occupational therapy and physical therapy...

BRU : Occupational Licensing

Sponsor : Rep. Navarre

Components : All

Requestor :

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92
PERSONAL SERVICES	0	8.7	8.7	8.7	8.7	8.7
TRAVEL	0	1.1	1.1	1.1	1.1	1.1
CONTRACTUAL	0	3.1	3.1	3.1	3.1	3.1
SUPPLIES	0	.1	.1	.1	.1	.1
EQUIPMENT	0	0	0	0	0	0
LAND & STRUCTURES	0	0	0	0	0	0
GRANTS, CLAIMS	0	0	0	0	0	0
MISCELLANEOUS	0	0	0	0	0	0
TOTAL OPERATING	0	13.0	13.0	13.0	13.0	13.0
CAPITAL						
REVENUE	0	13.0	13.0	13.0	13.0	13.0

FUNDING: (Thousands of Dollars)

GENERAL FUND	0	0	0	0	0	0
FEDERAL FUNDS	0	0	0	0	0	0
OTHER	0	13.0	13.0	13.0	13.0	13.0
TOTAL	0	13.0	13.0	13.0	13.0	13.0

POSITIONS:

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

ANALYSIS : (Attach a separate page if necessary)

(See attached)

Prepared by: Jennifer Strickler, Management Analyst
Phone : 465-2144
Division : Occupational Licensing
Date : 4/9/87

Approved by Commissioner : J. Anthony Smith
Date :
Agency : Commerce and Economic Development

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)
Senate Secretary

HB 205

The bill changes the composition of the State Physical Therapy board by adding two new members to represent the Occupational Therapy profession and amending the name of the board.

Aside from combining the two professions within one board, licensing of the occupational therapy profession is expected to cost $13,000.00.

Basically, the $13,000.00 consists of:

1) PERSONAL SERVICES: $8,700

- .40% of administrative support costs (.40% is based on the number of occupational therapists (100) divided by the total number of division licensees (27,049) which includes physical therapists);
- 10% of a Licensing Examiner; and
- 5% of an Investigator.

2) TRAVEL: $1,100

Costs for two members to attend one board meeting.

3) CONTRACTUAL: $3,100

- Professional Services (exam) costs;
- Communication costs;
- Advertising and Printing costs, etc.

4) SUPPLIES: $ 100

TOTAL: $13,000

The occupational therapy profession has expressed its willingness to pay licensing fees necessary to cover costs associated with regulating the profession, and costs are expected to be covered by program receipts. Therefore, licensing fees will be established to offset the costs of regulating the profession.

GINGER
constituent?

WTE INC.
Elizabeth Dowlar, OTR, CRC, CVE
Executive Director

Work Therapy Enterprises, Inc.
3700 Woodland Dr. #400
Anchorage, Alaska 99503
243-6116

March 30, 1987

Representative Dave Donley
P.O. Box U
Juneau, Ak 99811

Dear Rep. Donley,

I am writing to request your support of HB 205, the licensure of Occupational Therapists in the State of Alaska. I understand it will be introduced to the Labor & Commerce Committee very soon.

I am an Occupational therapist who has practiced in this state for 14 years. It is very important to our professional practice that only qualified persons be allowed to practice. Harm can come to individuals who receive treatment from persons who have not received proper training in the neuromuscular, cardio-vascular & psychological systems in which are bodies operate. We work with a great variety of disability groups including injured workers, head injuries, muscular diseases, diseases of bones & joints with adults, children & infants.

I own a company that evaluates the physical capacities of injured workers. The State

CORRECTION

THIS DOCUMENT
HAS BEEN REPHOTOGRAPHED
TO ASSURE LEGIBILITY

GINGER
constituent ?

WTE INC.
Elizabeth Dowler, OTR, CRC, CVE
Executive Director

Work Therapy Enterprises, Inc.
3700 Woodland Dr. #400
Anchorage, Alaska 99503
243-6116

March 30, 1987

Representative Dave Donley
P.O. Box V
Juneau, Ak 99811

APR 3 '87

Dear Rep. Donley,

I am writing to request your support of HB 205, the licensure of Occupational Therapists in the State of Alaska. I understand it will be introduced to the Labor & Commerce Committee very soon.

I am an Occupational therapist who has practiced in this state for 14 years. It is very important to our professional practice that only qualified persons be allowed to practice. Harm can come to individuals who receive treatment from persons who have not received proper training in the neuromuscular, cardio-vascular & psychological systems in which are bodies operate. We work with a great variety of disability groups including injured workers, head injuries, muscular diseases, diseases of bones & joints with adults, children & infants.

I own a company that evaluates the physical capacities of injured workers. The State

Workers Compensation Board relies on accurate information from my testing. It is crucial that only skilled persons be allowed to do this or any other judgement & treatment of disabilities.

I'd be glad to have you visit our facility when you are in Anchorage.

Thank you for your consideration of this matter.

Sincerely

Liz Dowler

GLUGER

Julie Williams
7617 E. 4th Ave Apt. B
Anchorage, Ak 99504

Mar. 31, 1987

Mr. Dan Donley
P.O. Box V
Juneau, Ak 99811

Dear Sir:

I am writing to let you know I am in favor of House Bill 205 in my support of the licensing of Occupational Therapists in Alaska. I currently work in a program that utilizes a counselor and an O.T. We work with the injured worker population and I personally realize the degree of knowledge and experience that is needed in O.T. work. This profession is being used more frequently by the workers compensation system in physical capacities testing and in assistance in returning the injured worker to the workplace. Therefore, I think it imperative that they become licensed as their expertise is used more and more outside the hospital setting by a non-medical consumer.

