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ABSTRACT

The objectives of the 4-year Laborers-Associated General Contractors (AGC) Business and Education Standards Project are: (1) generate world-class standards for construction craft occupations; (2) develop and promote a certification program for construction craft laborers (this objective was deleted because of negative reaction); (3) promote the standards-setting process and resulting products; (4) attempt to attract construction craft laborers to an industry with a worker shortage; (5) demonstrate to educators how the academic disciplines must be applied at the construction workplace; (6) supply construction employers with workers who possess a known skill component; and (7) provide a clear and easily understood occupational skill description to private industry trainers so they can update and modify their curriculum. The project was accomplished through a coalition that included representatives from construction employers and employer associations, public education, labor unions, and private industry trainers. Skill standards were produced for concrete workers, lead abatement workers, and open-cut pipe-laying workers. Although the objectives of the project were met for the most part, the project concluded that it will take generations to create a culture in the industry that can adopt standards uniformly. (This report includes a third-party evaluation of the project and "A Strategic Plan for Laborers' Training.") (KC)

LABORERS-AGC EDUCATION AND TRAINING FUND

BUSINESS AND EDUCATION STANDARDS PROJECT

FINAL REPORT

By
John Tippie, Project Director
Dr. Eric Rice, Assessment Specialist

September 25, 1997

UNITED STATES DEPARTMENT OF EDUCATION
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The Laborers-AGC Education and Training Fund (Laborers-AGC) Business and Education Standards Project began July 1, 1993 and ended June 30, 1997. Throughout that four-year period, the following three objectives framed and guided project activity:

- To generate world-class standards for occupations typically performed by Construction Craft Laborers.

- To develop and promote a certification program for Construction Craft Laborers that includes proficiency examinations, automated records, and recognition.

- To promote the standards-setting process and resulting products as a means of encouraging the entire industry to participate in the program and the consuming public to demand certified Construction Craft Laborers on the job.

In addition to the above, Laborers-AGC hoped that this project ultimately would: (1) attract new Construction Craft Laborers to an industry struggling with a critical worker shortage; (2) demonstrate to educators and public school officials how the academic disciplines they teach must be applied at the construction workplace; (3) supply construction employers with workers that possess a known skill complement; and (4) provide a clear and easily understood occupational skill description to private industry trainers so they can update and modify their curriculum and assessments to accommodate changes and realities of the industry.

The Coalitions

The first step Laborers-AGC took to accomplish the above goals was to form a coalition that would guide the process. The Coalition included experts from the following stakeholder groups: (1) individual construction employers, (2) construction employer associations, (3) representatives from

several levels of public education, (4) labor union officials, and (5) private industry trainers.

Although the size and makeup of the Coalition changed during the project, a core group of 16 members remain. The Coalition currently includes three members who represent individual employers, four members from employer associations, five members from private and public education, three members from private industry training, and one member from labor. It may seem that labor was not well represented, but in reality, labor was represented by both project staff and private industry trainers. A list of the current Coalition members and their affiliations may be found Under Tab 4.

Originally the Coalition was formed into two groups: one to guide skill standards development for occupations in the heavy/highway construction industry, and the other to guide the development for occupations in the environmental remediation industry. Coalition members from education participated in both groups. Later in the project, the groups merged.

The merger occurred for three reasons: (1) it was more economical, both in terms of staff time and meeting costs; (2) each Coalition member needed to provide feedback on all products to assure quality and uniformity; and (3) as the standard documents went from concept to draft to final stages, the cross-functional skills became increasingly apparent and important to both groups.

The Coalition chose not to operate with a set of by-laws. Instead, each Coalition group adopted a mission statement early in the project. Their mission statements are included with this report under Tab 5.

The Coalition meeting dates and locations are included under Tab 6.

Changes to the Coalition

Initially, the Coalition served as a sounding board and generated ideas about how skill standards should be developed and how they might be received by key stakeholders. Participation was very good and most members attended every meeting. As the project continued, interest seemed to wane to some extent (particularly from individual employers), perhaps because the standards were being completed or because some members felt they had contributed enough time.

Several changes to the Coalition structure were implemented by staff during the latter years. Most notable was the addition of an assessment expert and the addition of occupation-specific manufacturer/specifier, such as the American Concrete Institute and the Portland Cement Association for the Concrete Worker Skill Standards. Coalition members that participated in each occupation are identified in the Acknowledgment section of each skill standards document (under Tab 9).

Selection of Occupations

Early in the project the Coalition chose the occupations for research and development as skill standards. Using the U.S. Department of Labor Dictionary of Occupational Titles description for Construction Craft Laborer (DOT # 860.463-580), the Coalition reviewed and selected four occupations from the over 50 listed. They selected Concrete Worker, Pipe Layer, Lead Abatement Worker, and Petro-Chemical Abatement Worker. Reasons for selecting these four specialty occupations included the following: (1) impending promulgation of federal training standards, (2) anticipated infrastructure improvements, and (3) existing and anticipated shortages of qualified workers.

The Coalition focused on the specialty occupations as opposed to new entrant standards for two reasons: (1) to identify the cross-functional skills that are common to each occupation and thereby ensure that a set of core

standards (when developed) will actually contain the appropriate skill descriptions and enable worker mobility across occupations; and (2) the Coalition felt it was important to gather industry support early in the project, and by selecting occupations most familiar to the stakeholders, they would establish the credibility and usefulness of voluntary skill standards.

Skill Standards Development Process

Once the occupations had been chosen, staff began an intensive job-task analysis to identify the key tasks and knowledge requirements. Analysis methods included modified DACUM sessions, the Extended Search of published material, and Critical Incident Interviews with front-line workers, contractors, and supervisors.

When assembled, the complete task list for all four occupations contained more than 750 separate and distinct tasks. This, of course, was too many.

To reduce the number of tasks and identify those that are most important, staff began a series of structured interviews and a formal written survey with front-line workers across the country. Interview sessions were strategically located to be geographically representative of construction techniques. They were also arranged to include union and nonunion workers.

The structured interviews with front-line workers were the most important part of developing an accurate and useful set of skill standards. Not only did these workers rate the tasks for frequency and importance, but also they described critical factors and job situations that would have been impossible to learn using any other form of survey. In addition, the front-line workers described, in great detail, how well the tasks must be performed; this information became the performance criteria cited in the standards.

We have included a complete list of all meetings with front-line workers, including dates and locations, under Tab 6.

Skill Standards Document Design

Armed with the rated and validated task lists and other data, staff returned to the Coalition to gather consensus on how the information should be presented. Coalition members first reviewed several models of previously developed skill standards (from other pilot projects); next they reviewed elements used in standards from other countries; then they generated, discussed, revised, and approved the current format.

