# Child Labor Coalition

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## COMMENTS BY THE CHILD LABOR COALITION ON THE U.S. DEPARTMENT OF LABOR'S REQUEST FOR INFORMATION, DATA, AND FEEDBACK REGARDING CHILD LABOR REGULATIONS RELATING TO NON-AGRICULTURAL EMPLOYMENT

**December 28, 2007**

**Department of Labor, Wage and Hour Division**
**29 CFR Part 570**
**RIN 1215-AB44**

***Federal Register*, April 17, 2007 (volume 72, Number 73, pp 19328-19337)**

The U.S. Department of Labor (DOL) published an Advance Notice of Proposed Rulemaking (ANPRM) and request for comments in the *Federal Register* on April 17, 2007 (volume 72, pages 19328-19337), in which it stated that it was seeking views of the public on the need, if any, for changes in various child labor regulations in 29 C.F.R. Part 570. The deadline for the filing of comments by interested parties on the proposed revisions was July 16, 2007, but it is our understanding that comments received after that date will be accepted and considered.

The Child Labor Coalition (CLC) welcomes the opportunity to comment on the U.S. Department of Labor's ANPRM. Comments or questions related to these CLC comments should be directed to Darlene Adkins or Sally Greenberg, Child Labor Coalition, at the address and telephone number listed on the CLC letterhead.

The CLC was formed in 1989 in response to escalating child labor violations in the United States and in foreign countries. Its goal is to create a network for the exchange of information about child labor; to provide a forum and a unified voice on protecting working minors and ending child labor exploitation; and to develop informational and educational outreach to the public and private sectors to combat child

labor abuses and to promote progressive initiatives and legislation. The CLC has more than 30 member organizations, including human rights groups, church groups, labor unions, and various advocacy organizations. Its co-chairs are the American Federation of Teachers and the National Consumers League, and it is housed in the National Consumers League. The CLC is the largest grouping in the United States of advocates for the protection of the safety, health, and education of working children.

Before making our comments on DOL's ANPRM, we have two general comments.

First, we see little or no justification for the amount of time it has taken DOL to issue this ANPRM. More than five and a half years ago, on May 2, 2002, the National Institute for Occupational Safety and Health (NIOSH) – the government's premier research agency on safety and heath on the job – published a report, commissioned by DOL, entitled *National Institute for Occupational Safety and Health (NIOSH) Recommendations to the U.S. Department of Labor for Changes to Hazardous Orders* (hereinafter the "NIOSH Report"). The NIOSH Report contained 176 pages of detailed facts and analysis in support of recommended changes and additions to Hazardous Occupations Orders -- commonly called "Hazardous Orders" or simply "HOs" -- in DOL's child labor regulations that prohibit children from working in jobs that have been determined by the Secretary of Labor to be particularly hazardous. These regulations, as DOL recognized in commissioning the NIOSH Report, were far out of date -- many of them not have been revised in 30 years or more, even despite many outmoded provisions. The NIOSH Report recommended that 13 of the 17 HOs relating to non-agricultural employment be revised, that 8 of the 11 HOs relating to agricultural employment be revised, and that 17 new HOs be created, for a total of 38 revised or new HOs in all. Now, more than five years later, DOL has proposed to revise only five existing non-agricultural HOs, and even so DOL does not adopt many of the recommendations made by NIOSH about how to improve these five HOs. This is a rate of five proposed revisions in five and a half years. Moreover, of the recommendations made by NIOSH for 17 new HOs, DOL addresses only one in its ANPRM– relating to construction occupations -- and merely requests information rather than proposing a new construction HO. DOL says nothing about the other 16 new HOs recommended by NIOSH.

Many deaths and injuries and illnesses among working children could have been prevented had DOL not wasted years before moving to address the seriously outdated and insufficiently protective HOs and proposing new HOs.

Even despite this lengthy delay of more than five and a half years, we trust that DOL will not hesitate to follow NIOSH's recommendations on the ground that the data in the NIOSH Report are not fully up to date. It is DOL's failure to take prompt action to update its HOs in the wake of the NIOSH Report that has caused this situation.

Second, we are greatly disappointed that DOL has not proposed any changes in the regulations, or requested the views of the public on the need for any such changes, relating to children working in agriculture. The CLC and many other groups, in informal

stakeholder meetings with former Wage and Hour Administrator Tammy D. McCutchen, urged that strengthening the child labor regulations affecting agricultural employment be DOL's top priority, because of the well-known dangers of agricultural employment for children. As noted in the NIOSH Report, youth 15 to 17 years of age working in agriculture have over four times the risk of fatal injury of youth workers in other industries (NIOSH Report, p. 12). Youth younger than age 15 accounted for about three-fourths of the deaths of all working youth under age 15 during the six-year period 1992 through 1997, even though only about seven percent of working children of this age are employed in agriculture (ibid., p. 12 and Figure 1, p. 4). Based on this and many other data and information, NIOSH made numerous detailed recommendations for strengthening HOs in agriculture. In response, not only has DOL failed to initiate a single proposed change since the NIOSH Report, it has not even solicited suggestions for changes in this period of more than five and a half years.

Our comments are set forth below in the same order in which DOL's proposed revisions are discussed in its ANPRM.

### *A. Student-Learner and Apprentice Exemptions to the Hazardous Occupation Orders (72 Fed.Reg. 19331-33).*

**Existing HOs:**

There are currently 17 HOs for non-agricultural occupations prohibiting anyone under age 18 from working in specified occupations.[1] Seven of these HOs contain exceptions that permit 16- and 17-year-old student-learners and apprentices to perform specified jobs that other workers below the age of 18 are barred from doing. The seven HOs are as follows:

HO 5: Power-driven woodworking machines

HO 8: Power-driven metal forming, punching, and shearing machines

[1] These HOs are contained in regulations issued by the Secretary of Labor under the Fair Labor Standards Act (FLSA), which authorizes the Secretary of Labor to issue orders prohibiting 16- and 17-year-old children from working in occupations that the Secretary determines to be "particularly hazardous" to the children's "health or well-being." 29 U.S.C. 203(*l*). The HOs in effect also bar all children under age 18 (not just 16- and 17-year-olds) from doing such prohibited work in non-agricultural occupations, both because a DOL regulation (29 C.F.R. 570.33(e)) forbids 14- and 15-year-olds from doing any jobs prohibited by any HO, and because the FLSA bars children under age 14 from doing any work in non-agricultural jobs. The only exceptions in the FLSA to these child labor restrictions for non-agricultural work are (a) child actors or performers, (b) children who deliver newspapers to the consumer, and (c) children working at home making evergreen wreathes. Under these statutory exceptions, children can do such work no matter how young they are.

In agricultural occupations, the FLSA's protections are far fewer. The law sets a lower minimum age of only 16 for particularly hazardous work in agriculture. And for work that is not particularly hazardous, the FLSA has many exceptions that allow many children younger than age 14 to be hired as farmworkers.

HO 10: Power-driven meat-processing machines, and slaughtering, packing or processing, or rendering

HO 12: Paper-products machines, scrap paper balers, and paper box compactors

HO 14: Circular saws, band saws, and guillotine shears

HO 16: Roofing operations

HO 17: Excavation operations

**NIOSH Recommendations** (NIOSH Report, pp. 31-32, 39-40, 41, 48, 50, 56, 60-61, 63-64)

NIOSH recommends that the apprenticeship/student-learners exceptions be retained, revised, or removed, as follows:

1. *Retained* for HO 5. Rationale: Power-driven woodworking machinery hazards are typically known, controllable, and limited to the machinery.

2. *Retained* for HO 8. Rationale: Available data suggest that training on power-driven metal processing machines can be effective in reducing injuries and unsafe behaviors.

3. *Revised* for HO 10. Rationale: If HO 10 is expanded, as recommended by NIOSH, to cover meat products manufacturing industries, there should be no apprenticeship/student-learner exemption in those industries both because of the complexity of measures needed to prevent repeated traumatic disorders and because of the diverse hazardous exposures in these workplaces that are outside the control of individual supervisors or workers.

4. *Retained* for HO 12. Rationale: So long as training of young workers to recognize injury hazards of paper-products machines is accompanied by careful monitoring by adult supervisors and regular inspection and maintenance of balers, the apprenticeship/student-learner exemption is appropriate.

5. *Revised* for HO 14. Rationale: If HO 14 is expanded, as recommended by NIOSH, to cover chain saws and other hand-held power saws, there should be no exemption that would permit apprentices and student-learners to use these tools because they are used in less controlled conditions that stationary, fixed saws, and because injury risk factors for such hand-held power saws are more diverse and more difficult to recognize and eliminate.

6. *Removed* for HO 16. Rationale: There are too many different hazards associated with working on roofs, and close supervision and training will not sufficiently reduce the risk of fatal injury

7. *Removed* for HO 17. Rationale: By far the most fatalities in excavation work stem from collapsing earth in trenches and excavations. Workers have little or no control over exposure to this hazard because interventions by supervisors or other responsible parties are needed to eliminate this hazard by sloping or shoring the excavation or by installing trench shields. Neither training in safe work practices nor the use of personal protective equipment will reduce these risks sufficiently.

NIOSH also recommends that DOL create 17 new HOs, such as for the construction industry, and for each such recommendation NIOSH indicates whether, in its view, the new HO should or should not have an exception for 16- and 17-year-olds who are apprentices or student learners.

In making these recommendations with regard to apprentices and student learners, NIOSH generally favors an exemption for such workers when the hazards to which the worker would be exposed are known, well-understood, controllable, and limited to the tools or machinery and when there are data demonstrating the effectiveness of training (see NIOSH Report, pp. 18-19 and *passim*).

On the other hand, in an occupation or task in which the hazards are diverse, difficult to recognize or eliminate; are outside the control of individual workers or supervisors; where neither close supervision and training nor use of personal protective equipment will reduce the risks significantly; or when there is a need for personal protective equipment or strict adherence to safe work practices, NIOSH recommends against an exemption that would permit 16- and 17-year-old apprentices and student learners to perform the occupation or task or prohibited by the HO (ibid.).

In making these general recommendations about when to have an apprenticeship/student-learner exemption, and when not to, NIOSH points out that even though the weight of existing research generally supports the value of training, research into the effectiveness of training programs has given mixed and inconclusive results (NIOSH Report, p. 141). Better and more thorough evaluations of such apprenticeship, student-learner, and other training programs, NIOSH says, are needed to ensure that they are effective in reducing the risk of serious injury and illness to youth, and to identify modifications that should be made to increase effectiveness.

**DOL Request for Information**

DOL rejects all of NIOSH's recommendations relating to the apprenticeship/student-learner exemption on the ground that NIOSH does not provide sufficient rationales for them. Instead, DOL poses four questions. We state each question below, along with our brief response. Thereafter, we offer more extended comments designed to further clarify our brief responses.

1. *What criteria should be used, with regard to all HOs, in determining when an exemption for apprentices and student-learners is appropriate, not only for existing HOs but also for any future HOs.*

As a general matter, DOL should in our opinion use a two-step process.

The first step is to determine whether data are available that show a significant reduction among student-learners and apprentices in the incidence of deaths, injuries, and illnesses with regard to each task prohibited by the particular HO. If such data are not available, DOL should be very cautious about permitting an exemption. And, since such data, as NIOSH points out, are generally not available, DOL should move to the next step.