In testing physical capacities the O.T. determines exactly how much physical demand can be placed on a worker without the worker further injuring himself. The O.T. is instrumental in preparing the injured worker in handicapped individual in the workplace and developing any modifications that are necessary. The O.T.

greatly influences the degree of the worker's success. So you can understand how important it is that the O.T. be a competent professional.

Sincerely,
Julie Williams

THAD L. WOODARD M.D. & ASSOCIATES
BIRTH THROUGH ADOLESCENT CARE

March 31, 1987

House Committe on Labor and Commerce
P.O. Box V
Juneau, AK 99811

ATTN: Representative Dave Donley

To Whom It May Concern:

This is to express my support of H.B. 205. I feel it is extremely important that occupational therapists be licensed in the State of Alaska to protect the quality of services provided to clients and ensure that occupational therapists are adequately prepared to practice.

Sincerely,

Mary Lou Hanson, CSNP

Mary Lou Hanson
Certified School Nurse Practitioner

cc House Committee Member
Representative Walt Furnace

House Health, Education & Social Services Committee
Atten: Alice Hanley

House Finance Committee
Atten: Al Adams, Chairperson

Thad L. Woodard, MD
PEDIATRIC AND
ADOLESCENT CARE
CHILDHOOD ASTHMA

Rosebeth R. Marcou, MD
LEARNING
AND
BEHAVIOR DISORDERS

Bonnie Anderson, CPNP
PEDIATRIC
AND
ADOLESCENT CARE

Mary Lou Hanson, CSNP
COUNSELING ON LEARNING
AND
BEHAVIOR DISORDERS

(907) [illegible] · 1200 AIRPORT HEIGHTS DRIVE · SUITE 140 · ANCHORAGE, ALASKA 99508

Annette Leier
POB 221421
99522-1421

April 4, 1987

Honorable Dave Donley
POB XV
Juneau, Alaska 99811

APR 8 1987

Dear Mr. Donley

I am writing to you in regards to Bill # HB 205.

I am an occupational therapist, presently practicing in pediatrics. I have a Bachelor of Science degree with a major in Occupational Therapy. I have taken numberous continuing education classes beyond my degree to keep current of practices of occupational therapy.

I am writing about an issue of importance, that concerns you, your constituents and consumers, as to the regulation of occupational therapy.

Please become knowledgeable about the benefits of occupational therapy and how unqualified person(s) may harm the consumer by inappropriate (or by) treating

muscles, ligaments, or breaking bones) treatment.

Since, I am presently working in early intervention with the pediatric population, I have concerns of: lack of occupational therapy services to this population, unqualified peoples providing so called, occupational therapy services which may delay or impede neurological return.

I invite you to join me during an occupational therapy treatment session when you are in Anchorage. Below is my home and work telephone number.

I am asking for your support of Bill # HB265 and your concern regarding health issues as it relates to consumers.

Best Regards,

Annette Leiker, OTR

561-8060 work
248-7418 Home

APR 10 1987

April 5, 1987
Homer, Alaska

Representative Dave Donley
Pouch V
Juneau, AK 99811

Dear Rep. Donley,

I am writing in support of House Bill 205, the Occupational Therapy (O.T.) Practice Act. This bill will be presented in the state legislature within the next few weeks.

As an occupational therapist working with children with various handicapping conditions, I am concerned about the integrity and standards of occupational therapy within the state. Licensure will be a provision to allow only qualified professionals to be delivering O.T. services to the health care consumer. This act will then indeed protect the health care consumer and assist in providing hign standards of occupational therapy statewide.

I encourage you to support House Bill 205 when it comes to the floor. Thank you.

Sincerely,

Susie Cunningham

Susie Cunningham, MS, OTR
P.O. Box 1837
Homer, AK 99603

APR 8 1987

April 3, 1987

Representative Dave Donley
P.O. Box V
Juneau, AK 99811

Dear Representative Donley:

I am writing you at this time to urge you to vote for state occupational therapy licensure Bill # HB205. Licensure will protect the public from harm and fraudulent services rendered by unqualified personnel. It is our duty as professionals to provide quality care as dictated by specific diagnosis and individual situation. This is unfortunately not guaranteed nor is consistant top quality service unless state licensure is instated.

Again, please vote for Bill # HB205 and help us to help the general public. Thank you for your time and attention

Sincerely

Lynn Mangolin OTR

B161 Bettles Bay Loop
99515

4-6-87

APR 9 1987

The Honorable Dave Donley
P.O. Box V
Juneau, AK 99811

James E. Atwell
803 Pioneer Dr.
#1405
99824

Dear Representative Donley:

I am writing this letter to show my support for House Bill #205, which pertains to Occupational Therapy licensure. I am a Medical Technologist, and I have practiced my profession for the past seven years in the state of Alaska. I believe that House Bill #205, which is before your committee at this time, should be considered in favor of licensure.

I have worked in the Health Care field for over 10 years and I strongly believe that licensing of health care workers is an important step toward providing quality health care.