The Coalition intended to present skill standards in two major parts: 1) what we have termed the "skill standards;" and 2) a section that further describes the most critical Workplace Skills, Knowledge, and Aptitudes or WSKAs.

Each skill standards section includes four components: (1) a scenario; (2) conventional industry standards; (3) key tasks; and (4) workplace skills, knowledge, and aptitudes.

The Coalition felt it important to include a scenario descriptive enough to be useful for those not familiar with the industry or job function. They asked staff to include existing standards related to the job function in the form of a conventional industry standard component. Finally, they asked to see the key tasks and WSKAs (as rated by front-line workers) adjacent to the other two components.

The Coalition made every effort to make the skill standards easy to read. Also, the Coalition realized that different stakeholders would be searching for different information. The facing page layout enables readers to quickly find the information relevant to their needs.

The second section of each skill standards document describes the WSKAs in great detail. The Coalition felt that for standards to be helpful to educators and trainers, critical WSKAs need to be explained and presented in context. The purpose was to provide enough information regarding the workplace application of academic disciplines that teachers and trainers would be able to develop contextual instructional material, assessments, exercises, and applied learning strategies.

In addition, the Coalition felt it was important to identify acceptable levels of performance for these critical skills, thus the Mastery Performance section in each WSKA.

In summary, the Coalition envisioned each stakeholder group to utilize the documents as follows:

1. *Prospective Workers* - To read the skill standards scenarios and gain an understanding about the type of work. Review the key task lists to understand what type of tasks are required. Review the WSKAs to determine if he or she possesses the requisite background knowledge and/or skills to perform the job function.

2. *Public and Private Educators* - To review the skill standards scenarios and learn how the academic disciplines are needed and used in the workplace. To review the WSKAs and develop contextual assessments, exercises, and applied teaching strategies that can be employed in public and private schools. To rate these assessments based on the acceptable performance levels identified in the Mastery Performance section.

3. *Private Industry Trainers* - To review the scenarios, key tasks, and conventional industry standards and ensure their curriculum includes the most current occupational specific skills and knowledge.

4. *Employers and Labor Unions* - To review the conventional industry standards, key tasks, and WSKAs and seek out workers who possess the identified skills.

Skill Standards Use and Dissemination

As described earlier in this report, different stakeholders have different uses for skill standards. We have attempted to document how skill standards are being used by categorizing their use internally and externally. Internal use refers to implementation activity within the Laborer's International Union of North America (LIUNA), its affiliate contractors, and its training structure. External use refers to all other implementation activity outside of the LIUNA organization such as in the public school system.

Internal Use

Internally, the standards documents have been distributed to all LIUNA affiliated training sites in the U.S. and Canada (approximately 70). Cover letters have asked training staff to review the standards documents and to compare and modify their existing curriculum to include the appropriate skill training. Repeat requests for documents indicates this is happening. In addition, a pilot site in the northwest has matched their current curriculum with the standards and now cite the U.S. Department of Education National Skill Standards Project in promotional brochures.

Also, the skills documents were distributed to 200 Laborer Instructors at Laborers-AGC's 1997 Instructor Development Program session. The instructors used the documents in the course "Evaluating Skills and Knowledge." This course teaches performance testing protocols, best practices in assessment, and begins the process of establishing an inter-rater reliability system within LIUNA's training network. Instructors participating in this course were taught how to use the skill standards documents to develop and administer valid occupational skill assessments.

Other internal implementation efforts include the distribution of skill standards documents to employers and local union leaders at the Laborers-AGC Annual Training Conference and LIUNA's Tri-Fund Conference. As the documents were developed, project staff conducted numerous workshops and breakout sessions regarding their use and purpose. These internal marketing efforts have been successful. One sign of success is the passage of an International Resolution that mandates further development and implementation of skill standards. Resolution No. 7 was unanimously passed by delegates attending the 21st LIUNA Convention in September of 1996. That resolution describes the purpose and activity LIUNA plans for skill standards and is included under Tab 7.

More recently, the skill standards concept received a vote of confidence from internal stakeholders by being selected as one of the most important initiatives in a new five-year strategic plan for laborers training. That initiative includes continued development of skill standards and efforts to integrate skill standards into our curriculum development process and procedure. A Strategic Plan for Laborers' Training is included under Tab 8.

Despite the progress described earlier and activities that continue to date, skill standards are not being used by most of our internal stakeholders in their everyday activity. This is not a sign of failure; instead, full implementation of a skill standards system in the construction industry will require a cultural change that may take decades.

It will require decades primarily because of the nature of the construction industry itself. The construction industry is a very large group of small employers. Most of the estimated 500,000 construction companies employ fewer than 10 employees and have no formal method of communicating among themselves or representing themselves as a united industry. Employer associations help with the communication and representation

issues, but there are too many different associations, and often they bitterly compete with each other for market share.

To compound industry fragmentation, most of the construction work force consists of transient craftpersons who are many times forced to work for many different employers, on short duration projects, and often face unemployment due to seasonal and economic cycles. This results in a large work force turnover and inhibits the development of long term initiatives such as skill standards.

A welcome exception to the fragmented construction industry is the cooperation and networking activities exhibited by the organized labor and management 501 (c) 3 Training Trust Funds. In the estimation of many stakeholders, these trust funds are the best example in existence of an industry—labor and employers—working together to bring about change. An indication of their effectiveness is that despite the relatively small union market share, the training trust funds have been, and still are, directly responsible for training the majority of construction journeyworkers in the entire industry—union and nonunion. The success of this project is due to the cooperation of the joint labor and management boards of trustees of Laborers-AGC and its affiliate training funds.

External Use

External use of standards is harder to document. Staff conducted substantial marketing activity both internally and externally. Reactions to the marketing efforts ranged from apathy to outright copying of our text and format. The latter is the highest form of praise. Of the former, the most notable example is an educational conference where staff set up the Laborers-AGC exhibit booth and distributed the Concrete Worker Skill Standards document. Conferees consisted of teachers and guidance counselors from all levels of public education. When staff passed the Concrete Worker document to a conferee, the response was invariably, "Oh,

very nice, I will pass this on to our vocational department." This is apathy because every teacher in the public educational system needs to be informed of the methods their specific discipline must be applied in the workplace.

Another problem encountered while attempting to identify how the standards were being used externally was the sheer number of users. At the time of this writing, Laborers-AGC has printed 7,500 skill standards documents and distributed over 5,000. Staff have scheduled reprints of 2,500 each for Concrete Worker and Open Cut Pipe Laying as the original printing has been expended. To document with any degree of accuracy how the academic community is using our standards and the impact of those standards is beyond the scope of this project. The number of schools make an accurate national assessment virtually impossible.