The second step is to answer two questions. First, are there (a) external factors that are not under the control of a supervisor, (b) unclear lines of authority, or (c) multiple hazards not confined to a specific task? Second, is the incidence of deaths, injuries, and illnesses, with regard to the tasks prohibited by the HO, significantly higher than for workers in the entire industry (or, in the case of an industry-wide HO, for workers in all industries)? If the answer to both of these questions is yes, then there should be no apprentice and student-learner exemption. Even if the answer to only one of these questions is yes, we recommend that DOL not permit such an exemption.

We would also mention that DOL's notion of using common criteria for deciding, with regard to all manner of jobs, whether there should be an apprentice and student-learner exemption strikes us as somewhat unwieldy and unrealistic. The two-step process described above would be of great value in making this decision, but in the end it is necessary to look at each task, each job, and each work environment that is designated as "particularly hazardous" in order to determine whether an apprenticeship/student-learner exemption is warranted. This is because there are likely to be unique factors in each such task, job, or environment that do not fit readily into the two-step process recommended above. In other words, the CLC has responded to DOL's question above, but we are not sure that the question reflects the full complexity of the situation.

2. *Whether the current limitations on the amount of hazardous work that may be performed by an apprentice or student-learner, as well as the degree of required supervision, adequately protect, overprotect, or insufficiently protect the health and safety of young workers.*

The CLC very much favors the existing approach of limiting the amount of hazardous work that may be performed, and specifying the degree of required supervision. As a general matter, any such rules are intended to reduce the amount of time during which young workers are exposed to particularly hazardous circumstances and to try to assure that supervisors are carefully overseeing such work. However, we do not know whether these rules adequately protect the safety and health of 16- and 17-year-old apprentices and student-learners.

There are two reasons for our uncertainty. First, we do not know the extent to which DOL's existing rules are known to – and heeded by -- employers, as well as apprentices and student-learners, nor do we know the extent to which they are enforced by DOL. As we explain in more detail below, these limitations are stated rather vaguely in DOL regulations (29 C.F.R. 570.50(b)(3) and 570.50(c)(2)(ii)), but much more precisely in the Field Operations Handbook, or FOH (FOH 33e00h(4)(a) and (4)(b)). The fact that the more precise requirements are not in the regulations published in the widely available *Code of Federal Regulations* raises the question of whether employers are aware of them and whether DOL enforces them.

The second reason for our uncertainty is that, so far as we are aware, studies and reports about job-related deaths, injuries, and illnesses to 16- and 17-year-old apprentices and student learners do not consider the effect of the above noted limitations in the DOL regulations and the FOH. As an example, see our discussion below, in section E on the construction industry, involving a 17-year-old Cooperative Work Experience student-learner who was severely injured in late 2003 while working for a steel erection company in Massachusetts.

*3. The roles that apprenticeship and student-learner programs play in helping youth:*

*(a) acquire and practice good occupational safety and health work practices*

Apprentice and student-learner programs help youth to learn safe work practices. Nevertheless, as we explain below, there are still two problems. First, DOL has extraordinarily minimal requirements for the structure, content, and duration of these programs, so it is not clear to what extent those who undergo these programs learn what they need to know. The second problem is that knowing safe practices, and actually using them on the worksite, are two entirely different matters. Whether such practices are actually used hinges on a variety of factors, such as the attitude of supervisors, foremen, and company management. So answering this question in the affirmative is only a small part of whether the apprentices and student-learners will have a significantly lesser incidence of deaths, injuries, and illnesses than those who do not go through such programs.

*(b) properly assess workplace risks*

Our answer to this question is essentially the same as our answer to the previous question.

(c) *reduce occupational injuries and deaths*

As the NIOSH Report makes clear, and as we discuss more fully below, there are very few, if any, studies showing that apprenticeship and student-learner programs, in

themselves, reduce occupational injuries and deaths. There are many other factors that have an effect on the incidence of job-related injuries and deaths. We explore this question later in this section.

4. *Whether DOL should retain the provision in 29 C.F.R. 570.50(b)(4) that extends the apprenticeship exemption to apprenticeship programs that conform substantially with the federal or state apprenticeship standards, even though they are not registered with DOL's Bureau of Apprenticeship and Training (BAT) or a state agency recognized by BAT.*

We are not sure of the answer to this question. Hence we do not discuss this issue below in more detail, but instead briefly state our comments here. The existing regulation accepts apprenticeship programs that are not approved, either by the federal Bureau of Apprenticeship and Training (BAT) or by a BAT-recognized State agency, but only if the apprentice is employed "under a written apprenticeship agreement and conditions which are found by the Secretary of Labor to conform substantially to such Federal or State standards." 29 C.F.R. 570.50(b)(4).

Whether this rule makes sense depends on various matters of which we currently know very little. These matters include: How many such programs are there, and how many apprentices work under them? Why would an employer or other sponsor want to have such a program, rather than a program approved by BAT or by a BAT-recognized State agency? What does "substantially conform" mean? In view of the fact that the regulation requires the Secretary of Labor to find that such programs substantially conform to programs approved through ordinary means, who in DOL actually makes such a decision? What more specific criteria if any are used? Are the findings published in the *Federal Register* or in any other readily available publication? And, how many such findings are made each year? Armed with the answers to these questions, we would be in a better position to answer the question posed by DOL.

We now move on to our more extended comments that relate to the general question of apprentice and student-learner exemptions for HOs.

This request by DOL for comments on the structure of the apprentice/student-learner exemption as it relates to the HOs presents an exceptionally difficult task. In order to respond to DOL's request, we offer first a few preliminary comments.

The CLC recognizes the importance of apprenticeship and student-learner programs. Such programs serve many valuable purposes. They help youth explore various career options; they help some youth to stay in school and receive a high school diploma; they teach at least the rudiments, and often much more, of a trade that can become a life-long job; and they offer many other benefits. But if the trade or occupation for which such training prepares any youth under age 18 has been determined by the Secretary of Labor to be particularly hazardous, then other considerations come into play.

There is nothing in the federal child labor law – the Fair Labor Standards Act (FLSA) – that creates an apprenticeship/student-learner exemption. This exemption was created by DOL itself, in the federal child labor HOs that it has issued over the years. Since these exemptions apply only to occupations or tasks that the Secretary of Labor has found and declared to be "particularly hazardous for the employment" of 16- and 17-year-olds, or "detrimental to their health or well-being," it stands to reason that an exemption permitting 16- and 17-year-old children who are apprentices or student-learners to do such work would have to be based on clear evidence that the training they receive substantially reduces the likelihood of occupational fatalities and nonfatal injuries and illnesses. In the absence of such evidence, the most reasonable conclusion to draw is that the apprentices and student-learners would be as much at risk of injury, illness, or death as any other 16- and 17-year-old children who perform these "particularly hazardous" tasks and occupations.

That there is currently no such clear evidence is attested to by NIOSH, the federal government's premier job-safety research agency. The NIOSH Report, as noted above, states that research into the effectiveness of training programs has given mixed and inconclusive results (NIOSH Report, p. 141). This is because even though safety-training programs increase hazard awareness and promote safer work behaviors, they do not necessarily ensure compliance and thus reduce the incidence of death, injury, and illness on the job. This conclusion should cause DOL great concern, because it suggests that there is not an adequate factual basis for showing that safety training makes "particularly hazardous" jobs less hazardous. In this sense, NIOSH is in effect indicating that there is little basis on which to justify *any* of the apprentice/student-learner exemptions.

What evidence would provide such a factual basis? There are two approaches that researchers can use to discover such evidence.

*The first approach* is to compare the incidence of occupational fatalities and non-fatal injuries and illnesses between (a) 16- and 17-year-olds who have had apprenticeship or student-learner training and (b) those 16- and 17-year-olds who have not had such training. In situations in which DOL already has an HO with an exemption for apprentices and student learners, it would of course be illegal for a 16- or 17-year-old without such training to engage in work activities prohibited by the HO, so the limited pool of affected workers would make a comparison difficult. In such situations, DOL could make another comparison of the incidence of job-related deaths, non-fatal injuries, and illnesses that would yield helpful information; for example, between 16- and 17-year olds who have had such training and those slightly older than that – such as ages 18 and 19 – who have not had such training.

In all such comparisons, if 16- and 17-year-olds who have had such training have a significantly lower incidence of death, injury, and illness than those who have not had such training, this presents some basic evidence that the training has been valuable, in the sense that for such trainees the work may not be "particularly hazardous" or "detrimental to their health or well-being" (to use the language in the FLSA).

We hope that DOL will ask NIOSH to do a review of its own studies, and of other studies in academic journals and elsewhere, for the period of time after the NIOSH Report was published in May 2002, in order to determine whether or not there has been research that compares the incidence of occupational fatalities and nonfatal injuries and illnesses as between those who have received apprenticeship and student-learner training and those who have not, particularly for apprentices and student-learners of ages 16 and 17, using one or more of the comparisons we have suggested above. Even if the incidence of job-related deaths, injuries, and illnesses is lower among apprentices and student-learners, that fact would not end the inquiry. Another inquiry would still be required.

*The second approach*, in analyzing any such studies that have been done, is to determine whether they show a cause-and-effect relationship between the safety training that apprentices and student-learners have received and the incidence of occupational deaths and nonfatal injuries and illnesses.

One of the best studies of this and various related issues is Alexander Cohen and Michael J. Colligan, *Assessing Occupational Safety and Health Training: A Literature Review*, ("Cohen-Colligan Report") published by NIOSH in June 1998 (available at http://www.cdc.gov/niosh/pdfs/98-145.pdf), cited in the NIOSH Report (e.g., p. 39). It concludes that safety and health training can increase hazard awareness, knowledge of and adoption of safe work practices, and other positive actions that can reduce the risk and improve workplace safety (Cohen-Colligan Report, pp. 65, 154). However, the studies reviewed by Cohen and Colligan did not clearly establish that it was the training itself that caused the reduced injury, lost time, and medical costs; this was because the training was coupled with other "interventions," such as management commitment to worker safety and health, supervisor-worker communication on the job, and other factors (Cohen-Colligan Report, pp. 65-66, 69).

Two studies mentioned in the Cohen-Colligan Report illustrate the problem. One (discussed at p. 68 n. 3) is entitled "A Comparison of Safety and Health Training of Painters in Alaska, Oregon, and Washington," written by Rod Wolford and colleagues and published in January 1997 by the Center to Protect Workers' Rights. The painters who were the subjects of that study faced hazards from toxic paint materials and coatings. Questionnaires were sent to painters in Alaska (where safety and health training was mandatory) and in Oregon and Washington (where training was done on an optional basis). The study found that the mandatory Alaska training improved respirator and fan use (as well as other self-protective measures) against painting exposure hazards, but the study did not determine whether or not there was a lesser incidence of work-related illnesses among the Alaska painters than among the Oregon and Washington painters. That is, while the trained workers were more likely to use protective devices, the study did not indicate whether the trained workers had fewer job-related injuries and illnesses.