Without licensing it is very difficult to evaluate the qualifications of a therapist.

I'm sure that if you or a loved one required the services of an occupational therapist, you would want someone who is qualified and has the credentials to show their competence in their chosen field. By requiring state licensure of Occupational Therapists, Alaskans can be assured of receiving quality care.

Once again I would like to urge your support of House Bill #205. Thank you for your time + concern regarding health care issues.

Sincerely

James E Atwell MT (CLS)

From: Rep. Mike Navarre April 15, 1987

HB 205

OVERVIEW

The purpose of this measure is to provide some measure of protection to the health care consumer by establishing licensing requirements for the occupational therapy discipline. It also creates a combined 7 member board of occupational and physical therapists. Since approximately 100 new licenses will be added to the chapter, the expected fiscal impact of creating the new board is zero.

Currently, there is no licensing standard for occupational therapists, and no definition of the practice of occupational therapy. This bill will define occupational therapy, set minimum educational and experience standards, and will require the board to supervise and conduct examinations for new licensees. The text accomplishing the last two items is virtually identical in substance to the current statutes concerning physical therapists.

The bill outlines disciplinary powers of the board, and provides for a transitionary phase from the current 5 member board to the new 7 member board.

SECTIONAL ANALYSIS

HB 205

"An Act relating to regulation of the practice of occupational and physical therapy, and providing for an effective date."

* Section 1: Adds "and Occupational Therapy" to title of State Physical Therapy Board (AS 08.01.010(15))

* Section 2: adds occupational therapists to those persons required to use professional titles, and/or letters after their name indicating their professional status when offering their services to the public (AS 08.02.010(a))

* Section 3: amends title of board in that statute relating to expiration date of the board (AS 08.03.010 (c) (8))

* Section 4: amends title of board in AS 08.84.010, changes membership from five to seven persons, calls for the 2 new members to be occupational therapists or 1 occupational therapist and 1 occupational therapy assistant, amends other language to put occupational therapists under regulatory power of board

* Section 5: adds new subsection to AS 08.84.030, listing specific requirements for licensing of occupational therapists and occupational therapy assistants who are educated within the United States

* Section 6: adds new subsection to AS 08.84.032, listing specific requirements for licensing of occupational therapists and occupational therapy assistants who are educated outside the United States

* Section 7: adds the practice of occupational therapy to AS 08.84.040, relating to application for license, performs minor "housekeeping" measures within this chapter

SECTIONAL ANALYSIS (cont'd)

HB 205

* Section 8: adds occupational therapists and occupational therapy assistants to AS 08.84.060, allowing licensing by acceptance of of credentials

* Section 9: adds language to AS 08.84.065(c), specific to temporary licensing as a physical therapist or physical therapy assistant pending results of examination (original language did not need to be specific, as chapter only applied to PT's)

* Section 10: adds occupational therapy to AS 08.84.065(d), dealing with temporary permits for foreign educated therapists during internship

* Section 11: adds new subsection AS 08.84.065(e), allowing for temporary permit for occupational therapists or OT assistants pending result of examination

* Section 12: amends language in AS 08.84.080, broadening the board's power to conduct examinations to both professions licensed under this chapter

* Section 13: adds occupational therapists and OT assistants to AS 08.84.090, licensing duties of the board

* Section 14: broadens description of persons subject to license renewal under this section (to include occupational therapists and OT assistants), changes renewal period from four to two years, allows the board to require proof of continued competency in cases where a license has remained lapsed for three or more years

* Section 15: adds occupational therapy to AS 08.84.120(a), which allows the board to revoke, suspend or refuse to renew a license for cause

SECTIONAL ANALYSIS (continued)

HB 205

* Section 16: adds new subsections, AS 08.84.130(c)&(d), classifying the offense of practicing occupational therapy without proper license as a class B misdemeanor

* Section 17: adds new subsection, AS 08.84.150 (b), prohibiting practice of occupational therapy without a license except under certain conditions

* Section 18: adds occupational therapists to AS 08.84.160 (limiting licensed persons to their professional discipline)

* Section 19: repeals and reenacts 08.84.185, defining the disciplinary powers of the board

* Section 20: amends AS 08.84.190(1), redefining "board" for purposes of this chapter

* Section 21: amends AS 08.84.190 by adding new paragraphs that define occupational therapists, occupational therapy, OT aides and OT assistants

* Section 22: amends 08.24.200, the short title of this statute, to include occupational therapists

* Section 23: adds occupational therapists to the definition of "health care provider" under AS 09.55.560(1) - Medical Liability laws

* Section 24: adds occupational therapists to the definition of "health care provider" under AS 18.23.070(3) - Health Care Services Information laws

* Section 25: adds occupational therapists to the definition of "health care provider" under AS 21.88.900(9) - Health Care Providers Insurance (MICA)

* Section 26: adds definition of occupational therapist under AS 21.88.900 - Health Care Providers Insurance (MICA)

SECTIONAL ANALYSIS (continued)

HB 205

* Section 27: adds occupational therapist to definition of "practitioners of the healing arts" for purposes of AS 47.17.070(9) - Child Protection statutes (requires reporting of abuse)

* Section 28: adds language allowing for transitional period for licensing, so that the department and new board can "catch up"

* Section 29: adds language allowing for licensing by credential, so that current practitioners who meet certain criteria can be licensed immediately

* Section 30: Experience-Based licensure. This allows OT assistants with 4 years of experience accumulated before July 1, 1988, to substitute this experience for formal education, and become licensed as occupational therapists by examination.