The intent was for educators to review the scenarios, key tasks, and WSKAs and develop lessons and assessments that utilize the included context. As mentioned at the beginning of this report, one of the primary goals was to give educators enough information about a Construction Craft Laborer's work and skill needs that they will better prepare workers for the construction industry. Whether educators are in fact changing their exercises, curriculum, instructional materials, and/or assessments to incorporate the WSKAs identified in our standards remains to be seen.

On a smaller scale, project staff utilized the concrete worker document in a Construction Career Camp presentation in June 1997. The intent was to show students and educators the work site application of the academic disciplines they learn and teach. Staff invited 25 high school students and seven teachers (from nine school districts) to our Kingston, Washington training facility for a week-long summer camp. During the 40-hour presentation, four subject areas were taught: (1) placing concrete and the chemistry that causes concrete to harden; (2) elevation control operations using laser and automatic levels and the math required by those activities;

(3) rigging and lifting heavy loads with a crane and the physics behind heavy lifting; and (4) workplace safety awareness and the language, communication, and reading skills needed for certification to abate hazardous materials. All involved felt this was a very successful program, and it will be repeated several times during the summer of 1998.

Skill Certification

During this project the principal stakeholders expressed differing opinions regarding a skill certification program(s). We introduced the issue early in 1995 in a workshop at the LIUNA Tri-Fund Conference. Workshop participants consisted of employer and labor trustees of the LIUNA 501 (c) 3 training funds. Their reaction at that meeting was decidedly negative. Fears of additional licensing programs (in what some consider an already over-regulated industry) and the impairment of worker mobility was cited as the principal reasons for their reaction. An example of their concern was voiced during several of the Coalition meetings by members representing employers. They indicated the principal reason they were participating with this project was to obtain a national set of certification/licensing standards that would result in state reciprocity in the licensing of hazardous material abatement workers.

Staff again presented the certification issue at the LIUNA 1996 Tri-Fund Conference. Stakeholders seemed more receptive to the concept and expressed a favorable opinion to the benefits of certification but remained concerned about worker mobility issues.

At the Laborers-AGC Annual Training Conference in 1997, conferees blasted the certification concept. Most indicated that certification programs (and government licensing programs in particular) are used to generate funds and greatly restrict the ability of an employer and employee to pursue work in the trade in the locations they desire.

Based on these reactions, staff did not develop individual skill certification programs. Instead, Laborers-AGC will attempt to ensure the skills of the workforce and the use of skill standards through a training program accreditation concept. In other words, accredit the process not the product.

This concept is one reason why the Total Quality Management and Skill Standards initiatives of the 1997 Strategic Plan for Laborers Training (Tab 8) were developed by the same subcommittee. The developers of the strategic plan felt that to achieve total quality in our training, skill standards were critical. They foresaw that accreditation of training programs will achieve the same goal as worker certification programs without restrictions on employer and employee mobility.

Proficiency Tests

Project staff drafted skills-based performance tests as proficiency tests for each set of skill standards. The tests were built from the occupational analysis information to insure content validity and adherence to the most important information. Each test follows a specification description, administration directions, and uses an observation checklist. In addition, instructors are trained to administer the test and observe the performance in uniform ways.

Proficiency tests were created for individual trainees as well as teams of workers. The tests include concrete placement and finishing, lead abatement containment building, respirator doffing and cleaning, pipe fusion, and pressure pipe tapping. The materials are in draft form and will be completed in future work of Laborers-AGC.

Project Evaluation

This project's independent evaluation was proposed and conducted by Dr. Robert Glover. Dr. Glover's report is included under Tab 3. Also, staff assisted the U.S. Department of Education's evaluators and technical

assistance contractors whenever requested. Further, staff attempted to involve the Education Department's evaluators in the project by inviting them to Coalition meetings and by keeping them informed of major project activities, such as the summer construction camp.

In addition to the independent evaluator and the Education Department's evaluators, several other organizations conducted research and reported on the pilot projects. Most notable were the Management Planning Research Associates, Inc. (MPR) and the Institute for Educational Leadership (IEL). With both of these organizations staff spent substantial time in telephone interviews and in completing surveys. Some of the reports generated by these activities include:

- Skill Standards: Concepts and Practices in State and Local Education - MPR Associates, Inc.

- Synthesis of Conversations with Skill Standards Pilot Projects - IEL.

- Compendium of Technical Assistance Products Produced By and For the Skill Standards Pilot Projects - IEL .

- In Search of Commonalties - IEL.

Conclusion

Financial Impact of Providing Remedial Academic Training

In 1992, the Laborers-AGC Education and Training Fund and the Laborers' International Union of North America chose to get involved with skill standards development for several reasons. Most important of these was the financial impact of providing remedial academic training at our affiliated training centers.

We felt then, and still feel, that we are being forced to supplement basic academic training with our private industry training funds. For example, in 1996 our affiliated training centers collectively gathered approximately $42,320,000 in private industry contributions from working laborers and their employers (from the Laborers-AGC 1996 Training Fund Survey). A review of the Laborers-AGC course curriculum will quickly demonstrate that as much as 20 percent of any given course is devoted to teaching middle and early high school math, such as working with fractions, decimals, areas, volumes, and conversions between measuring systems.

Twenty percent of the private training contributions is approximately $8,464,000 per year. Surely these funds would be better expended for teaching the occupational-specific topics that we are best at, not to teach basic academic skills that the public school systems already are responsible for providing, but which entry level trainees clearly have not mastered.

We know that those subjects are taught in school. What we don't know is why students don't learn them. At least, why they can't apply them when they come to our workplaces. We submit that there may be two main reasons: (1) the subjects are not taught with relevant application to the workplace, and (2) the subjects are taught separate and apart from other subjects.

We developed the skill standards in this project to address the issues of application. We designed scenarios to provide context. We provided additional context and performance levels in the WSKAs specifically to give educators enough information to pattern exercises and assessments around practical applications of their subjects. We hope to see a change in the structure of school curriculum that indicates educators are using the examples and performance levels cited to better prepare their students.

The previous discussion specifically mentioned middle and early high school math. It is our belief that higher math is not needed to perform the work of a Construction Craft Laborer. However, the application of middle and high school math in our workplace is not simple; in most cases it is very complicated. In addition, basic math is rarely the only skill required to perform a single operation. More often then not, Construction Craft Laborers are required to combine many different types of basic skills to solve a single problem. For example, to accurately measure the volume of an excavation requires the simultaneous application of elevation control principles, measuring techniques, area and volume calculations, communication with other workers, writing and notekeeping skills, personal safety skills, and a generous amount of problem solving and good common sense. We submit that the existing barriers between academic disciplines is inhibiting students from learning to apply those disciplines in concert to solve a workplace problem.