The other study -- K.K. Tan, et al., "Does Training Reduce the Incidence of Industrial Hand Injuries?", *Journal of Hand Surgery* vol. 16B, pp. 323-326 (1991) – was based on interviews of 41 hospitalized patients who were being treated for hand injuries

sustained at their workplaces. Of these, 21 had had no job training and 20 had had either formal or supervised on-the-job training of different lengths (three weeks for the majority of workers). Patients having had training were compared with those who had had none in terms of the time each spent on the job before the injury occurred. There was little difference between the two groups, suggesting the training had had little or no effect on whether the worker was injured. Indeed, three workers with training were injured on the first day and seven more were hurt within 12 weeks of starting their jobs, as compared with eight untrained workers who injured their hands during the same period. The Tan article is summarized in the Cohen-Colligan Report (p. 38). The Tan study, admittedly, does not show the incidence -- or rate -- of injury as between trained and untrained workers, but it does suggest that the training did not enhance safety, as all such training is intended to do.

Another academic study examined safety training and workplace injuries indirectly.[2] This study, which was based on a survey of 7,506 teens in Wisconsin, compared workplace injuries as between youth who had work permits and those who did not. Teens with work permits were found to be no less likely to be injured on the job than those without work permits. The study also found that teens with work permits were significantly more likely to be given safety training. Thus, a possible though indirect conclusion that can be drawn from the study is that the safety training had no appreciable effect on the incidence of injury.

It is of course true that there is an inherent and undeniable value to having had training, including job safety and health training. Some studies have surveyed the subjective attitudes of the trainees about the value of their training. These attitudes are important, but they reflect only the personal opinion of the trainees and therefore do not disclose the actual effect of the training. Other studies have examined the extent to which the topics covered by the training address the actual hazards of the job that the apprentice or student-learner will be doing. Still other studies consider the best pedagogical techniques for assuring that trainees learn and retain what they are taught.[3] This is obviously an important question, but it, too, ignores the issue of whether the knowledge gained through the training is actually put to use on the worksite.

One of the few studies that tried to determine the effect of the training alone concluded that the training could account for only 25 percent of the observed reduction in injury rate (Cohen-Colligan report, p. v).

Just as important as the training itself, and probably even more important, are issues that arise on the worksite itself. Among these issues are:

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[2] K.M Zierold and H. Anderson, "The Relationship Between Work Permits, Injury, and Safety Training Among Working Teenagers," *American Journal of Industrial Medicine,* vol. 49, no. 5, pp. 260-266 (May 2006).

[3] For example, in Michael J. Burke, et al., "Relative Effectiveness of Worker Safety and Health Training Methods," *American Journal of Public Health,* vol. 96. no. 2, pp. 315-324 (Feb. 2006), the researchers found that participatory, hands-on training with much dialogue with the instructor was more effective than more passive computer-based and distance training methods.

- Does the employer have a strong commitment to job safety and health?

- Do worksite supervisors regularly review safety procedures and discuss methods of avoiding hazards?

- Are the job demands complex and the work conditions uncertain? Are many of the hazards that workers face predictable?

- Does the employer have incentives or rewards for reinforcing safe performance of the job?

- Do a worker's performance standards include the incidence of job-related injuries and illnesses?

One academic study published in 2005 concludes: "No comprehensive statistics have been published on injury and illness rates in vocational schools or among vocational students and their teachers."[4] This same study reports that in a survey of 50 state departments of education on vocational education requirements for occupational safety and health, only 40 percent of the 30 states (i.e., 12 states) that responded to the survey had any such requirements. Moreover, in those states in which students were evaluated in some fashion for their safety and health knowledge, the extent and depth of the evaluation was at the discretion of the instructor.[5]

One important place to begin in exploring the ambiguous relationship between training and the incidence of job-related deaths, injuries, and illnesses is to look at the requirements for training programs. Perhaps most importantly, the central question is whether the programs are designed not only to increase hazard awareness on the part of the trained workers, but also to increase the likelihood of trained workers adopting safe work practices and to ensure that instructors/on-site supervisors vigorously adopt, promote, and enforce safe work practices and worksites, including direct supervision requirements.

One useful approach to answering this question is to look at the requirements that DOL imposes on apprentice and student-learner programs in its child labor regulations. Not all such programs qualify for the exemption; DOL lays down certain restrictions and limitations. What effects are these requirements and restrictions likely to have?

There are four limitations that apply to apprentice programs, as provided in 29 C.F.R. 570.50(b):

1. the craft must be an apprenticeable trade

[4] Paul A. Schulte, et al., "Integrating Occupational Safety and Heath Information Into Vocational and Technical Education Programs and Other Workforce Preparation Programs," *American Journal of Public Health*, vol. 95, no. 3, pp. 404-411 (quotation on p. 407) (March 2005).
[5] *Ibid*, p. 406. (This study was based on a survey conducted in 1996.).

2. the work that the Secretary of Labor has found to be particularly hazardous must be "incidental" to the apprentice's training

3. this particularly hazardous work must be "intermittent and for short periods of time" and must be under the "direct and close supervision of a journeyman"

4. the apprentice must be registered with DOL's Bureau of Apprenticeship and Training (BAT) and employed in accordance with its standards; or registered with a state agency and employed in accordance with its standards as recognized by BAT; or employed under a written apprenticeship agreement and conditions found by the Secretary of Labor to conform substantially with such federal or state standards

The limitations on student-learner programs, found in 29 C.F.R. 570.50(c), are as follows:

1. the student must be enrolled in a cooperative vocational training program under a recognized state or local government educational authority, or in a substantially similar program conducted by a private school

2. the student must work under a written agreement which provides:

    a) that the student's work in any task or occupation found to be particularly hazardous must be "incidental" to the training

    b) that this particularly hazardous work must be "intermittent and for short periods of time" and must be "under the direct and close supervision of a qualified and experienced person"

    c) that safety instructions shall be given by the school and correlated by the employer with on-the-job training

    d) that a schedule of organized and progressive work processes to be performed on the job shall have been prepared

The student-learner regulation also states that the exemption "may be" revoked in any individual situation where it is found that reasonable "precautions" have not be observed for the safety of minors employed under the agreement.

These apprentice and student-learner regulations are readily available for anyone to read in the Code of Federal Regulations. However, there are more detailed explanations of some of the terms in the regulations that are in DOL's *Field Operations Handbook* (the "FOH"), used by DOL's Wage and Hour Division investigators but also available on DOL's Web site. Specifically, "intermittent and for short periods of time,"

according to the FOH, means "not more than one hour in a workday" or not "more than 20%" of a work shift (FOH 33e00h(4)(a)(3)). "Direct and close supervision" means that "there is one journeyman or experienced adult working with the first apprentice or student-learner on-site, and at least three journeymen or experienced adults working along side each additional apprentice or student-learner." The FOH notes that according to BAT, these ratios are the most widely used in apprentice situations. FOH 33e00h(b).

These regulations and their further clarifications in the FOH prompt several observations.

First, since the FOH clarifications are much more precise and objective than the regulations, there is no valid reason to omit them from the regulations. We are not saying that we agree with the FOH clarifications, or even with the regulations; we are only saying that if DOL is using criteria for determining compliance with the regulations that are not in the regulations themselves, this practice needs to be reformed. Of course, if DOL plans to add any FOH positions to the regulations, it must go through the notice-and-comment rulemaking required by the Administrative Procedure Act.

Second, we note that there is no reference whatever to any required safety instruction or training in the apprentice regulations. However, under regulations issued pursuant to the National Apprenticeship Act, DOL does require that in order for an apprenticeship program to be registered or approved by BAT, the program must include "safety training for apprentices on the job and in related instruction" 29 C.F.R. 29.5(b)(9). The BAT regulations, unfortunately, do not contain any further details about what the length of time or the content of the safety training must be. As for the student-learner regulations, they do require "safety instructions," but they likewise do not specify any length of time or required content for such instructions. The failure by the DOL regulations and the FOH to specify any requirements for minimum length or for content of the safety instructions to be included in the apprenticeship or student-learner training is a serious gap that needs to be remedied.

Third, there are no requirements that instructors who conduct safety and health training must satisfy. This is in sharp contrast to the rules in at least one state, New Jersey, with regard to student-learner instruction. The New Jersey Department of Education has issued regulations that specify requirements that must be met by a cooperative education coordinator who supervises vocational students who participate in cooperative educational experiences in hazardous occupations as defined in the New Jersey child labor laws. (See http://www.nj.gov/education/voc/sle/cert.pdf.) The requirements include 1,000 hours of employment experience in a hazardous occupation, training in child labor laws, 20 hours of training in safety and health, and two years of vocational-technical teaching experience, among other provisions. Our understanding is that few states have such stringent requirements. Until DOL assures itself that all states have similar requirements for student-learner instruction, it should lay down a nationwide standard that assures that all student-learner instruction is conducted by experienced and able instructors.

Fourth, the DOL elaboration in the FOH of the child labor regulations strictly limits the amount of time that apprentices and student-learners can perform tasks or occupations that the Secretary of Labor has found and declared to be particularly hazardous. Because these time limitations are not in the DOL child labor regulations, it is not clear to us the extent to which employers of apprentices and student-learners are aware of them, nor do we know whether they are actually enforced by DOL. The time limits would plainly be difficult to enforce unless the employer or the individual employee kept records of the amount of time each day and each week that was spent in such particularly hazardous tasks. But certainly the approach of greatly limiting the percentage of time that a 16- or 17-year-old apprentice or student learner can spend in particularly hazardous tasks reduces the likelihood of occupational injury, illness, or death. If DOL is not strictly enforcing these time limits, the risks to these youth are far greater than intended by the FOH elaboration of the apprentice and student-learner regulations in 29 C.F.R. 570.50(b) and 50(c).

### *B. Power-Driven Woodworking Machines, Power-Driven Metal Processing Machines and Power-Driven Paper Processing Machines (pp.19333-19334)*

**Existing HOs:**

DOL discusses three HOs that prohibit youth under age 18 from operating certain power-driven machinery regardless of the industry in which the youth may be employed. (DOL's title to this part of the regulatory preamble is misleading with regard to the third type of power-driven machines discussed in Part B; they are not paper-processing machines (HO 12), but instead circular saws, band saws, and guillotine shears (HO 14).) These three HOs are as follows:

> *HO 5 (29 C.F.R. 570.55)*, which currently prohibits 16- and 17-year-olds from working with power-driven fixed or portable machines that cut, shape, or otherwise transform wood or veneer, but not other materials such as metal or plastic.
>
> *HO 8 (29 C.F.R. 570.59)*, which currently prohibits 16- and 17-year-olds from operating, or helping to operate, certain kinds of power-driven metal forming, punching, and shearing machines. The metal processing machines that cannot be operated are specified as rolling machines, bending machines, and hammering machines. HO 8 specifies that it does not prohibit 16- and 17-year-olds from operating or helping to operate machine tools.
>
> *HO 14 (29 C.F.R. 570.65)*, which currently prohibits 16- and 17-year-olds from operating, or helping to operate, power-driven fixed or portable circular saws, band saws, and guillotine shears, unless the machines are equipped with full automatic feed and ejection (including a fixed barrier guard to prevent completely the operator or helper from placing any part of the body in the point-of-operation

area). These prohibitions apply to any and all materials being cut by the saw or shears.

**NIOSH Recommendation** (NIOSH Report, pp. 31-34, 39-40, 56-58):

NIOSH makes two alternative recommendations with regard to these HOs affecting power-driven machinery, as follows:

*First Alternative NIOSH Recommendation.* Each of the three HOs should be kept separate, as they are now, and be amended as follows –

> HO 5 should be expanded to include similar power-driven machinery used on materials other than wood;
>
> HO 8 should be expanded to include several types of metalworking machinery not prohibited by the existing HO, namely, machines that mill, turn, grind, and bore metal; and
>
> HO 14 should revise the definition of machinery that it covers to include other machines, such as chainsaws and abrasive cutting discs, that perform cutting and sawing functions through direct contact between the cutting surfaces and the material (the current definition is based on the presence of a continuous series of notches or jagged teeth).