* Section 31: provides that this act does not affect existing valid licenses when act takes effect

* Section 32: requires the Governor to appoint 2 new members to new 7 member board by March 1, 1988, sets out length of term for new members

* Section 33: calls for immediate effective date for Section 28 of this bill

* Section 34: calls for effective date on balance of this measure as January 1, 1988

Alaska Occupational Therapy Association

TESTIMONY

Presented before the

ALASKA HOUSE OF REPRESENTATIVES, LABOR AND COMMERCE COMMITTEE
On

LICENSURE FOR OCCUPATIONAL THERAPISTS

Presented by

Beverly Ingram

ALASKA OCCUPATIONAL THERAPY ASSOCIATION

April 16, 1987

Mr. Chairman and members of the committee, I appreciate the opportunity to speak with you regarding the Occupational Therapy Practice Act being considered today. I am Beverly Ingram from the Alaska Occupational Therapy Association. The Alaska Occupational Therapy Association represents over 110 Registered Occupational Therapists and Certified Occupational Therapy Assistants. Our membership has voted to make a united effort to obtain licensure for occupational therapists in this State. This effort is fully supported by our national organization, the American Occupational Therapy Association.

Our presentation will provide you with an overview of what occupational therapy is, the training required to practice occupational therapy,and, most importantly, the reasons for our pursuit of a licensure law.

We would like to give you an overview of the practice of occupational therapy and the various types of people who benefit from it, through a brief slide presentation.

As you have seen from this slide presentation, occupational therapists treat a wide variety of disabled people which requires an extensive educational and experiential background. In order to become qualified to work in the field of occupational therapy, an occupational therapist must complete at least a 4 year bachelor's degree program from an accredited university, and an occupational therapy assistant must complete a 2 year college degree program. Our

academic coursework includes anatomy, neurophysiology, human development, psychology, physical medicine, and intensive training in occupational therapy evaluation and treatment techniques. Occupational therapists must complete a full-time supervised fieldwork experience following their studies. A final requirement is that entry level therapists must pass a national certification examination approved by the American Occupational Therapy Association. This is a voluntary credentialing program and there is a problem with individuals who choose not to participate. The national association has no effective means of enforcing these requirements in order to prevent unqualified people from being employed as occupational therapists. The profession has often relied on facilities such as hospitals, nursing homes, school districts and rules set up by third party payors to maintain qualified providers. It is not the major responsibility of these bodies and programs such as Medicaid and Medicare to enforce personnel qualification standards. Since no legal definition exists in our State, these regulations are, in fact, unenforceable.

This leads to our reasons for pursuing licensure. By allowing the practice of occupational therapy to go unregulated, the health and welfare of the public is endangered. The abuse and potential harm generated by unregulated practice occurs on two fronts. First, in many instances the public is misled when unqualified people represent themselves as occupational therapists. The patient is often unaware of what is expected in treatment or what qualifications are necessary for an occupational therapist to practice. Therefore, patients believe they are receiving legitimate services, when in fact they may not be. These consumers are then deprived of the services they need to make a full recovery. Also facilities claim to provide occupational therapy when actually no qualified therapist is employed. There have been instances in Alaska health care institutions where this has occured. Without licensure, consumers are misled to believing they are receiving these needed services and sometimes falsely charged with no legal recourse.

Secondly, and more importantly, cases of serious harm and abuse due to improper treatment by untrained people representing themselves as occupational therapists have been documented. As you have seen presented in the slides, occupational therapists work with many critically ill or severely injured patients. In the majority of instances, patients such as a burn patient do not have the luxury of shopping around to determine if a therapist is qualified. Moving a burned limb or joint too soon or improperly splinting an extremity can cause tendon rupture, irreparable damage, or loss of function. In other patients, such as one suffering with a cardiac condition, they could suffer life threatening damage if they are not assessed properly. If a cardiac patient's activites are not graded to his tolerance level and closely monitored, he can rearrest. Many other examples of potential harm are evident in the rehabilitation of injuries. A qualified occupational therapist has the knowledge and training in treatment techniques and of the precautions and contra-indications that greatly reduce risk to the consumer. Without a legal definition of occupational therapy and a mechanism to monitor

the provision of these services in our State, the consumer does not have adequate protection. Enactment of a licensure law is a substantial deterrent to the unqualified practice of occupational therapy and decreases the potential for fraud. The power of the State to enforce the law and the action against those who violate the law also discourages fraud and abuse.

This licensure bill (HB 205) proposes that a joint board be created, combining the regulation of occupational therapy with the existing physical therapy board. We realize this is important due to the current State economic status and trend towards combining boards. We recommend a combined board which allows equal representation of the professions being licensed under it. We have worked with the Division of Occupational Licensing to insure minimal (if any) additional costs to the State in regulating this profession.

Occupational and physical therapists have similiar yet different educational and fieldwork requirements. Treatment goals are often shared by the occupational and physical therapist in the rehabilitation setting. Although treatment goals may be shared, the modalities used by each profession often differ. For example, in the rehabilitation of a stroke patient to be able to return to his home and function as independently as possible; the physical therapist may be working on muscle strengthening through exercies and gait training or use of assistive devices to aid in walking while the occupational therapist may also use exercises or functional activites to improve the patients's ability to dress himself, prepare a meal, and take care of himself within the home or with the assistance of adapted devices.