Specialty Occupations

The Coalition made a conscious decision to research and develop skill standards for specialty occupations instead of starting with "core" or "new entrant" standards. We learned that there are positive and negative aspects of developing standards in this manner. It was positive that we have accurately identified the needs of our "specialties" before we shape our new entrant skill needs. This ensures that the new entrant standards will accurately identify the skill-base needed by the specialties. It was negative in the respect that it is difficult for a public school to gear a curriculum around a specialty occupation. We can only hope that educators will be able to use selected parts of the skill standards to enhance their curriculum until such time as there are more specialty occupations completed and the new entrant standards are finished.

Labor and Management

Earlier in this report we stated that a major reason this project was successful is due to labor and management cooperation. Over the years, this cooperation has constructed an extensive network that enables the dissemination of standards and provides a means for both employers and employees to participate in their development. It has come to our attention that the National Skill Standards Board is following their charge of developing and implementing voluntary skill standards in America's economy. If we have learned any lessons from this pilot project, it is that employers and employees are unable to develop and implement fair and accurate skill standards separate from each other. It is our opinion that the 501(c)(3) trust funds are unquestionably the best possible entity to develop and implement industry-wide skill standards.

Accomplishments

Early in the project the Coalition proposed developing and disseminating standards for four occupations. We completed three. The fourth occupation (petro-chemical abatement worker) was suggested by the Coalition as a new and developing occupation. This did not turn out to be the case. While performing the industry research and validation, it became evident that the petro-chemical worker (as originally defined) was not a distinct occupation in the industry. This made the petro-chemical abatement worker not suitable for development as a separate occupation. Instead the skills and knowledge involved in petro-chemical abatement work would be better presented as parts of other occupations such as petro-chemical plant maintenance worker or oil spill responder. We have the original occupational research and worker validations; however, more work will be needed to identify the appropriate occupation(s) that should contain those skills.

An Independent Evaluation

of

The Laborers-AGC Industry Standards Project

Conducted by

Laborers-AGC Education and Training Fund

Under funding from
The Business and Education Standards Program (BESP)
U. S. Department of Education
Grant #V244B30011-95

by

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Preface and Acknowledgments

This report offers a process evaluation of the industry skill standards project administered by the Laborers-AGC Education and Training Fund, a training fund administered by the Associates General Contractors (AGC) and the Laborers' International Union of North America (LIUNA). In conducting this evaluation, the author attended seven of the nine coalition meetings held, attended two worker validation sessions, three meetings of the national skill standards project directors meetings, and conferred with evaluators of other skill standards projects.

At this point, this is an assessment of the process only. No attempt has been made yet to obtain summative information about the impact of skill standards on the workplace in large part because published skill standards in two of the three occupations were available only at the end of the project.

The author wishes to acknowledge the staff and coalition members, and workers who cooperated fully and answered a seemingly unceasing series of questions. Although assistance was provided by too many people to name everyone, special thanks are due to John Tippie, Eric Rice, and Carey Hamelin. In cooperating, these professionals left me free to draw my own independent conclusions in this report. Thus any errors of omission or commission remain in this report remain the responsibility of the author.

Robert Glover

Introduction

This report reviews the activities and accomplishments of the Business and Education Standards Programs (BESP) conducted by Laborers-AGC Education and Training Fund under grant # V244B30011-95 from the U.S. Department of Education. The period of the initial grant ran for an 18-month period from July 1, 1993 through December 31, 1994. The grant was renewed for an 18-month period to continue to work from January 1, 1995 through June 30, 1996 and subsequently was amended to provide an additional no-cost twelve-month extension through June 30, 1997. Thus, in total the activities were conducted over a full four-year period.

The Laborers AGC Education and Training Fund is an international organization dedicated to training and education of construction laborers across North America. It is jointly sponsored by the Laborers' International Union of North America (LIUNA) and The Associated General Contractors (AGC). Among LIUNA's more than half million members, up to 400,000 work in construction. Of these, about 350,000 are in the U.S. and 50,000 are in Canada.

The Laborers-AGC Education and Training Fund has affiliated local and district Labor-Management Training Trust Funds in 70 locations throughout North America. The seventy local and district training funds voluntarily affiliated the Laborers AGC Education and Training Fund contributed at a rate of two cents per hour worked to the national fund in 1997. Contribution rates to local and district funds ranged from 5 cents to $1.35 per hour worked; the hourly contribution rate averaged 23 cents per hour worked under collective bargaining contracts. These industry contributions provided the core funding for the joint training operations of the Laborers-AGC. With a national network of industry training already in place, Laborers-AGC Education and Training Fund was well positioned to implement a skill standards system developed through its BESP project.

The Laborers-AGC training network provides numerous training courses including heavy highway construction skills, asbestos and lead abatement, and the safe handling of hazardous materials. During 1996, local and district training programs affiliated with Laborers-AGC Education and Training Fund offered 5,665 courses to 56,890 trainees in various skills related to environmental or construction work. [1]

1 Laborers-AGC Education and Training Fund. *1996 Training Fund Survey*. Pomfret Center, Connecticut: Laborers-AGC Education and Training Fund, 1997.

Among the roles of the Laborers-AGC Education and Training Fund are promoting innovations and advances in training, expanding training offered, enhancing the portability of training, and improving the quality of training through development of curriculum, instructional materials, and instructor training. The Laborers-AGC Education and Training Fund provides instructor training each year through special "train the trainer" courses offered at various locations throughout the year aimed to familiarize instructors with new courses, materials and approaches. In addition, each summer, the Laborers-AGC sponsors an annual Instructors Development Program featuring a one-week intensive program of courses which offer technical updates and instruction in pedagogical techniques.

Since its initial strategic plan promulgated in 1992, Laborers-AGC has promoted its vision of a career path of life-long learning and work for laborers "at every level of the industry to work, grow, aspire, and achieve contribution to the industry as well as self-fulfillment." [2] Toward this objective, beginning in 1993, Laborers-AGC successfully applied to the U.S. Department of Labor to obtain official recognition for "Construction Craft Laborer" and "Construction Craft Foreman" to be designated for the first time as official occupation in the Dictionary of Occupational Titles. Laborers-AGC successfully followed up with a proposal to the U.S. Department of Labor to designate the occupation of "Construction Craft Laborer" as an apprenticeable occupation. Since July 6, 1994, individuals training to become Construction Craft Laborers can be registered as apprentices under national standards. [3]

Attractiveness of the Business and Education Standards Project to Laborers-AGC

Laborers-AGC staff found participation in the BESP project attractive for several reasons. It fit well with several elements of the strategic plan adopted by the Laborers-AGC Education and Training Fund in 1992.[4] It offered the Education and Training Fund the opportunity to document skills and performance requirements of laborers, which have been widely misunderstood and under appreciated by the general public and often even within the industry. For example, changes in technology over time have meant that laborers now must be

2 Laborers-AGC Education and Training Fund. A *Strategic Plan for Laborers' Training: Initiatives for the '90s.* Pomfret Center, Connecticut: Laborers-AGC Education and Training Fund, 1992. p. 19.