*Second Alternative NIOSH Recommendation.* HOs 5, 8, and 14 should be combined into a single HO, or multiple HOs, that address the function of the machine rather than the material processed by the machine. (If this alternative is adopted, it is clear that NIOSH intends the combined HO or HOs to include the greater protections urged in the first alternative recommendation.)

**DOL Request for Information:**

1. DOL declines to accept the NIOSH recommendations. However, DOL does propose to strengthen two of the three HOs -- HO 5 and HO 14 -- in ways that NIOSH does not discuss. Specifically, DOL proposes that HO 5 prohibit 16- and 17-year-olds from working with machines that cut not just wood and veneer, but also "trees, logs, or lumber." DOL also proposes that HO 14 prohibit 16- and 17-year-olds from using three additional kinds of cutting and sawing machines: chain saws, wood chippers, and reciprocating saws. The CLC has already commented on these two proposed regulatory changes in comments we submitted in reply to DOL's Notice of Proposed Rulemaking published in the *Federal Register* on April 17, 2007.

2. *With regard to HO 8*, DOL says that it is particularly interested in information about whether 16- and 17-year-olds can safely operate metal-

working machine tools. (HO 8 currently permits them to do this.) In this regard, DOL notes (72 Fed.Reg. 19333) that the NIOSH report indicates that more serious injuries have been caused by machine tools than was shown by information which was available in a 1951 report on which DOL relied in excluding machine tools from the prohibitions of HO 8.

*3.* DOL declines to accept the alternative NIOSH recommendation to consolidate the HOs so that they address the function of the machine rather than the material being processed by the machine. Instead, DOL seeks information on the feasibility of adopting this alternative recommendation. Specifically, DOL asks:

- Should HOs 5, 8, and 12 be revised to classify power-driven machines not by the materials that they cut and process, but by the functions that the machines perform (e.g., cutting and sawing; grinding; bending, rolling, and shaping)?

- Could NIOSH's recommendation be implemented without barring 16- and 17-year-olds from using power-driven machines that they could safely operate? In this connection, DOL notes that sometimes the material being processed might be relevant to the question of whether 16- and 17-year-olds could safely do the work. For example, DOL lists several power-driven cutting and sawing machines that it might not be hazardous for 16- and 17-year-olds to use:

  - power-driven countertop bagel slicers

  - power-driven trimmers and shears used in landscaping

  - computer-controlled lasers that cut, with exacting precision, textiles, metal frames for artwork, and many other objects

**CLC Position**

The CLC urges DOL to consolidate existing HOs 5, 8, and 12 into a single or multiple HOs which address the function of the machines rather than the material processed, as recommended by NIOSH. NIOSH's rationale for this recommendation strikes us as eminently reasonable: The HOs that restrict the use of machinery should be based on the function of the machine, rather than the material that the machine processes, because this is the approach used in the Occupational Injury and Illness Classification System (OIICS) developed many years ago by BLS and adopted by the American National Standards Institute (ANSI) in 1995 as the national system for keeping track of job-related injuries and illnesses. This massive database records five elements with regard to each injury and illness:

1) Nature of Injury or Illness (the physical characteristics of the injury or illness)
2) Part of Body (the part of the body directly affected by the injury or illness)
3) Source (the object or substance that directly inflicted the injury or illness)
4) Event or Exposure (the manner in which the injury or illness was inflicted by the source)
5) Secondary Source (the other object or substance that contributed to the event or exposure)

OIICS lists various kinds of machines among the various "sources" that can directly inflict the injury or illness. As NIOSH points out, one of the "source" machines is OIICS code 352, "Boring, drilling, planing, and milling machinery" (NIOSH Report, pp. 32-33). These machines can process not only wood, but also various other materials such as metal. If DOL's child labor HOs were more closely patterned after BLS's OIICS categories, it would be much easier for the injury and illness data collected by BLS (and used nationwide because of adoption by ANSI) to inform DOL about revisions that might be needed in HOs.

The approach recommended by NIOSH actually applies across the board to all HOs, both those now in existence and any future HOs that may be contemplated by DOL. DOL could do a much better job in assessing the effectiveness of all of its HOs if they were more closely patterned after BLS's OIICS categories. This approach would provide a more concrete basis for determinations related to the appropriate scope for the HOs and appropriate exemptions to the HOs.

DOL's request for information suggests that it is concerned that by adopting NIOSH's recommendation, it might thereby prohibit 16- and 17-year-olds from doing certain tasks that might not be particularly hazardous, such as using a power-driven counter-top bagel slicer. There seems to us to be little danger of such a contingency. For example, there is an OIICS code – 357 – for "cutting machinery, stationery." This applies to stationery machinery that cuts all kinds of materials. If DOL decides that certain kinds of stationery cutting machinery are safe for 16- and 17-year-olds to operate, it could create an exemption, as it already does in existing HOs. In short, we urge DOL to accept NIOSH's recommendation.

### *C. Occupational Radiation Exposures (72 Fed.Reg. 19334-35)*

**Existing HO**

HO 6 (29 C.F.R. 570.57) currently forbids 16- and 17-year-olds from working in any workroom in which radium or other radioactive substances are present, and in addition prohibits any other work "which involves exposure to ionizing radiations in excess of 0.5 rem per year."

A rem (an acronym for **R**oentgen **E**quivalent in **M**an) is a unit of radiation dose. In order to determine whether an employee who works in an environment where he or

she is exposed to ionizing radiation has been subjected to a particular level of radiation, it is necessary for that person to wear, at all times while on the job site, an individual monitoring device. Such devices include film badges, thermoluminescence dosimeters, pocket ionization chambers, or lapel air sampling devices that monitor radiation at all times when the employee is on the job site. In order to determine whether any employer has complied with this requirement in HO 6, it would be necessary for each employee who is exposed to radiation to wear his or her own individual monitoring device during all time on the job, thereby recording the cumulative radiation exposure of that employee during the course of a year.

**NIOSH Recommendation** (NIOSH Report, pp. 34-35).

NIOSH recommends strengthening the protections in HO 6 by prohibiting 16- and 17-year-olds from working with any machine that generates ionizing radiation, including assisting in diagnostic or therapeutic radiology procedures involving ionizing radiation.

In support of this recommendation, NIOSH notes that over 46,000 youth under age 18 work in medical or veterinary offices where they may be exposed to ionizing radiation while assisting in diagnostic radiologic procedures. Such radiation can harm youth more than adults because of cell damage associated with adolescent growth and development. One study of such hazards in veterinary clinics, NIOSH points out, found that the clinics (a) often use x-ray machines that do not meet required standards and (b) do not assure that employees wear radiation exposure monitors.

**DOL Proposal and CLC Comments.** DOL declines to follow NIOSH's recommendation. Instead, DOL asks for information regarding the feasibility of adopting the recommendation.

Before providing that information, we would like to point out that 20 states have already concluded that radiation exposure is particularly hazardous to children below the age of 18; these states' child labor laws prohibit youth below age 18 from working in occupations or activities involving exposure to radioactive substances or to ionizing radiation. (Three additional states also prohibit such work, but only for children under age 16.) These state laws are summarized in a study by SiloSmashers, Inc., the contractor hired by DOL to review the NIOSH Report and to examine the feasibility of following the Report's recommendations. Inexplicably, DOL does not refer to this SiloSmashers study on exposure to radiation in the preamble to the ANPRM. In any event, if 20 states have already determined that such work is particularly hazardous to children under the age of 18, there must be a reasonable basis for this conclusion. We urge DOL to take into account the considered judgment of these states' position on this matter.

We now restate, and then give our answer to, each specific question posed by DOL.

*1. Should a prohibition be adopted that does not specify a maximum permissible annual exposure limit?*

If this question indicates that DOL is considering changing HO 6 to eliminate any reference to exposure limits, but would still permit children under 18 to be exposed to ionizing radiation, we most strenuously object. The regulations of the U.S. Nuclear Regulatory Commission set the "annual occupational dose limits" for those under age 18 at "10 percent of the annual dose limit for adult workers" (10 C.F.R. 20.1207), and the adult limit is set at 5 rems per year (10 C.F.R. 20.1201(a)(1)(i)). If DOL decides not to specify an exposure limit, then there would be no child labor violation if a 16- or 17-year old worked, for example, in a medical clinic that had a faulty X-ray machine and inadequate other protections, thus possibly exposing the child to amounts of radiation that could cause permanent genetic damage leading to serious illness or death. DOL has a cadre of investigators nationwide who go into places of business every day, including some places that use X-ray and other equipment that generates ionizing radiation. For DOL to deprive itself of the possibility of asserting a child labor violation in such situations makes no sense.

If DOL instead means that there should be a limit to radiation exposure but that it should not be a specific limit, this approach, too, makes no sense. We are aware of the long-settled philosophy in the realm of radiation exposure to keep the risk as low as reasonably achievable – often referred to as "ALARA." But a non-specific limit like this is contrary to the ALARA principle and is impossible to enforce.

If DOL means, as a possible third interpretation of the question it poses, that not specifying a maximum permissible limit would signify that children under age 18 cannot work at all in places where they would be exposed to ionizing radiation, then the CLC agrees with that approach, particularly if, as seems likely, working children currently exposed to ionizing radiation do not regularly wear individual radiation monitors on the job. We explain our reasoning below, in response to DOL's second question.

*2. If a maximum permissible exposure limit should be specified for young workers, what level of exposure is appropriate?*

The existing maximum exposure limit – 0.5 rem per year – is exceptionally difficult, if not impossible, to enforce, as DOL itself recognizes. We quote from the manual used by DOL investigators on this point (FOH 33e06(2)):

> Inv[estigator]'s may not be able to determine from a physical investigation of a workplace whether a minor is employed contrary to the requirements of HO 6. If the Inv[estigator] finds minors under 18 employed, and persons are available who know the means for measuring

> radiation and calculating dosage are available in the plant, hospital or other work area, their advice should be sought. If there is no such person available, a memorandum giving full details shall be forwarded through channels to the [Wage and Hour Division] R[egional] A[dministrator]. As necessary, the R[egional] A[dministrator] should seek advice through the local Public Health Service, the City or State Health Departments, or an appropriate federal agency to determine if a violation has occurred.

What this excerpt from the investigator's manual suggests to us is that DOL is not really able to determine whether the 0.5 rem per year maximum exposure level is being heeded. If DOL is going to enforce this 0.5 rem per year rule, it needs to explain in its investigator's manual exactly how to do this.

*3. What safeguards can employers and employees use to ensure that exposures to ionizing radiation are kept to permissible levels?*

No matter what safeguards employers rely upon and what protective clothing or other protections that employees may use, employees who work in establishments where ionizing radiation is used will still be exposed to such radiation to some extent. It is doubtless true that various safeguards -- the use of prominently posted warning notices listing safety requirements; a rule barring anyone under age 18 from entering any room in which ionizing radiation is used; the use of lead-lined rooms; etc. – will reduce the level of radiation exposure, but the only way to determine whether it is below the level set by the U.S. Nuclear Regulatory Commission is for the employee to wear an individual monitoring device.