In summary, occupational therapy focuses on productive and independent function. Inappropriate treatment is a very expensive and a risky proposition for the consumer. Thirty-two other states have enacted licensure laws covering occupational therapy with three other states combining occupational and physical therapy boards. The Alaska Occupational Therapy Association believes that licensure of occupational therapists is in the best interest of this State s citizens. There is no alternative to licensure. The purpose is to regulate the practice of occupational therapy, not to infringe on the rights of other professionals to pratice what they are qualified to practice.

Mr. Chairman and members of the committee, an occupational therapy licensure law is needed now. I urge you to approve this bill. I appreciate this opportunity to express our concerns. Thank you for your time.

WHO CAN BE HARMED BY AN UNQUALIFIED OCCUPATIONAL THERAPIST?

The majority of functions performed by Occupational Therapists do not, in themselves, put the patient in harm. Rather it is the patient's response to these functions and/or the patient's mental, emotional or physical instability which may cause the functions to be dangerous. A well-trained therapist has both theoretical and practical knowledge of the neuromuscular and cardiovascular systems of the body as well as of physical, emotional and psychological development of the individual. He/she is trained in treatment of rehabilitation of injuries to these systems and of precautions and contra-indications that greatly reduce risk to the consumer.

The following chart provides a few examples of possible complications.

DIAGNOSIS OR DISABILITY	METHOD OF TREATMENT WHICH COULD BE DANGEROUS	POSSIBLE COMPLICATIONS
1. Neonatal evaluations and treatment	1. Evaluations and treatment	1. Overstrassing neurological and logical and physical systems Medical instability/death
2. Cardiac Conditions	2. Prescribing progressive activities for patients	2. Medical instability/death
3. Neurological diseases and impairments a. Cerebral vascular accidents b. Head stroke trauma c. Cerebral Palsy	3. Neurological treatment ADL activities	3. Choking Seizures Delay or impede neurological return
4. Traumatic injuries a. Amputation of upper extremity	4a Evaluation and prescription of prosthesis in conjunction with prosthetist and physician	4a Vascular problems Weight fluctuations that affect fit of prosthesis Skin breakdown
b Burns	4b Reducing hypertophic scarring by applying pressure to patient through conforming splints and/or pressure garments	4b Infection Skin breakdown Contractures/deformity
5. Sensory Integrative Dysfunction	5. Sensory stimulation	5. Sensory overload Seizures Respiratory Arrest
6. Muscular Diesese a. Muscular dystrophies b. Multiple sclerosis	6. Exercise programs for range of motion and muscle strengthening	6. Joint damage Inadequate or improperly performed motion exercises can result in permanent contractures of muscles, tendons, and ligaments.
7. Geriatric	7. Designing and monitoring treatment, environment. Transfers to tub, toilet, bed or chair.	7. Further cognitive, physical, psychological or social impairment. Falling resulting in physical and psychological harm.
8. Diseases of Bones and Joints a. Arthritis	8. Positioning of patient. Exercise programs for range of motion and muscle strengthening. Splinting	8. Joint damage Loss of function due to improper splinting.
9. Developmentally Delayed a. Retardation	9. Improper treatment or lack of treatment	9. Prevent individual from attaining highest level of function possible.
10. Psychiatric Disorders a. Psychosis	10. Design and monitor treatment environment	10. Further cognitive psychological or social impairment.
11. Respiratory Diseases	11. Prescribing progressive activity. Use of substances with toxic fumes.	11. Overstressing respiratory and cardiovascular systems Exacerbation of disease process

DEVISE OR TREATMENT TECHNIQUES	POSSIBLE HARM
1. Splint or brace	1. Possible nerve, muscle, skin, or orthopedic dysfunctional loss and debilitation.
2. Slings	2. Possible auxillary nerve damage or impaired brachial artery circulation due to improper fit. Improper positioning - loss of extremity function.
3. Neuromuscular facilitation devices of vibration and ice	3. Adverse effects on central nervous system or vascular system.

The financial burden to the consumer is also reduced when a skilled practitioner performs these tasks, as appropriate treatment is planned and implemented in the most expedient way. Consumers of health care services in the latter part of the 20th century are caught in a "CATCH 22" situation. Technology has outstripped our social values and government policies. The capabilities are in place for keeping persons alive in more disabled states, while at the same time services delivery is being moved to less restrictive arenas and government policies regulating qualifications of delivery personnel are being lessened.

Consider the following ways an individual, family or 3rd party payor can be harmed:

Potential for independence is enhanced by early intensive intervention of occupational therapy personnel. If these personnel are not qualified, the potential for return to independent functioning is lost and the family incurs long term financial burdens.

Because some insurance policies use licensing as the criteria for determining qualified reimbursable services, the consumer may be denied the financial coverage they thought they had. They are left with the choice of paying additionally for something they assumed was taken care of or not getting the needed service.