3 Laborers-AGC Education and Training Fund. *National Apprenticeship Standards for the Laborers-AGC Education and Training Fund for the Apprenticeable Occupation Construction Craft Laborer.* Pomfret Center, Connecticut: Laborers-AGC Education and Training Fund, 1994.

4 Laborers-AGC Education and Training Fund. A *Strategic Plan for Laborers' Training: Initiatives for the '90s.* Pomfret Center, Connecticut: Laborers-AGC Education and Training Fund, 1992.

able to use safely a wide variety of complex tools and equipment, such as transits, laser alignment and leveling devices, pneumatic and hydrostatic test pumps, compaction equipment, and oxy-acetylene torches, and plasma cutting equipment.

Likewise academic requirements for laborers have also risen dramatically. For example, concrete workers must be able to calculate volumes with accuracy and consistency. Likewise, interpreting and using information contained in the Material Safety Data Sheet (MSDS) has increased the reading requirements of jobs. The BESP skill standards project offered the industry a potential means to communicate needs to educators for high school graduates who could apply what they were taught in school.

Thus, for a variety of reasons, Laborers-AGC staff perceived the development of skill standards as a promising endeavor. They also approached the topic without preconceived or fixed ideas about skill standards processes or products. While staff were committed to pursuing the development of skill standards, they remained open to listening to their industry input as to how to do so.

Advantages Offered by Laborers-AGC in Developing Skill Standards

The Laborers-AGC Education and Training Fund offered several special advantages in conducting this skill standards project. The Fund has access to a wide array of current subject matter experts in the workers available the local and district affiliates of the Laborers' International Union of North America (LIUNA) and in the pool of instructors offering courses in Laborers-AGC courses across North America. With operations in Canada, Laborers-AGC staff have direct experience and familiarity with Canadian skill standards, which gives them a broader perspective than many other industry groups working on skill standards. Perhaps most attractive of all, Laborers-AGC offers an established industry-funded training network to implement the standards developed. Laborers-AGC planned to use the information and findings developed through the project to help generate an information base on its existing successful national-regional training system. With a network of affiliated seventy training centers across the country, Laborers-AGC is well positioned to put into use the skill standards developed itself.

Each year, three major national meetings of key industry stakeholders are held; each conference attracts a different set of industry stakeholders. The annual Tri-Fund Conference, conducted in January or February, attracts Labor and Employer Trustees of the various local,

district and national funds in the three funds affiliated with Laborers' International Union of North America (LIUNA) . These include the Laborers-AGC Education and Training Fund (Laborers-AGC), Laborers-Employers Cooperation and Education Trust (LECET) and the Laborers' Health and Safety Fund of North American (LHSFNA).

Second, the Instructor Development Program, conducted every summer, brings together more than 200 instructors from training centers for an intensive one-week program of courses focused on improving and updating both technical and pedagogical skills. Finally, the Laborers-AGC Education and Training Fund Annual Conference, conducted each August, training center managers and trustees of the industry's local and district training funds gather to address specific education and training issues facing the industry. Through these three annual conferences, project staff have ready access to an excellent infrastructure of industry sources for gathering input to the process, for informing and educating the industry about the complexities of issues involved with skill standards, and for promulgating findings and results. In a real sense, the numerous workshops and focus groups conducted at the twelve conferences over the four years of the project served to augment and extend the dialogue in the nine coalition meetings formally used by the project.

One key strength of the Laborers-AGC Education and Training Fund is the expertise residing on its staff. Nearly all of the national staff program specialists have come from the field, accumulating considerable practical hands-on experience in working as laborers for a significant portion of their careers. In addition, through the collaboration of the Tri-Funds, the Education and Training staff have direct access to technical expertise on the staffs of both the Laborers Health and Safety Fund and the Laborers-Employers Cooperation and Education Trust. In addition, the Laborers-AGC Education and Training Fund can call on the expertise of more than 200 instructors from across the country who all have extensive work experience in the field. Perhaps most important, the Education and Training Fund has excellent access to expert front-line workers.

Limitations of the Laborers-AGC as a Convening Entity

Given the highly competitive and distrustful environment between the union and nonunion segments of the construction and environmental abatement industries, Laborers-AGC operating in the union sector, had limited ability to engage the nonunion segments of the industries in the project. Despite the fact that good faith efforts were made to include the

nonunion employers and workers in the project, these met with limited success. The Associated General Contractors (AGC) is the national employers organization for general contractors in the construction industry; its membership includes both union and nonunion firms. As one of the two key sponsors of the Laborers-AGC Education and Training Fund, AGC invited nonunion employers to send their workers to participate in meetings to develop or validate the skill standards. Yet few nonunion workers showed up to participate.

Project Goals and Objectives

The outline of activities listed in the initial proposal for the Laborers Skill Standards Project included the following:

1. Generate world-class standards for two construction occupational clusters of jobs typically performed by laborers in Heavy Highway/Utility Work and in Environmental Remediation and Demolition. The standards envisioned for the project were to be based on comprehensive job task and performance analysis, incorporating the necessary skills, knowledge and attitudes to perform the work successfully.

2. Develop and promote a certification program for workers that includes proficiency examinations, automated records, and recognition.

3. Promote the standards-setting process and resulting products to encourage the entire industry to participate in the program and the consuming public to demand certified laborers on the job.

Anticipated benefits from the project included the following:

- Improve the image of the construction industry and the occupational clusters of the laborer so that recruitment becomes easier, the self-confidence of workers improves, and markets expand.

- Generate more coherent work classifications and training designs for skills routinely performed by laborers by developing manageable units of job definitions through task analysis and elaboration of the skills, knowledge, and attitudes required.

- Improve the individual employability, work and union retention, and productivity of the laborer as well as the market for the employer through use and promotion of the certification program.

- Improve broader cooperation among the industry stakeholders—labor, employer, education, and the community—by involving each in the process of developing and implementing standards.

- Improve and protect the public health and welfare as well as ensure efficient expenditure of tax dollars by improving and promoting the skills of the labor force, especially in occupations that deal with extremely costly and sensitive public health issues of environmental clean-up (hazardous materials, asbestos, lead, radiation, and petrochemical) and highway, bridge and utility construction.

- Help expand the national debate on standards by demonstrating how they can be used in a major industry.

In summary, as initially envisioned, steps to achieve these goals included the following:

• **Identification** of occupations routinely performed by members of the Laborers' International Union of North America in these clusters.

• **Development** of comprehensive analysis of job tasks, performance requirements and worker attributes that incorporate the necessary skills, knowledge, and attitudes to perform the work successfully.