The only way for DOL to assure that this is done is to amend HO 6 to require that youth wear such monitors at all times. We already know from the research cited in the NIOSH Report that employers do not always assure that their employees wear radiation monitors, so this is clearly a problem that affects the health of all children (as well as adults) who work where ionizing radiation is in use. In the absence of a requirement in HO 6 that the employer must assure that employees under age 18 wear monitors, there is no realistic way for DOL to determine whether an employer is complying with the 0.5 rem annual ceiling. If DOL is unwilling to make this regulatory change, then the 0.5 rem requirement has in effect been written out of HO 6.

In view of all of the above, the CLC strongly recommends that DOL follow the lead of the 20 states that already prohibit children under age 18 from working in occupations or activities involving exposure to radioactive substances or to ionizing radiation.

### *D. Petroleum and Natural Gas Extraction (72 Fed.Reg. 19335)*

**Existing HO**

HO 9 (29 C.F.R. 570.60) currently prohibits 16-and 17-year-olds from doing most mining work in and around mines other than coal mines. (Coal mining work is restricted by HO 3, 29 C.F.R. 570.53.) The HO 9 restrictions apply to underground and surface mines, quarries, clay pits, sand and gravel operations, and similar places.

HO 9 specifically defines the mining work that it prohibits as excluding "work performed . . . in petroleum production [or] in natural-gas production . . . ." 29 C.F.R. 570.60(b).

**NIOSH Recommendation** (NIOSH Report, pp. 40-41):

NIOSH recommends strengthening the protections in HO 9 in two ways:

1. Prohibit 16- and 17-year-olds from performing any work in connection with petroleum and natural gas extraction.

2. Remove the existing exemption that currently permits 16- and 17-year-olds to repair and maintain roads and to do work on track crews

In support of these recommendations, NIOSH notes that the fatality rate for oil and gas extraction – 25.8 per 100,000 workers -- is nearly five times the fatality rate for workers in all industries. Moreover, the 9,550 nonfatal injuries in the oil and gas extraction industry in 1997 exceeded total nonfatal injuries in the coal and metal and nonmetal mining industries combined. Between 1980 and 1989, ten workers under age 18 were killed in the petroleum and natural gas industry by various means: electrocution, fall from an oil rig or derrick, being struck by a falling machine part, and the explosion of a storage tank. (NIOSH Report, pp. 40-41.)

NIOSH also cites high rates of death and injury in road construction and in railroad work.. In the case of road repair and maintenance, the NIOSH Report indicates (p. 104) that paving, surfacing, and tamping equipment operators had a fatal occupational injury rate of 43.3 per 100,000 workers (1992-1997 data). This is higher than the fatal injury rate than for any other construction workers except for structural metal workers (NIOSH Report, pp. 102-104). Even roofers – whose work has been declared "particularly hazardous" by DOL and is greatly restricted by HO 16 for workers under age 18 – have a fatality rate that is one-third lower than road construction workers (28.9 per 100,000 workers). As for railroads, the NIOSH Report details the hazards in that industry (NIOSH Report, pp.113-114).

**DOL Proposal and CLC Comments:**

DOL declines to follow NIOSH's recommendations. Instead, DOL asks for additional information on the feasibility of adopting NIOSH's recommendations. Specifically, DOL asks for information in response to four questions. Each question is listed below, after which the CLC gives its answer.

1. *Are minors currently employed in the petroleum and natural gas extraction industry?*

We do not know how many workers under the age of 18 are employed in this industry.

2. *If so, what jobs do they perform?*

We do not know what jobs are performed by anyone under age 18 who may be working in the oil and natural gas extraction industry. As indicated below, however, we assume that most workers in this age group are roustabouts, which is ordinarily the entry-level job.

*3. Are there some jobs that children under age 18 can safely perform?*

Oil and natural gas extraction is an exceptionally hazardous industry. Existing HO 9 restricts employment of 16- and 17-year-olds in mining other than coal, such as mining for iron, gold, silver, copper, nickel, lead, zinc, and other metal ores, as well as non-metallic mining, for stone, sand, gravel, clay, potash, and other substances. The NIOSH Report notes that the oil and gas extraction industry has the eighth-highest lifetime risk of fatal injury – only slightly less dangerous than the metal-mining industry (which ranks seventh) and more dangerous than the non-metal mines and quarries industry (which ranks tenth). These facts, standing alone, should made DOL wary of continuing to permit children under age 18 to work in oil and natural gas extraction.

In considering whether any child under the age of 18 should be permitted to work in oil and natural gas extraction, it is helpful to consider off-shore operations separately from land-based operations. Employees on off-shore drilling rigs and platforms generally work 12-hour days, seven days a week. They then typically get a week off, when they may be taken by helicopter or boat to shore, at which point they are free to go home or do whatever else they wish. Sometimes workers have to stay on the off-shore rig for more than a week – occasionally as much as two, three, or even four weeks in a row – but they then ordinarily get the same length of time off. Offshore work is inherently more dangerous than land-based work. The height of the platform means that there is a danger of falling. There is also the hazard of violent storms (even hurricanes in some areas), as well as strong ocean currents. For these reasons, the CLC urges DOL to prohibit any child under the age of 18 from working on off-shore oil and natural gas extraction.

As for land-based oil and natural gas exploration, there are also significant hazards. The most common entry-level job is a "roustabout" (sometimes known as a "roughneck" or even just a "hand"). Many learn their skills on the job by working with experienced workers. Roustabouts with no previous experience usually begin with simple tasks, such as unloading trucks; hand-carrying supplies and equipment; cleaning, painting, and removing rust; and digging holes for posts or foundations. As they gain experience, they move on to more skilled tasks, such as using wrenches to connect tanks and flow lines; helping to make derricks by bolting steel or nailing wood frameworks;

mixing and pouring concrete to make foundations for derricks; assembling and even repairing machinery and equipment; and similar tasks. Some of the hazards that roustabouts face are falling off derricks and other structures and being hit by falling objects. Fire and explosions are always dangers in oil and natural gas fields. And fatigue can be a major problem, particularly when there is a "boom," which can require exceptionally long hours in the workweek -- even more than 60 when there is a "gusher" or a fire or explosion or other exigent event.

As the above discussion makes clear, there are serious hazards involved in oil and natural gas extraction. Nonetheless, are there any jobs that workers under age 18 can do safely in these settings? In seeking to answer this question it if helpful to consider those jobs that DOL permits employees under age 18 to do at metal and non-metal mines. Under existing HO 9, such employees are permitted to work:

(a) in offices and in certain other buildings "not located underground." (FOH 33e09c(1)(a) clarifies this by stating that this permits work in an open pit or quarry that is below the surface of the surrounding ground, but only within the building and not elsewhere in the pit or quarry.)

(b) "in the operation and maintenance of living quarters."

(c) outside the mine in surveying, in the repair and maintenance of roads, and in general clean-up on the mine property such as clearing brush and digging drainage ditches. FOH 33e09c(1)(c) clarifies that by stating that such work cannot be done underground or in an open pit or quarry.)

(d) work of track crews in the building and maintaining of sections of railroad track, but away from any mining and haulage activities. (FOH33e09e(5) clarifies this by stating that trackwork performed three miles from the open quarry is *not* prohibited by HO 9 because it is not in close proximity to the mining haulage or to mining activities.)

(e) in or about surface placer mining, except for placer dredging and hydraulic placer mining operations; and

(f) limited work in metal mills other than certain mercury and cyanide operations.

In the case of oil and natural gas extraction, the entry-level workers – roustabouts and roughnecks – are not working in offices or other buildings, nor are they typically "outside the mine" in the way that a mineworker would be. Instead, roustabouts generally work right at the point of, or very close to, active production activity – close, in other words, to the very hazards that cause oil and natural gas extraction to be such a dangerous industry.

The safer jobs – petroleum geologist, for example – are ones that children under 18 do not perform, because no one that young is qualified to do such work. In short, we think that any jobs that 16- and 17-year-olds would be likely or qualified to perform are too hazardous for such youngsters to be permitted to perform, because of their close proximity to a highly volatile and dangerous worksite.

*4. Should there be an exemption that would permit apprentices and student-learners of ages 16 and 17 to work in oil and gas extraction?*

HO 9 contains no apprentice and student-learner exemption for metal and non-metal mining jobs. Given that oil and natural gas exploration, as the NIOSH Report points out, is more hazardous than metal mining and only slightly less hazardous than non-metal mining, those facts seem reason enough not to create such an exemption for the oil and natural gas exploration industry. Moreover, for the entry-level job of roustabout, the turnover rate is fairly high, and employers therefore tend to be disinclined to invest much time or money in providing specialized training to such employees when they start work. Some roustabouts take courses at junior colleges or self-study courses, and the roustabouts' employers – at least the major oil companies -- will sometimes pay for this training, but those who take such junior college courses are almost invariable over age 18. In short, the CLC recommends that there be no exemption for apprentices and student-learners.

### *E. Occupations in Construction (72 Fed.Reg. 19335-19337)*

**Existing HO:**

Currently, there is no single HO that applies to all particularly hazardous construction occupations. Instead, there are numerous HOs that prohibit specific types of particularly hazardous construction work. Existing HOs restrict specified work with:

- power-driven woodworking machines (HO 5);
- power-driven hoisting apparatus (HO 7);
- power-driven metal forming, punching, and shearing machines (HO 8);
- circular saws, band saws, and guillotine shears (HO 14);
- wrecking demolition, and shipbuilding operations (HO 15);
- roofing operations (HO 16); and
- excavation operations (HO 17).

**NIOSH Recommendations** (NIOSH Report, pp. 101-106)

NIOSH recommends that all existing HOs relating to construction occupations be consolidated into a single HO that prohibits work in many specific construction occupations (but not necessarily all jobs in the construction industry). The effect of such a new HO, NIOSH indicates, would be to prohibit 16- and 17-year-olds from doing specific particularly hazardous construction-type jobs both in the construction industry and in any other industry, but not to prohibit 16- and 17-year-olds from doing clerical and various other non-hazardous jobs in the construction industry.

NIOSH specifies the exact construction occupations that should be included in its new proposed HO that are not in the existing regulations, such as brickmasons, drywall installers, electricians, plasterers, insulation workers, construction trade helpers, construction trade laborers, and various other job classifications (specifically, Bureau of Census occupation codes 553-599, 866, and 869).

NIOSH does not recommend an apprentice or student-learner exemption, on the ground that construction site hazards are frequently outside of the control of individual workers or contractors. In addition, the NIOSH Report has data on the death rate from 1992 to 1997 for various construction jobs that permit a comparison in rates as between apprentices in an occupation and all other workers in the same occupation with regard to three jobs: carpenters; electricians; and plumbers, pipefitters, and steamfitters. In the case of carpenters, the apprentice death rate was 40 percent higher than for all other non-supervisory carpenters; for apprentice electricians the death rate was 30 percent higher than for all other non-supervisory electricians; and for apprentice plumbers, pipefitters, and steamfitters, the death date was 96 percent higher than for all other non-supervisory plumbers, pipefitters, and steamfitters (NIOSH Report, Table 27, pp. 102-104). These jobs appear to be the only occupations in the Bureau of Census occupation codes that permit a comparison between apprentices and all other non-supervisory workers in the same occupation.