Consumers experience long term emotions of guilt and anger at being duped. Guilt occurs when they realize too late that selection of services and service personnel depended on their personal knowledge of qualifications of a cadre of health care deliverers. Anger and feelings of being duped occur when they realize that protections were not inplace to help them make the necessary decisions. Because SOME HEALTH PERSONNEL ARE LICENSED (REGULATED) WHILE OTHERS ARE NOT THE CONSUMER IS LULLED INTO BELIEVING THE GOVERNMENT IS MONITORING THE QUALIFICATIONS OF ALL DELIVERERS.

Consider the following government guidelines in place to protect the public from unqualified O.T. personnel.

Federal Medicare guidelines have removed a previous requirement that Occupational Therapy personnel meet AOTA's certification requirements and provide instead that they meet qualifications specified by the medical staff, consistent with state law.

Federal regulations for nursing homes require an O.T. to complete the education and field work experience but does not require passing the AOTA certification exam.

Public law 94-142 requires schools to provide special education and related services for children with handicaps. O.T. is a related service and must be provided by qualified personnel but the definition of "qualified" is left up to the state education agencies.

Other accrediting agencies such as JCAH, CARF and ACRMCD require O.T. services to be provided by qualified personnel. They do not, however, define "qualified." This is left to the state or private facility.

Do these guidelines seem adequate to assure safety and quality OT services to ALL consumers? We don't think so. Please share this information with your legislator when talking about why OT's need to be licensed. Ideally we would like to elicit actual cases of these situations ocurring or having occurred. If you as an individual can recall such instances please contact Jeanne Cathon at the WOTA office. A specific case example when talking with a legislator is worth more than 20 "what if's".

HB

206

STEVE COWPER
GOVERNOR

STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

March 24, 1987

The Honorable Ben Grussendorf
Speaker of the House
Alaska State Legislature
P.O. Box V
Juneau, AK 99811

Dear Representative Grussendorf:
Under the authority of art. III, sec. 18, of the Alaska Constitution, I am transmitting a bill relating to the plumbing code.

Section 1 of the bill adopts, as the state's plumbing code, the 1985 editions of the plumbing, solar energy, and swimming pool, spa, and hot tub codes adopted by the International Association of Plumbing and Mechanical Officials at the association's 54th annual conference in September 1983. This simple declaration of what constitutes the state's plumbing code would replace the current requirement that the Department of Labor adopt, by regulation, the codes specified by AS 18.60.705.

In addition, sec. 1 of the bill makes certain changes to the codes it adopts. Proposed AS 18.60.705(b). In particular, the code provisions relating to the use of plastic pipe are modified to permit, for example, the more widespread use of chlorinated poly vinyl chloride and polybutylene pipe than is permitted in the 1979 code. Section 1 also permits the use of particular types of plastic pipe in fire control sprinkler systems. Proposed AS 18.60.705(c).

Section 2 amends the definition of "code" in AS 18.60.740(1) so that it conforms with the codes adopted in sec. 1 of the bill.

Finally, sec. 3 of the bill provides that plastic pipe installed before the effective date of the bill does not violate the plumbing code if it is made of substances permitted by the 1985 plumbing code.

I urge your prompt and favorable action on this measure.

Sincerely,

Steve Cowper
Governor

STATE OF ALASKA 1987 LEGISLATIVE SESSION

No. 1

FISCAL NOTE

Bill Version: HB 206
Publish Date: 3/25/87

REQUEST

Bill/Resolution No. :
Title : "An Act relating to the plumbing code."

Sponsor : Governor
Requestor :
Date of Request : 11/18/86

FISCAL DETAIL

Agency Affected : Labor
BRU : Labor Standards and Safety

Components : Mechanical Inspection

EXPENDITURES/REVENUES : (Thousands of Dollars)

OPERATING	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	-0-	-0-	-0-	-0-	-0-	-0-
CAPITAL						
REVENUE						

FUNDING : (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						
TOTAL	-0-	-0-	-0-	-0-	-0-	-0-

POSITIONS :

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS : Attach a separate page if necessary

Prepared by : Robert J. Bacoras, Sr. Phone : 465-4870
Division : Labor Standards and Safety Date : 11/19/86

Approved by Commissioner : Jim Robison Date : 11/19/86
Agency : Labor

Distribution (by Agency preparing fiscal note) :
- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)

9/16/86

STATE OF ALASKA 1987 LEGISLATIVE SESSION
FISCAL NOTE

Bill Version: HB 206
Publish Date:

REQUEST:

Revision Date:
Title: "An Act relating to the plumbing code."
Sponsor: Governor
Requestor: House Labor and Commerce

Agency Affected: Labor
BRU: Labor Standards and Safety
Components: Mechanical Inspection

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0	0	0	0	0	0
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						
TOTAL	0	0	0	0	0	0

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS : (Attach a separate page if necessary)

Prepared by: /BS Tom Stuart, Director — Phone: 465-4870
Division: Labor Standards and Safety — Date: 4/13/87

Approved by Commissioner: /BS Jim Sampson — Date: 4/13/87
Agency: Labor

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)
Senate Secretary

HB

218

wo142haB
Bannister
4/7/87

Original sponsor: Rules/Governor

IN THE HOUSE

BY THE LABOR AND COMMERCE COMMITTEE

CS FOR HOUSE BILL NO. 218 (L&C)

IN THE LEGISLATURE OF THE STATE OF ALASKA

FIFTEENTH LEGISLATURE - FIRST SESSION

A BILL

For an Act entitled: "An Act creating the Alaska Center for International Business; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

* Section 1. LEGISLATIVE FINDINGS. In connection with the establishment of a center for international business in the University of Alaska, the legislature finds that

(1) recent fluctuations in the price of crude oil have made it clear that the state must take prompt and decisive action to reduce its economic dependency upon oil, through the diversification of its economy;

(2) it is in the best interests of the state to continue to promote trade with Asia, Pacific Rim nations, and other countries of the world;

(3) the state's location and vast resource base give the state a natural position as a bridge between the rest of the United States, Europe, and Asia; and

(4) to take full advantage of the state's location and natural resources, and to develop the possibilities of an aggressive state foreign trade to their fullest, it is critical that the statutes formally provide for establishing a center for international business at the earliest possible time.