• **Creation and promotion of a certification program** for workers that includes proficiency examinations, automated record keeping and international recognition.

• **Dissemination** of the standards-setting process and certification program to the entire industry and consuming public.

Activities Undertaken by the Project

Establishment of the Coalitions

When the BESP project was awarded, heavy highway/utility and environmental abatement were the two clusters identified by the Laborers-AGC to begin the work of developing skill standards. Separate coalitions of stakeholders or partners were established to guide the project in these two areas. The partners included representatives of contractor associations, individual contractors, secondary and post secondary educators, industry trainers, and organized labor representatives. Under Tab 4 to the final report on the project, the reader will find a list of the members who served on of each the two coalitions along with their affiliations.

In selecting the coalitions, a innovation was attempted to save on travel funds. The education representatives were invited to serve on both coalitions; whereas most of the industry experts were invited to one of the coalitions. The initial coalition meetings were one-day events, held back-to-back in the same location. This structure made logical sense. It gave the project access to specialized industry expertise and networks in the heavy highway/utility cluster and in the environmental abatement cluster while conserving on project funds because the travel expenses of the education representatives were reimbursed with project funds.

Unfortunately, the arrangement ran into practical problems. The educators complained that a significant portion of the meetings were repetitious and used too much of their time unnecessarily. Over time, their attendance lagged. Toward the latter stages of the project, the two coalitions were merged into a single group.

In their first meeting, each coalition was briefed by Dr. Eric Rice who presented an overview of guiding principles for conducting job analysis, which he summarized as follows:

1. Perform job analysis of all the jobs for which we develop standards and tests. The study must examine the job, the actions of the individuals working in the job; work performance and products; the context/environment of work; and the elements, aspects and characteristics that make for successful performance.

2. Use a variety of methods rather than a single technique for determining the tasks, knowledge, skills, and attitudes necessary for successful performance on the job. Ensure that at least some of the data are collected though observation on the job.

3. Use different techniques for occupational analysis (the discovery portion of the study) and validation of tasks, skills, and knowledge.

4. Involve workers and supervisors in at least one of the techniques for identifying job tasks and necessary skills. Too often, training directors, consultants, and training staff make all the decisions.

5. Involve all regions of the country in the process. To establish validity on a national basis, input from all parts of the country must be obtained to ascertain whether the standards applies nationally or subject to regional variation

6. Determine the importance and the frequency of use of each task, skill, and knowledge. Further, find out how important each task is relative to other tasks. Also determine the level of competency needed for each task as well as for the skills, attitudes, and knowledge. Related items chosen for assessment to the data compiled on importance and frequency.

7. Determine criteria of successful performance for the tasks chosen for assessment purposes.

At its first meeting, the environmental coalition developed the following mission statement:

> In order to promote health and worker safety; cut liability costs for employers, property owners and other stakeholders; train people for meaningful and respected careers, and eliminate confusion presented by multiple government standards, we—the employers, workers, and other stakeholders—propose to develop, market and implement a set of occupational standards, education and training programs, and certifications processes for the environmental remediation cluster of occupations.

The Heavy and Highway Coalition devised its own statement as follows:

> To ensure a workforce capable of protecting the public investment and constructing a world class infrastructure; we—the employers, workers, and other stakeholders—propose to develop, market, and implement a set of occupational standards, education and training programs, and certification processes for the heavy and highway construction industry.

Generally, the tasks of the Business and Education Standards Projects included performing comprehensive job analyses, translating that information into useful data for improving training and designing proficiency exams, creating a certification process, and publicizing/promoting the activity and product. The Laborers-AGC project outlined the following activities in order to accomplish the project's objectives and achieve anticipated benefits:

1. Convene coalitions on a regular basis to generate ideas, react to draft products, use networking opportunities, supply data, and develop/concur on standards.

2. Perform comprehensive job task analysis through a combination of techniques including a modified DACUM procedure; work observation; and critical incident interviews with samples of workers and supervisors.

3. Develop job descriptions, skill-knowledge-attitude proficiency requirements, and work-task performance expectations by coalition action from task analysis data.

4. Translate the information from the task analysis, job descriptions, proficiency requirements, and task performance expectations into skill-knowledge-attitude standards; curriculum specifications; and training program accreditation guidelines, all through work with the coalitions. This activity includes data collection through network surveys as well as a modified DELPHI procedure.

5. Address impending occupational change, certification program design, and standards for the training provider through convening for the use of the project's coalitions, several working groups of experts who provide testimony to the Committees on selected topics. Among the topics addressed are critical instructor skills for trainers in the program; new technology such as robotics and shielding; and legal drawings.

6. Design a model certification program that incorporates at least the elements of setting expectations; testing; structured record keeping; recognition; and credit for training and site work experience.

7. Design, construct, and validate proficiency tests to determine the skill and knowledge levels of workers.

8. Initiate a pilot certification program in several regional training sites and monitor and evaluate its operation and impact.

9. Create, distribute, and promote the dissemination documents generated within the program.

10. Evaluate the project and incorporate revisions, as appropriate.

11. Incorporate the activities into the ongoing career path development of the Laborers Strategic Plan.

Selection of Priority Occupational Areas

Despite the fact that Laborers-AGC was funded at one of the lowest amounts of any of the initial twenty-two skills standards, it ambitiously decided to develop skill standards for four occupations—two in each of the two clusters it had selected to establish coalitions.

The Laborers-AGC Education and Training Fund develops training across a wide variety of work specialties, including the following clusters of job classifications and skills associated with being a laborer:

(1) building construction
general construction worker
concrete worker

(2) heavy highway/utility
pipe layer
asphalt worker
concrete worker
tunneling
bridge work

(3) environmental remediation
asbestos abatement specialist
radiation abatement specialist

lead abatement specialist
hazardous waste abatement specialist
petrochemical abatement specialist

(4) demolition
driller
blaster

In addition, Laborers-AGC develops and offers training and certification for foremen and superintendents and in certain entry-level cross functional skills, such as traffic control.

Considerable discussion during the first meetings of the coalitions focused on which specialty occupations on which to focus and why. The heavy highway/utility coalition decided on concrete worker and open cut pipe laying, in large part due to the demands they foresaw coming in federal funding for this work.

The Environmental Abatement Coalition chose lead abatement in part because of the increasing demand for this work in removing leaded paint from public housing and other public facilities. In addition, industry leaders wanted national standards to avert standards and licensing being developed and conducted on a state-by-state basis, such as had been the pattern for asbestos abatement. After much additional discussion, for the second occupational specialty to be investigated, they chose petrochemical abatement.