In further support of its recommendation to expand the protections for youth in construction occupations, NIOSH notes that during the period 1992-1997 there were 5,298 fatalities in the construction trades and 179,035 nonfatal injuries and illnesses affecting workers of all ages. As for youth, NIOSH notes – with striking statistics -- that youth of ages 15-17 working in construction had more than seven times the risk of fatal injury as youth in other industries, and greater than twice the risk for workers 25-44 years of age working in construction (NIOSH Report, p. 105). Segments of the construction industry with the highest number of young worker fatalities were roofing, siding, and sheet metal work.

NIOSH also comments on the many health hazards from dusts and fumes of various types -- from asbestos, silica, cadmium, lead, toluene and other substances -- which can lead to lung disorders, poisoning, and other ailments.

There are also numerous musculoskeletal disorders. In 1997, NIOSH notes, construction industry workers sustained 44,317 nonfatal injuries and illnesses attributed to overexertion, 25,500 of which involved lifting, and an additional 2,806 of which were related to repetitive motion.

**DOL Request for Information:**

DOL declines to accept the NIOSH recommendation. DOL – claiming that 286,000 youth between the ages of 16 and 19 worked in the construction industry in 2004 and that average hourly earnings for construction workers of all ages were $20.40 in 2006 -- instead requests information on whether it is appropriate and feasible to carry out the NIOSH recommendations.

**CLC Comments**

We recognize that wages are higher in construction than in many other industries in which youth under age 18 work, and that, according to DOL, more than a quarter of a million youth between the ages of 16 and 19 work in the construction industry. But the paramount consideration must be the safety and health of young workers. It would be a mistake to encourage youth under age 18 to work in jobs primarily on the basis that wages are high, without adequate regard for occupational hazards.

Moreover, the two data points cited by DOL – average wage of all construction workers in 2004 at $20.40 per hour and 286,000 youth between ages 16 and 19 in the industry – have to be put in proper perspective.

The average wage cited for *all* construction workers cited by DOL is not the wage paid to the least experienced workers, as any workers under age 18 would likely be. A more realistic wage rate is that for construction laborers, typically the entry-level job in the construction trades. The median wage rate for construction laborers was $12.10 per hour in 2004, far less than the average wage for all construction workers of $20.10 per hour cited by DOL.[6]

The 286,000 youth between ages 16 and 19 who, according to DOL's assertion, worked in construction in 2004 represented only 2.78 percent of all construction industry workers in that year.[7] Even if DOL decides to impose further child labor restrictions in the construction industry, DOL's proposals to expand greatly other jobs available to

[6] The $12.10 per hour figure is in a BLS report on the construction industry, available at www.bls.gov/oco/cg/pdf/cgs003.pdf (Table 5, p. 52). Also, it should be noted that the median wage, upon which we rely, is a better indicator of a range of wages than the average wage upon which DOL relies. For example, if five workers earn wages of $8.00, $10.00, $12.10, $30.00, and $41.90 per hour, respectively, the median wage (the wage rate at which there are as many workers who are paid less as there are workers who are paid more) is $12.10 per hour, whereas the average wage (the total of all wages paid to the workers divided by the number of workers) is $20.40 per hour.

[7] According to BLS's *Current Population Survey*, there were 10,272,000 private sector employees aged 16 years and older in the construction industry in 2004.

youth workers in other industries would enable these workers to hold many other types of jobs that current regulations bar them from holding.

DOL's claim that 286,000 youth between the ages of 16 and 19 work in construction does not cite a specific source for this number. The NIOSH report shows that about 2.8 percent of all working youth ages 15-17 work in construction (Figure 1, p. 4). The NIOSH report also indicates that the total number of working youth ages 15-17 is 3,230,000 (NIOSH Report, p. 3). Simple multiplication shows that this means that only about 90,500 youth of these ages work in construction. We do not know how to explain the discrepancy between this 90,500 figure and the much higher figure of 286,000 asserted by DOL in the ANPRM preamble.

DOL asks various questions to help it decide what to do about the construction industry in light of NIOSH's recommendations. The CLC restates below, and then responds to, each of DOL's questions.

Before we answer these questions, however, we summarize more recent studies that have become available since the publication in May 2002 of the NIOSH Report.

Two of the most important studies are "Occupational Injuries Among Young Workers," by Janice Windau and Samuel Meyer of BLS's Office of Safety, Health, and Working Conditions, published in the *Monthly Labor Review* in October 2005; [8] (pages 11-23), and Carol W. Runyan, et al., "Work Hazards and Workplace Safety Violations Experienced by Adolescent Construction Workers," *Archives of Pediatric Adolescent Medicine,* vol. 160, no. 7 (July 2006), pp 721-727.[9]

The Windau and Meyer article compares fatal and non-fatal occupational injuries to youth under age 18 in two five-year periods, 1993-1997 (the "earlier period") and 1998-2002 (the "later period"). The study's findings relating to the construction industry are exceptionally important. Whereas the number of occupational deaths to youth under age 18 in all industries declined 9 percent from the earlier period to the later period (from 335 to 304), the occupational deaths to such young workers in the construction industry increased by 13 percent (from 48 to 54) (Table 4, p. 17). Moreover, the 54 construction deaths out of 304 deaths overall in the later period represented 18 percent of all job-related deaths, even though, as noted above, only 2.8 percent of all working youth are employed in the construction industry. Thus the incidence of job-related deaths to youth in the construction industry was almost 6.5 times the rate in all industries combined. Hence the risk of death to youth working in construction has not declined significantly since the time of the NIOSH Report.[10]

[8] Available on-line at www.bls.gov/opub/mlr/2005/10/art2full.pdf.
[9] Available on-line at http://archpedi.ama-assn.org/cgi/reprint/160/7/721.
[10] The NIOSH's Report's statement that youth construction workers have seven times the risk of fatal injury as youth in other industries (p. 105) is based on a report published by BLS in 2000, which relied on data for a multi-year period ending in 1998.

Other findings in the Windau and Meyer article are that of the 54 youth killed in the later period, 42 were wage and salary workers, seven worked in the family business, and five were self-employed. And of the 54 who were killed, ten were under the age of 16 (even though children under age 16 cannot work in construction, unless their employer is their own parent or guardian).[11] These statistics suggest that at least some of these ten children under age 16 were working in violation of the child labor law (since only seven of the children who were killed worked in a family business). The BLS study also found that 35 percent of the fatally injured youth in the later period were Hispanic and Latino.

Falls and transportation incidents together accounted for almost two-thirds of the 53 deaths during the later period. About half the falls were as a result of installing or repairing roofs.[12] Nine of the construction workers killed in the later period were driving some type of vehicle at the time of the fatal injury, and about half of these were 16 at the time.[13] Moreover, four of the fatalities resulted from excavations or trenching cave-ins.[14]

The study by Carol W. Runyan and colleagues – published, as noted above, in July 2006 -- is based on a telephone survey during the summer of 2001 in which 187 youth under age 18 who had work permits to do construction work were asked 134 questions about work hours, training, exposure to chemicals, electrical hazards, supervision practices, and use of safety devices. Of the 187 youth, 168 were 16- or 17-year-olds, and many of them did work that is prohibited by one or more HOs, including using a gunpowder charge to activate tools; operating a forklift; working in trenches, holes, or foundations deeper than four feet; putting on shingles or other roofing material; using a hand-held chain saw,[15] circular saw, reciprocating saw, or a table saw; using

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[11] The only non-agricultural occupations in which children under age 16 can work, according to DOL child labor regulations, are certain jobs in retail establishments, food service establishments, and gasoline service establishments, and only if the children are 14 or 15 years old but not younger (29 C.F.R. 570.34). The only exception to these rules affecting 14-and 15-years-olds in construction is that they can be employed by their own parent or guardian in a construction job -- provided that the job has not been declared "particularly hazardous" by the Secretary of Labor (29 U.S.C. 203(*l*)).

[12] HO 16 (29 C.F.R. 570.67) prohibits any youth under age 18 from working "on or about a roof," although there is an exemption for 16- and 17-year-old apprentices and student learners who meet specified requirements. The BLS study does not indicate whether any of the roofers who were killed qualified for this exemption. Hence some of them could have been working in violation HO 16.

[13] HO 2 (29 C.F.R. 570.52) restricts driving on the job by children of ages 16 and 17. Those aged 16 may not drive a motor vehicle on a public road, but they can drive a motor vehicle anywhere else (except in or about a mine, a place where logging or sawmill operations are in progress, or in any excavation described in HO 17 relating to excavation operations). Thus children of age 16 can drive motor vehicle on a construction site, except in connection with excavation, trenching, tunneling, and shaft-building operations. As for 17-year-olds, their driving off of public roads is subject to the same rules as 16-year-olds. In addition, 17-year-olds can drive on public roads under limited specified circumstances.

[14] HO 17 (29 C.F.R. 570.68) prohibits any youth under age 18 from working in "excavation operations," although there is an exemption for 16- and 17-year-old apprentices and student learners who meet specified requirements. The BLS study does not indicate whether any of the four youth who died in excavation or trenching cave-ins qualified for this exemption. Hence some of them could have been working in violation HO 17.

[15] There has been confusion about whether existing HOs prohibit 16- and 17-year-old children in non-agricultural work from using chain saws. No existing HOs expressly forbid such work, and indeed DOL, in its companion Notice of Proposed Rulemaking (NPRM), has proposed to amend HO 14 (29 C.F.R. 570.65) to prohibit 16- and 17-year olds from using chain saws in all non-agricultural employment (except in the

power nail guns or staple guns; using power drills; and working as an electrician or an electrician's helper.[16] Of the 168 16- and 17-year-olds, 79 (47 percent) reported doing three of more activities that are prohibited by HOs.

Of the 19 workers surveyed who were 14 or 15 years old, most did work which is prohibited by HOs, such as using tools activated by gun powder charges; working in a trench, hole, or foundation deeper than four feet; using a power circular saw, reciprocating saw, or table saw; using a power nail gun or staple gun; and using a power drill. At least 12 of these 19 14- and 15-year-olds did such work prohibited by HOs[17]

The apparent widespread violation of child labor regulations in the construction industry is a cause for great concern. Other researchers have found this lawlessness as well. One study by Anthony Suruda and colleagues, published in November 2003 and based on OSHA data from 1984 through 1998, found that 49 percent of the 76 fatal injuries among construction workers under age 18 were in apparent violation of existing child labor violations.[18] Suruda's study points to an equally disturbing fact: 51 percent of the fatal injuries to workers under age 18 in construction were apparently not in violation of existing HOs. Such information alone underscores the relevance of a more comprehensive prohibition on youth working in construction.

The other matter we wish to address preliminarily, before specifically responding to DOL's questions, is the effect of the safety and health training that apprentices and student-learners receive on the incidence of fatal and non-fatal injuries and illnesses among construction workers. We have already discussed this issue above, in section A, as it relates to all occupations. Here we focus on construction.

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case of apprentices and student-learners). However, DOL also asserts in the NPRM (72 Fed.Reg. 19358) that since 1959 it has interpreted HO 5 (29 C.F.R. 570.55) to prohibit the use of chain saws because that HO bars the use of "power-driven woodworking machines," including "portable machines," that cut or otherwise alter "wood or veneer." This position is stated in FOH 33e05e but not in the child labor regulations. (Apprentices and student-learners are exempt from all prohibitions in HO 5.) At any rate, since DOL asserts that the use of chain saws by 16- and 17-year-olds is already forbidden by HO 5, in our discussion of the Runyan article we consider such use to be a child labor violation

[16]The first two jobs -- using a gunpowder charge to activate tools and operating a forklift – are prohibited by all youth under age 18. The other tasks mentioned in the text are also prohibited unless the 16- or 17-year-old is an apprentice or student-learner who satisfies various requirements. It is not clear from the Runyan article whether the 16- and 17-year-olds who did these tasks were qualified apprentices or student learners. The study does indicate that 50 of all the 187 youths had participated in an apprenticeship program relating to construction, but it does not indicate whether these apprenticeship programs met the DOL requirements nor does it indicate whether these 50 youths were the only youths who did work which appeared, on its face, to be prohibited by one or more HOs.