* Sec. 2. AS 14.40 is amended by adding a new section to read:

Sec. 14.40.087. ALASKA CENTER FOR INTERNATIONAL BUSINESS. (a) The University of Alaska shall establish an Alaska Center for International Business in an appropriate unit of the university at its

Anchorage campus. The center shall operate under the direction of an advisory board consisting of seven individuals, selected by the Board of Regents after consultation with the governor, who have demonstrated strong interest in the development of business and economic relationships between the state and foreign countries.

(b) The center shall conduct research, including research on market information and market strategies relating to trade by businesses in the state with foreign nations, and, in particular, Asian nations. The research must include

(1) making assessments and projections of the potential of various markets for the state's natural resources and technical and informational resources;

(2) identifying and analyzing the import requirements of and trade barriers to current and future commodity sales in other nations;

(3) identifying the state's trade competitors and assessing the public policy and programs used by the competitors to foster trade with potential markets for the state's goods and services;

(4) developing marketing strategies relevant to the state's trade policies with other countries; and

(5) investigating foreign investment opportunities in the state.

(c) The center shall cooperate with and may enter into contracts with other state, federal, and municipal agencies, and private institutions, to maintain information relevant to the development of international trade and business relationships between the state and other nations of the world.

(d) The center shall provide training programs and materials for teachers in the state's school districts to encourage an understanding

of culture, language, political and economic systems, social and legal systems, and other aspects of foreign countries, particularly in Asia.

(e) The center may charge fees for services the center provides to individuals and entities other than the state. The president of the University of Alaska shall separately account for all fees collected under this subsection. The annual estimated balance in the account may be used by the legislature to make appropriations to the university to carry out the purposes of this section.

(f) The center may conduct instructional programs, publish and distribute public service and information materials, establish or participate in programs to encourage student participation or to provide benefits to students, and cooperate and coordinate with other educational institutions.

(g) The center shall submit an annual report to the legislature on the center's activities. The report must include a summary of the center's expenditures during the preceding year.

(h) In this section, "center" means the Alaska Center for International Business, established by the University of Alaska under (a) of this section.

* Sec. 3. AS 14.40.087, as added by sec. 2 of this Act, is repealed July 1, 1997.

* Sec. 4. This Act takes effect July 1, 1987.