Development of Task Lists

The methods used to develop the task lists for each of the four occupations included work observation, an extended search of available literature, one-day modified DACUM sessions conducted with six experienced workers in Pomfret Center, Connecticut and with six experienced workers in Tacoma, Washington. The task lists were then refined by the master instructors in the national office, all of whom were experienced tradesmen. The extended search included information from the following sources:

- Any existing standards already in place
- Training curriculum and materials
- Computer databases

- Work organizations
- Technical journals
- Codes and specifications
- Standard operating procedures
- Industry associations
- Conference workshops and focus groups

With advice of the coalitions, initial task lists for each of the four occupational areas were developed, according the following general organizing framework recommended by the U.S. Department of Labor in the revised Dictionary of Occupational Titles (DOT) content model.

A. Aptitudes and Abilities
B. Workplace Basic Skills (including math and measurement, reading, writing and (in the case of concrete) speaking)
C. Cross functional skills
D. Occupation Specific Skills (including the use of tools and equipment, materials and supplies)
E. Occupation Specific Knowledge

The Validation Process With Experienced Workers

After considering the costs and likely yields of various types of validation strategies, including mail surveys, telephone surveys, personal interviews, and group interviews, the coalitions chose to use group interviews with workers as their primary validation strategy. Although mailed surveys offered the least expensive method of data collection, problems were anticipated with low response rates, especially in view of the low levels of literacy skills possessed by several laborers. Overall, it was concluded that group interviews offered the most cost-effective and richest source of information to enable staff to understand the data collected. For example, specific examples of activities could be elicited. Questions could be asked about unclear items.

To validate the findings, Laborers-AGC conducted a series of group interviews with experienced front line workers in geographically representative areas throughout the United States. These areas and the number of workers participating in each, are listed in the following:

Dates	Location
10/30/94	Orlando, FL
11/6/94	High Hill (St. Louis), MO
11/19/94	Houston, TX
11/20/94	San Antonio, TX
3/21-22/95	Philadelphia, PA
3/24-25/95	Baton Rouge, LA
4/8-9/95	Chicago, IL
4/18-19/95	Seattle, WA
5/6-7/95	Detroit, MI
5/12-13/95	Los Angeles, CA
5/16/95	Billings, MT
5/19-20/95	Portland, OR
6/19/95	Chicago, IL
9/25/95	Cumberland Gap, TN

Through the group interviews, the skills lists developed by the coalitions were reviewed by experienced front-line workers presently working in the industry and refined. This personal and direct method of information gathering allowed the project to develop a fuller and richer description of tasks carried out by laborers across the nation. In each session, a facilitator asked participants probing questions to elicit specific examples of how the various skills were used. Some of the prompting questions and issues included the following:

(1) Were any tasks listed that were not performed by the workers?

(2) Were the task lists complete? What tasks be added?

(3) What tools were used by workers on the job? (This question helped to assure that the task lists were comprehensive and complete.)

(4) What critical incidents had been experienced by the worker or his/her colleagues? Examples were discussed.

(5) What specific standards of performance are required of workers for what tasks and what sorts of jobs?

(6) What trade terms are used in this region? (The aim here was to clarify the use of terms and to document any inconsistencies in use of trade terms and work across regions.)

In addition, as an integral part of the process, the participants filled out a written form identifying and rating job tasks. Tasks were rated on their importance and how commonly the skill was performed on the job. Further, the workers provided estimates of how long it took to master each skill indicated. In the accompanying interviews, workers were asked to talk about their work experiences in detail. On the basis of the information gathered from the written surveys and the group interviews, the task lists and surveys were improved and enhanced over time. The sessions were well received by the workers. The combination of group interviews and completion of written survey forms provided a welcome variety to the sessions. As part of the group interview process, the facilitator was able to walk the participants through the survey forms, to explain the form orally, and to respond to individual inquiries. This process was especially suitable and helpful to individuals whose literacy skills were not strong. Because the interviews were conducted as group discussion, they were not intimidating to individual workers. During the two sessions observed by this evaluator, over the four hours, the skilled facilitators were able to successfully get everyone to talk and participate.

Procedures Used to Recruit Workers for the Validations. All validations were conducted on weekends during "off hours" so that no workers were excluded. Union workers were recruited through locals. The process started with LIUNA International President writing a letter to the appropriate Regional Manager who was asked to assist with local unions within the region. Staff of the National Education and Training Fund and the appropriate affiliated local training funds then worked directly with business agents from union locals to recruit volunteers to participate. The criteria used to select workers included the following:

(1) Workers must have recent experience in working at the particular aspect of the trade which the interview addressed.

(2) Workers with five or more years of experience at the aspect of the trade examined were preferred.

As an incentive and as an acknowledgment of their expertise and time shared with the project, workers were paid from $50 to $100 each for their participation in the sessions that lasted up to four hours.

Confirmation by Supervisors and Industry Trainers

After the validation sessions with workers was completed, the task lists were refined and then submitted to supervisors and instructors, company owners and labor trustees from local funds for review and comment. This occurred through the three annual conferences, as well as in special presentations to the industry. Feedback was sought from a variety of industry sources.

Laborers-AGC had the advantage of learning from the experience of skill standards projects developed by other industries. For example, several previous projects published skill standards without first carefully thinking through exactly how the standards could and would be used by the various stakeholder groups. The skill standards published by preceding projects contained many elements, such as identification of any of the following:

Tasks
Functional skills
Knowledge
Performance criteria (or alternatively levels of supervision required)
Academic courses
Tools, equipment and materials
Guidelines on the duration of training
Sequence of training
Difficulty of learning/teaching
Description of work context
Job descriptions
Scenarios

Records and recordkeeping
Certification documentation

Yet once the standards were published, the various stakeholder groups in other industries generally found that the standards lacked something. For example, nearly all of the standards published by the other skill standards projects lacked performance criteria. The two Laborers-AGC coalitions spent considerable time deliberating on how the standards could and would be used by its various stakeholder groups, including educators and training providers, employers, workers and unions before deciding on a format and going to press with it.

On June 2, 1995, the Heavy-Highway Coalition reached consensus regarding the outline of proposed format for its skill standards. The recommended document begins with a description of the industry, moves into a description of the job areas, followed by a series of scenarios that illustrate all the tasks identified as frequent and critical in the worker validations. For each scenario, the critical tasks, the performance criteria, and the skills, knowledge and aptitudes (WSKAs) would be identified. An advantage of this presentation scheme is that it gives emphasis to outcomes in performance criteria.

Disseminating and Promoting Use of the Skill Standards

Through its BESP project and other related activities, Laborers-AGC staff has worked to build the groundwork of consensus on adopting and using skill standards. The use of skill standards and certification was an element of an initial five-year strategic plan for education and training developed and published by Laborers-AGC in 1992. [5] Development and implementation of skill standards remained one of seven critical initiatives addressed in the five-year strategic plan promulgated in 1997. [6] A resolution on skill standards was also passed at the 1996 Convention of the Laborers' International Union of North America. (The text of this resolution is included under Tab 7 of the Final Report of the Project).