[17] There is no exemption for 14- and 15-year-olds, as there is for 16- and 17-year-olds, which exempts qualified apprentices and student-learners from doing tasks prohibited by HOs. The Runyan article does not state explicitly how many of the 19 children who were 14 or 15 years old did any work prohibited by the various HOs, but it does indicate that the largest number of these youth who violated at least one HO – by using a power drill -- was 12. Thus it is clear that at least 12 of the 19 15- and 16-year-olds violated one or more of the HOs relating to various construction tasks.

[18] Anthony Suruda, et al, "Fatal Injuries to Teenage Construction Workers in the US," *American Journal of Industrial Medicine*, vol. 44, no. 5 (Nov. 2003), pp. 510-514.

It is true in construction, as in other contexts as we discussed above is section A, that workers who receive safety training have often been found to have lower rates of death and non-fatal injury than workers who have not. In one study published in December 2004, for example, the researchers analyzed union health insurance records, union training methods, and worker compensation data for 1993 and 1994 for more than 8,000 construction workers in Washington State.[19] This analysis found that those workers who received safety training during the study period were 12 percent less likely than non-trained workers to file a worker's compensation claim. Among younger workers – those 16 to 24 years old – safety training was associated with a 42 percent reduction in claims. Yet apprenticeship training does not invariably result in fewer deaths, injuries, and illnesses on the job. For example, a 2003 study of unionized residential and drywall carpenters found that apprentice carpenters using nail guns had an injury rate that was more than three times higher than the rate for journeymen carpenters.[20] The most common injury was for a building nail to impale the hand or fingers of the workers. The researchers surmised that if the nail guns had had "sequential" triggers, rather than "contact trip" triggers, this would have likely prevented 65 percent of the injuries that occurred. However, even if this assumption is correct, only the number of injuries to both apprentices and journeymen would have decreased, not the three-times higher rate of injuries to apprentices.

Studies like these show that safety and health training – which is required to be a part of both apprenticeship and student-learner programs under DOL regulations – can be, as the Washington State study cited above says, "associated" with a reduction in injuries. But other studies make clear that the attitude and practices of management – as well as of co-workers – on the job are equally, if not more, important. One study of many that underscores this point – and also shows the importance to safe work practices of a unionized workforce – measured the "safety climate," based on the perceptions of construction workers who responded to a questionnaire.[21] This study found that workers who experienced their workplace as safer also perceived the level of management support as being higher. Union workers, in particular, were more likely than non-union workers: (a) to perceive their supervisors as caring about their safety; (b) to be made aware of dangerous work practices; (c) to have received safety instruction when hired; (d) to have regular job safety meetings; and (e) to perceive that taking risks was not part of their job. The study concluded that in order to decrease the incidence and severity of injuries, there was a critical need for construction managers to alert workers to dangerous work practices and conditions more frequently, and for supervisors and managers to express concern and praise workers for safe work in a manner that is culturally acceptable in the construction industry.

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[19] Xiuwen Dong, et al., "Effects of Safety and Health Training on Work-Related Injury Among Construction Laborers," *Journal of Occupational and Environmental Medicine,* vol. 46, no. 12 (December 2004), pp. 1222-1228.

[20] Hester J. Lipscomb, et al., "Nail Gun Injuries in Residential Carpentry: Lessons from Active Injury Surveillance," *Injury Prevention,* vol. 9 (2003), pp. 20-24.

[21] Marion Gillen, et al., "Perceived Safety Climate, Job Demands, and Coworker Support Among Union and Nonunion Injured Construction Workers," *Journal of Safety Research,* vol. 33, no. 1 (Spring 2002), pp. 33-51.

We now address DOL's specific questions. Of the four questions DOL poses, only the fourth one specifically asks whether apprenticeship and student-learner programs can be tailored to make construction work safe for 16- and 17-year-olds. We do not address that issue in our reply to DOL's first three questions. In other words, our failure in the first three questions to address the possibility of an apprentice and student-learner exemption – which NIOSH opposes – should not be interpreted to indicate our position on this issue.

- *Is it appropriate and feasible to implement such a comprehensive and industry-wide prohibition such as NIOSH recommends?*

A clarifying remark is needed at the outset. NIOSH, as we noted above, recommends that work in the many construction occupations that it specifies be prohibited for anyone under age 18. This is not exactly an industry-wide prohibition. It applies only to the listed occupations, which are essentially those on construction sites, but could permit work by 16- and 17-year-olds who are likely to be off-site, such as office and administrative support occupations (and estimated 667,00 workers in 2004, according to BLS[22]).

The difference between an industry-wide prohibition and what NIOSH is recommending for construction jobs is that the construction jobs that NIOSH would prohibit are all located on the construction site. As NIOSH makes clear, it is the hazards on the construction site itself that make it a dangerous place, no matter what job a worker holds. And jobs in small construction firms and in residential construction often cut across a multitude of tasks and construction occupations (NIOSH Report, p. 102). For example, the catch-all jobs of construction laborer and construction helper, as NIOSH points out, are not likely to have the skills to be technically considered a member of any specific construction trade. These two categories of least-experienced workers suffered 1,717 of the 5,293 (32 percent) fatal occupational deaths in construction (1992-1997 data) and 51,930 of the 179,035 (29 percent) non-fatal injuries and illnesses in construction (1997 data) (NIOSH Report, Table 27, p. 104).

In short, the CLC believes that it is appropriate for DOL to declare specific construction occupations as "particularly hazardous" not only if they are done for a construction employer but also for a non-construction employer. (NIOSH notes that this approach has the advantage of protecting youth who may be asked to perform construction tasks for non-construction employers.)

Now to answer DOL's specific question above. The CLC believes that it is appropriate and feasible to create a construction HO of the type NIOSH recommends. DOL has already adopted a roughly similar approach in various HOs that list some jobs that can be done in an industry and others that cannot. For example, HO 3 (29 C.F.R. 570.53) relating to coal-mine occupations and in HO 9 (29 C.F.R. 570.60) relating to mining other than coal both prohibit certain work but permit other, less hazardous work.

[22] See BLS's report on the construction industry, page 50, Table 2, available at www.bls.gov/oco/cg/pdf/cgs003.pdf.

Thus under an exemption in HO 3, 16- and 17-year-olds can work in offices and in repair and maintenance shops located in the surface part of the mine. This exception permits work on the mine property and even near the mine, whereas NIOSH would prohibit all work by those under age 18 on the construction site. The key consideration here is to prohibit youth from doing any work, or even simply being present, in a dangerous environment. For example, HO 3 correctly identifies work within a mine as particularly hazardous. It does not matter what work may be performed – even working in an office in a mine (should such a thing ever be attempted) would be dangerous. Similarly, when considering construction, it is not a matter of what tasks the young worker is doing so much as prohibiting him or her from being in a dangerous environment. Therefore, it is consistent with other HOs for work on a construction site to be prohibited for 16- and 17-year-olds, regardless of what tasks or duties are involved.

- *Can 16- and 17-year-olds, under specified conditions, be safely employed in certain sectors of the construction industry. If so, under what conditions?*

As noted above, there are office and administrative support activities in the construction industry that 16- and 17-year-olds could perform. But work on a construction site is quite different. There are myriad hazards, many of which are difficult to anticipate and control, as the NIOSH Report amply demonstrates.

- *Are there existing strategies that make certain jobs safe for 16- and 17-year-olds to perform?*

The best strategy is to limit 16-and 17-year-olds in the construction industry to those jobs that are not on a construction site. We have noted above the many and often unexpected or unforeseeable hazards that exist on a construction site, as well as NIOSH's considered judgment that many jobs in construction should be barred to workers under age 18.

- *Can apprenticeship and student-learner programs be designed and delivered to better protect young workers and keep them safe on the job? If so, should the requirements of any apprenticeship or student-learner program addressing construction occupations have a greater emphasis on safety training than such programs covering other industries?*

Before this question is answered, it would be extremely helpful to know how many 16- and 17-year olds actually work in construction jobs, and what percentage of these youth are in apprenticeship or student-learner programs.

DOL's ANPRM says that in 2004 there were "approximately 286,000 youth between the ages of 16 and 19 employed in the construction industry," but does not cite the source for this information except to say that it comes from BLS (72 Fed.Reg.19337). We have already noted above that, based on data in the NIOSH Report (pp. 3-4), there may be only about 90,500 youth of ages 15, 16, and 17 working in construction. The description in DOL's ANPRM – "between the ages of 16 and 19" -- is somewhat ambiguous; it could

mean 17- and 18-year-olds; 16-, 17-, and 18-year-olds; or even 16- ,17-, 18-, and 19-year-olds. BLS data are presented in various ways, and in many compendia there are age ranges for younger workers of "Under 14," "14-15," "16-19" and "20-24." If the 286,000 construction workers that DOL refers to is in the "16-19" range, then that means workers who are 16, 17, 18, and 19 years old, in which event the 286,000 figure cited by DOL includes many workers who are over age 18 and are not subject to the child labor laws. Knowing how many 16- and 17-years are in construction is important, but it is not clear from what DOL says in the ANPRM.

It is equally important to know what percentage of 16- and 17-year-olds working in construction jobs are apprentices or student-learners.

*Apprentices*. The best data we have found with regard to apprentices in construction come from a study by professor Cihan Bilginsoy of the Department of Economics at the University of Utah. Bilginsoy, using data collected by DOL's Bureau of Apprenticeship and Training, determined that the median age of apprentices, at the time they first registered for apprenticeship training, was 25 years old during the period 1989-1994 and 26 years old during the period 1995-2003.[23] He also found that at the time of initial registration, almost 90 percent of apprentices had completed high school, whereas in other industrialized countries the starting age for apprentices is below age 20. Most importantly, the data available to Professor Bilginsoy showed that the percentage of apprentices who started their apprenticeship training at less than 18 years of age was 0.35 percent -- more specifically, 0.3 percent began at age 17, and 0.05 percent began at age 16.[24] In other words, one-third of one percent of all apprentices in construction during the 1989-2003 timeframe were under the age of 18.

*Student-learners.* Since many student-learners are in high school vocational or technical education programs, a significant number are most likely less than 18 years old. But the amount of time – if any – that such students actually spend on construction sites, as distinct from being in the classroom or shop or similar non-construction site, would be most helpful to know.

In short, it is possible that following the NIOSH Report's recommendation will have far less of an impact on the construction industry – certainly less of an impact on apprentices -- than DOL seems to suggest. It would be a mistake for DOL to reach a decision on whether to create an apprentice and student-learner exemption until DOL has better data on the number of youth under age 18 now working in the construction jobs that NIOSH considers so hazardous, and also how many youth under age 18 in apprentice and student learner programs actually work on construction sites.