STATE OF ALASKA
THE LEGISLATURE

POUCH Y - STATE CAPITOL
JUNEAU, ALASKA 99811
907-465-3800

LEGISLATIVE AFFAIRS AGENCY

LEGISLATIVE REFERENCE LIBRARY

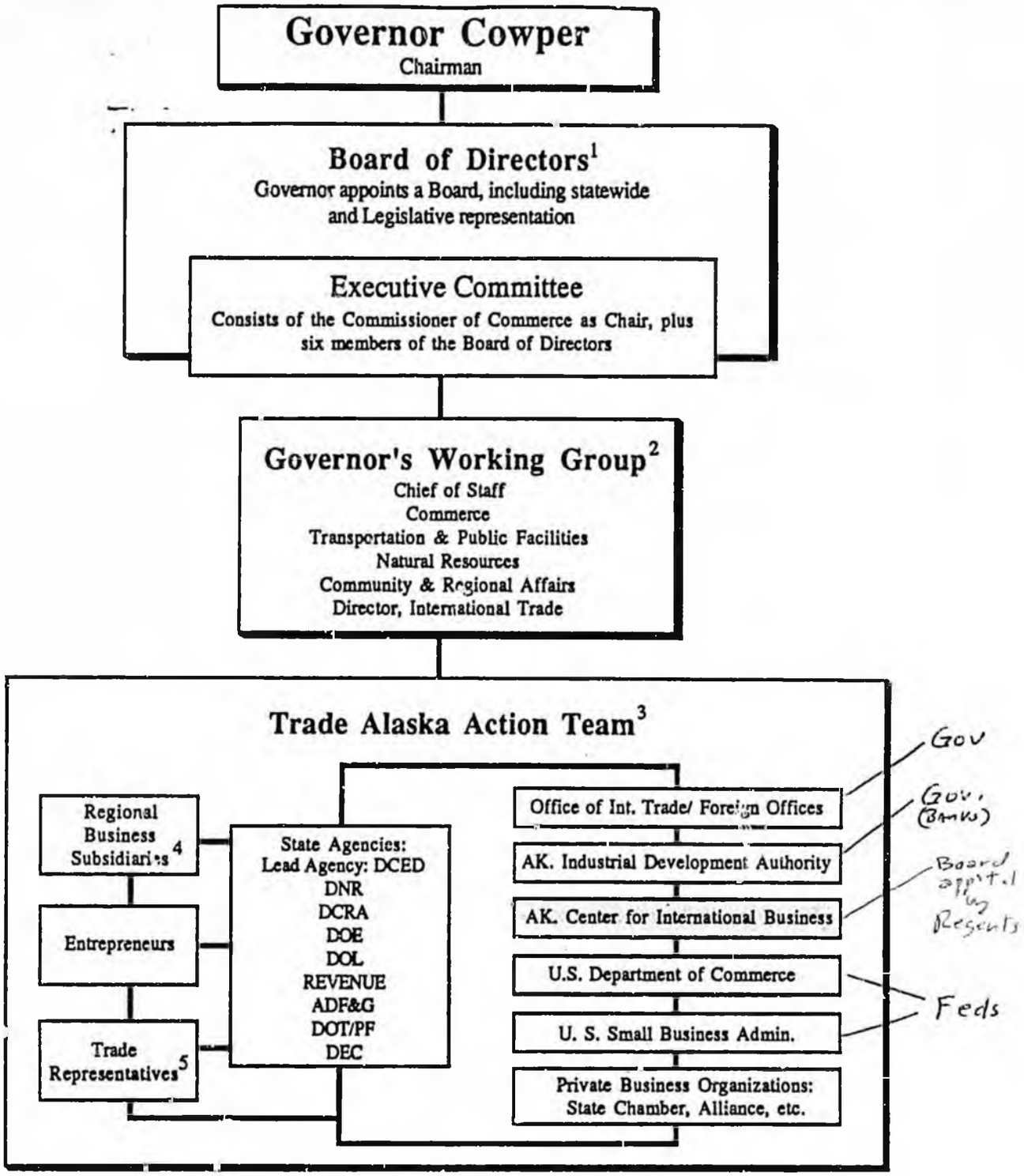
May, 1988

Copies of minutes listed below were originally included in this file. The minutes are available on the STAIRS database CMPR. In order to save space copies of minutes have not been left in the files.

Mary Van Nimwegen

HL+C 4-7-87 1:30p.m.

Trade Alaska ... *A Blueprint for Jobs and Economic Growth*



1. Board of Directors: Establish statewide economic development and international trade objectives, and identify economic development opportunities.

2. Governor's Working Group: Translate development objectives and Board recommendations into action plans.

3. Action Team: Implement action plans.

4. Regional Development Subsidiaries: Identify regional development opportunities consistent with statewide objectives, develop and implement business plans.

5. Trade Representatives: Information sources for out-of-state businesses interested in Alaskan investment and Alaskan businesses pursuing trade opportunities.

4/7/87

HOUSE COMMITTEE REPORT

(7)

Date referred: 3/27/87

FURTHER REFERRALS: HESS
Finance

DATE: 4/7/87

The Labor & Commerce Committee has considered HB 218

"An Act creating the Alaska Center for International Business; and providing for an effective date."

RECOMMENDS:

[ ] replace with CSHB218 (L+C) [ ] the same title

[ ] attached amendment(s) [ ] a new title

[ ] do pass

[ ] do not pass

[ ] no recommendation

[ ] individual recommendations

[ ] additional referral to the _____ Committee

ADOPTS: [ ] _____ letter of intent

ATTACHES NEW FISCAL NOTE(s):

[ ] fiscal impact

[ ] zero fiscal note

[X] zero with analysis

[ ] same as previous fiscal note published _____

[ ] same as previous zero fiscal note published _____

SIGNING DO PASS:

Mike Kopman

Ellis

Cliff Davidson

Walt Furnace

Dave Donley

SIGNING OTHER RECOMMENDATIONS:

Dave Donley
Chairman's signature

STEVE COWPER
GOVERNOR

STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

March 25, 1987

The Honorable Ben Grussendorf
Speaker of the House
Alaska State Legislature
P.O. Box V
Juneau, AK 99811

Dear Representative Grussendorf:

Under the authority of art. III, sec. 18, of the Alaska Constitution, I am transmitting two bills, one a substantive measure and the other an appropriation bill, to create and to fund, respectively, the Alaska Center for International Business.

The University of Alaska's existing Center for International Business is an off-shoot of the university's School of Business. The attached substantive bill establishes the center in statute. Under the bill, the center is designed primarily as a research institute to identify and develop better means of promoting trade by Alaska with foreign markets, primarily Pacific Rim nations. See the legislative findings in sec. 1 of the substantive bill.

At my request, Dr. John Choon K. Kim, director of the existing center, has prepared an initial organization and implementation plan for the center. Attached, for your reference, is a copy of this plan, which outlines in greater detail the programs and plans for the center. The substantive bill requires the center to submit annual reports to the legislature, and repeals the statute that provides for establishing the center. The repeal takes effect in 10 years so that the legislature can at that time review the center's value and future desirability. Section 3 of the bill.

Section 1 of the second measure, an appropriation bill, appropriates $400,000 to the university for operation of the center in FY 88. Section 2 of that bill appropriates $5,000,000 from the general fund to the University of Alaska for payment as a grant to the University of Alaska Foundation. The foundation is a private, nonprofit corporation, organized under Alaska law by private individuals. It generally handles endowments and other financial gifts to the university.