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[23] Cihan Bilginsoy, "Registered Apprentices and Apprenticeship Programs in the U.S. Construction Industry between 1989 and 2003: An Examination of the AIMS, RAIS, and California Apprenticeship Agency Databases," University of Utah Department of Economics Working Paper No. 2005-09 (May 2005), available on-line at http://www.econ.utah.edu/activities/papers/2005_09.pdf. Because of lack of data, Professor Bilginsoy sued information from only 30 states. He had no data from New York State, and the data he had from California covered only the period 1995-2003. The data on age are on page 20, and the details about the sources of data are on pages 2-3, of the Working Paper.

[24] E-mail from Professor Bilginsoy, November 14, 2007.

Leaving aside this important problem of lack of relevant data, particularly with regard to student-learners, we would reiterate the NIOSH Report's point about the hazards of construction jobs and the difficulty of protecting against them. One example – involving a student-learner – should help to illustrate the problem.[25] In late 2003, a 17-year-old vocational technical high school student was severely injured when a 3,700-pound steel I-beam slid off oak blocking and landed on the student's lower right leg, crushing the leg and pinning the student to the ground. The student was participating in a Cooperative Work Experience Program with a steel erection company that had been going on for five years. At the time of the accident, the student had been working for the company for a month. He was standing alone next to the steel I-beam, waiting for the site foreman to assign him his next task. The I-beam had been delivered to the construction site, and placed on 4-inch by 4-inch oak blocking, about two weeks before the accident. At that time, the ground was frozen. For several days before the accident, the weather had become warmer and the ground became muddy, and on the day of the accident, it had started to rain. The accident investigators surmised that the mud and rain might have created an unstable ground surface, contributing to the I-beam's movement.

What this tragic accident shows is that hazards on a construction site can come from all manner of sources, many of which are difficult and perhaps in some cases almost impossible to foresee. These are hazards that are difficult to guard against – even in the case of a student-learner. The fact that the student was alone at the time of the accident, rather than with the site foreman or the journeymen employees on the site, suggests that no one thought that what the student was doing – waiting for the next assignment – was hazardous. But an experienced foreman or journeyman might well have realized the hazard, even though the student was standing still doing no work.

We highlight this case because it discloses in graphic detail the difficulty of protecting young workers in construction, no matter what training they may have had, if there is an insufficient supervisory and management commitment to safety on the job.

In view of all these problems, we urge DOL to proceed very cautiously before deciding whether or not to create an apprentice or student-learner exemption for any job on a construction site. The arguments against doing so are amply demonstrated in the NIOSH Report and in the various studies, discussed above, that have been published since the NIOSH Report was issued. DOL will have to amass very convincing evidence before it can justify creating such an exemption.

### *F. Hydraulic Grease Racks (72 Fed.Reg 19337)*

**Existing HO:**

[25] This example is taken from a Fatality Assessment and Control Evaluation (FACE) report. Massachusetts Case Report 04-MA2NF, March 2, 2007 (http://www.cdc.gov/niosh/face/stateface/ma/04ma2NF.html.)

H0 7 currently prohibits 16- and 17-year-olds from "operating" a "hoist" and from "assisting in the operation of a . . . hoist" (along with other prohibitions relating to elevators, cranes, derricks, forklifts and other lifting equipment) (29 C.F.R. 570.58(a)(1) and (a)(3)). The term "hoist" is defined as "a power-driven apparatus for raising or lowering a load by the application of a pulling force that does not include a car or platform running in guides" (29 C.F.R. 570.58(b)(4)). This definition is somewhat ambiguous because of its odd wording. It can be read to say that if a hoist is pulled up by using a car to do the pulling – admittedly an unusual method of hoisting something, though not unheard of – then the lifting device is not a hoist as defined in HO 7. But the reference to "platform running in guides" – which itself presumably cannot be a "pulling force" -- suggests that this definition refers to what is commonly called an automobile or vehicle lift, or a grease rack, of a type found in automobile repair shops and similar places of business.

This ambiguity is cleared up only by reference to the Field Operations Handbook, which states, with regard to automobile and truck servicing establishments (FOH 33e07(c)(1)):

> (g) HO 7 does not apply to "grease rack" lifts used in gasoline service stations, tire stores and other establishments servicing automobiles, since such lifts were not included in the investigation which led to HO 7.
>
> (h) Service jacks, hand jacks, air compressors, tire changers, truck tire changers, and wheel balancers are all outside the scope of HO 7.
>
> (i) Hoists commonly used on tow trucks and other hoists (if not over a ton capacity) are permitted by HO 7. (Note: HO 2 prohibits minors from operating a motor vehicle while towing another vehicle.)

This elaboration of HO 7 in the FOH is another example of DOL's unfortunate practice of failing to go through the Administrative Procedure Act's notice-and-comment rulemaking procedures.

HO 7 currently has no apprentice or student-learner exemption that would permit 16- and 17-year-olds to do any of the tasks that HO 7 prohibits.

**NIOSH Recommendation** (NIOSH Report, pp. 35-38):

1. NIOSH recommends that HO 7 be strengthened to prohibit 16- and 17-year-olds not only from *operating* hoists, but also from *repairing, servicing, or disassembling* hoists, and from *assisting in* such tasks. NIOSH also recommends adding several additional protections relating to forklifts and other lifting equipment. The CLC has already offered its views on these recommendations in

its comments on DOL's proposed changes in the child regulations that were published in the *Federal Register* on April 17, 2007

2. NIOSH does not recommend that 16- and 17-year-olds be permitted to operate hydraulic grease racks. Indeed, NIOSH might not have been aware of the FOH elaboration of what is in 29 C.F.R. 570.58. In view of this situation, it would be wise for DOL to seek NIOSH's opinion on whether it is safe for 16- and 17-year olds to operate grease racks. In any event, as NIOSH's first recommendation makes clear, it seeks to expand the protections relating to hoists. NIOSH notes that from 1992 to 1997, for workers of all ages, there were 64 fatalities involving overhead hoists, and in 1997 there were 961 nonfatal injuries.

**DOL Request for Information and CLC Comments:**

Even though the NIOSH Report does not speak to the issue of whether 16- and 17-year-olds should be permitted to operate hydraulic grease racks, DOL asks for information on the feasibility of amending the existing HO 7 to state explicitly that 16- and 17-year-olds are permitted to do such work. Specifically, DOL asks three questions, each of which is restated and then answered by the CLC below.

*1. Can hydraulic grease racks be safely operated by 16- and 17-year-olds?*

We think the answer to this question is no. The key to safe operation of a grease rack is placing the paddle at the end of each lift arm in the specific spot under the vehicle, as recommended by the vehicle manufacturer, in order to lift the vehicle evenly and safely on the rack. The failure to do this properly exposes anyone working under or near the vehicle to severe danger, up to and including death. This task may seem like a simple one. But as is known to anyone who has watched an auto mechanic kneel down beside a car and reach underneath to position the paddles at the end of the lift arms properly, this task requires careful work, and often several adjustments, before it is done properly. There are many tasks that a 16- or 17-year-old can do in a vehicle service establishment that do not have as grave a consequence of an error as this task has.

The fact that lifts have to meet rigorous ANSI standards does not lessen the hazard described above. The ANSI standards are all essentially designed to prevent the lift from being raised or lowered inadvertently. Some lifts also have alarms that sound if the vehicle is lifted too high (in order to avoid having the vehicle hit the ceiling or be too high to be reached by the mechanic), but so far as we know there is no such warning alarm if the lift arms are improperly placed under the vehicle.

In view of these facts, we recommend that DOL prohibit 16- and 17-year-olds from operating grease racks. If an older, more-experienced worker maneuvers the lift arms into proper position, it might be acceptable for the 16- or 17-year-old to raise or lower the hydraulic lift, but this separation of two such closely related tasks between two different workers seems so artificial and unlikely in the real world that we recommend an outright prohibition.

2. *Is the safe operation of such equipment affected by the size and lifting capacity of such equipment?*

As indicated above, we think that safe operation of hydraulic grease racks depends overwhelmingly on the proper placement of the paddles and lifting arms. The size and lifting capacity of the grease rack is of lesser importance. But any vehicle that is heavy enough to require a hydraulic grease rack to be lifted is also heavy enough to injure or kill any worker if the vehicle slips or falls off the rack onto him or her. Hence we think that the prohibition we recommend should apply to hydraulic grease racks of all sizes and lifting capacities.

3. *If the operation of such grease racks should be prohibited, would an apprenticeship or student-learner exemption be warranted?*

The existing HO does not have an apprenticeship or student-learner exemption. This lack of an exemption presumably reflects a long-standing belief on DOL's part that the "particularly hazardous" jobs prohibited by HO 7 cannot be made less hazardous by means of apprenticeship or student-learner training. Since we consider the operation of a grease rack to be "particularly hazardous" in the same way as the other jobs prohibited by HO 7, we see no justification for an apprenticeship or student-learner exemption.

We would also point out that many of the jobs prohibited by the existing HO – for example, crane operator, derrick operator, and forklift operator – are typically full-time jobs. By contrast, there are few if any full-time hydraulic grease rack operators. Most of this work is done by a mechanic who is lifting the vehicle so that he or she can do repair or maintenance work on it. There are many tasks that an apprentice or student learner mechanic can do that are not as hazardous as positioning lift arms under a vehicle before it is raised on a grease rack. Hence prohibiting this job for all workers under age 18 would have little if any effect on apprentices and student-learners preparing to become vehicle mechanics.

Finally, we note that the FOH says that HO 7 does not apply to "service jacks," "hand jacks," and hoists on tow trucks (but only if the capacity of the hoist is not more than one ton). Thus, DOL's policy is to permit 16-and 17-year-olds to operate, or assist in the operation of, these devices. There is no prohibition, however, barring 16- and 17-year-olds from sliding under a car that is jacked up by a "service jack" or a "hand jack." This should be prohibited. The danger of working under a car that has only one small jack of this type need hardly be described. It is one thing to change a flat tire using a hand jack or similar simple device. Many drivers as young as age 16 have had to do this. But they do not slide under the car; they squat beside the car to remove the flat tire and install the spare tire. We urge that DOL add a prohibition to HO 7 forbidding any youth under age 18 from working under a vehicle that has been raised by such jacks.

Thank you for the opportunity to comment on this advanced notice of proposed rulemaking. If you have any questions or require further elaboration, please contact Darlene Adkins, 202-835-3323 (x122).

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Child Labor Coalition Members who have signed on in support of these comments:

- A Better World Foundation, Patrick Schoof, President
- A Minor Consideration, Paul Petersen, President
- American Federation on Labor & Congress of Industrial Organizations (AFL-CIO), Thea Lee, Policy Director
- American Federation of Teachers, Helen Toth, Assoc. Director, International Affairs
- Americans for Democratic Action, Amy Isaacs, National Director
- Association of Farmworker Opportunity Programs, David Strauss, Executive Director
- Farmworker Justice, Bruce Goldstein, Executive Director
- International Center on Child Labor and Education, Sudhanshu Joshi, Executive Director
- International Initiative to End Child Labor, L. Diane Mull, Executive Director
- Migrant Legal Action Program, Roger Rosenthal, Executive Director
- National Consumers League, Sally Greenberg, Executive Director
- United Food and Commercial Workers International Union, Jackie Nowell, Director, Occupational Safety & Health Office
- United Methodist Church, Women's Division, Julie Taylor, Executive Secretary for Children, Youth & Family Advocacy