Having high quality skill standards in hand is necessary but not sufficient to getting them implemented by industry. Incentives are needed to help "jump start" the diffusion.

5 Laborers-AGC Education and Training Fund. A *Strategic Plan for Laborers' Training: Initiatives for the '90s.* Pomfret Center, Connecticut: Laborers-AGC Education and Training Fund, 1992.

6 Laborers-AGC Education and Training Fund. *A Strategic Plan for Laborers' Training: Preparing Today for the Challenges of Tomorrow.* Pomfret Center, Connecticut: Laborers-AGC Education and Training Fund, 1997.

Developing incentives for the use of skill standards. The BESP coalitions suggested various techniques and methods to get the standards, assessment and certification system disseminated and used by the industry. For example, the environmental coalition proposed an initiative to include Laborers-AGC training standards as part of the ANSI Codes as a dissemination device. A similar procedure apparently had been implemented though ANSI to disseminate the uniform plumbing code. In the ensuing discussion, concern was expressed about ANSI developing and setting the standards, but ultimately, the coalition concluded that if the role of ANSI was confined to help disseminate standards developed by industry, ANSI involvement could be quite helpful. Indeed, recognition by ANSI could help put training standards into selected bid specification contracts, such as apparently is common practice in contracts recently let by the U.S. Department of Energy.

Establishing business incentives adopt and use voluntary skill standards is a key to the rapid dissemination and utilization of skill standards in the highly competitive construction industry. To the extent that architects, engineers and project owners recommend that skill certification be written into contract specifications (as referenced in Resolution No. 7 at the LIUNA Convention), diffusion will occur quickly.

Lessons from the Experience

The experience of the Laborers-AGC BESP project holds several lessons for the future. On the whole, the project was a very successful effort—the most successful effort among the initial 22 skill standards projects in involving workers and unions in the process. With one of the latter grants to be implemented among the initial 22 pilot industry skill standards projects, the Laborers-AGC attempted to learn from the experience of other projects especially in regard to topics such as the format and content of the standards. Laborers-AGC produced a skill standards format that has been both acclaimed and emulated by others. [7] By the end of the project, skill standards were published in three of the four occupations initially targeted: concrete worker, open cut pipe laying, and lead abatement. [8]

Complications with Petrochemical Abatement. As revealed in the worker validations conducted, there is considerable diversity in the jobs that laborers hold dealing the petrochemical abatement. Some laborers are hired on a temporary basis to refurbish plants during downtimes. Some laborers work in warehousing operations of processing manufacturing plants to pack petrochemical products for shipping. Others remove and replace leaky gasoline tanks at storage facilities and service stations (commonly referred to in the industry as "yank a tank" operations). Such diversity complicates the task of developing task lists for occupations in the industry. For example, three of the four petrochemical workers interviewed in Baton Rouge worked in nuclear power facilities (as well as petrochemical plants) and filled out their questionnaire on the basis of the full experience across all types of plants—not just the petrochemical plants in which they had worked. If skill standards are to be developed for Petrochemical Abatement, a much larger sample of workers must be identified and interviewed in order deal with the variation in this industry.

Multiple separate specialty coalitions did not work well. As previously described, the project's initial approach was to establish separate coalitions for the different occupational clusters in order to gain the expertise and network of contacts of specialized industry personnel. The educators served on both coalitions. As it turned out, coalition members preferred a more

7 As one example, the format of the Laborers-AGC industry skills standards were nearly duplicated by the National Steel and Shipbuilding Company of San Diego in its National Shipbuilding Research Program to develop multi-skilled workers. Source: Correspondence from Andre Dorias to John Tippie, dated June 30, 1997 with attachments.

8 Laborers-AGC Education and Training Fund. *Concrete Worker Skill Standards.* Pomfret Center, Connecticut: Laborers-AGC Education and Training Fund, October 1996; Laborers-AGC Education and Training Fund. *Skill Standards for Open Cut Pipe Laying.* Pomfret Center, Connecticut: Laborers-AGC Education and Training Fund, June 1997. *Lead Abatement Worker Skill Standards.* Pomfret Center, Connecticut: Laborers-AGC Education and Training Fund, June 1997.

consolidated approach. In the future, it would seem that a structure involving a consolidated coalition with breakouts for specialty subgroups may work best.

The group interview process used in validation worked well for worker validations. The project developed lists of tasks for each of the occupations, refining them and embellishing them with contextual examples obtained through the group interviews with workers. By the end of the worker validation, the project had developed an extensive and rich master list of tasks.

Providing contextual information enabled the dialogue with workers. When skills were generically described, workers often did not fill them out even though subsequent discussion clearly demonstrated that the particular skills were used on the job. Laborers-AGC facilitators discovered that workers relate best to items that are contextually described rather than presented as generic skills. Thus surveys containing lists of generic tasks are not likely to generate meaningful responses from workers. This was especially common in the category of basic skills. When tasks were rephrased to put information into context or when concrete examples provided, the responses were more complete. For example, workers did not relate to the generic description "calculate volume." But they did point out that workers needed to know how many cubic yards of concrete would be needed to fill a particular form.

Effectively engaging the participation and input of the nonunion sector. To solicit volunteer worker participating from the nonunion sector, help was solicited and obtained from the Associated General Contractors (AGC), through its representatives on the coalitions. The AGC contacted its local chapters requesting assistance. The response was variable but disappointing. On the whole, the AGC representative reported that the reaction of local chapters ranged from suspicious and reluctant to lukewarm.

A mistake that raised suspicions among nonunion employers was that the initial meeting at which the invitation was extended was held in a union sector facility. The employers feared that their workers would be proselytized into joining the union; the location of this initial meeting only heightened their fears. Subsequently, Laborers-AGC held validation sessions in hotels to which nonunion sector participation was invited. But the turnout remained disappointing.

For the future, it is clear from the experience that these meetings must be held on "neutral ground"—in a hotel or other facility that belongs to neither sector of the industry. Brokering cooperation between the union and nonunion sectors will take a considerable effort, perhaps involving third-party mediation. Allies in the nonunion sector must be located and encouraged. Common interests and goals need to be identified and made explicit. The examples of industry

skill standards now in publication from the Laborers-AGC should help to educate and encourage all sectors of the industry to participate in this process in the future.

Safety on the job: A Major Concern of Workers. Safety concerns were a paramount theme in the comments of workers across all four occupational specialties examined. The high level of safety concerns among workers seemed to surprise even the project staff.

Implementing Skill Standards: A Long-Term Endeavor. The process of this industry skill standards project (as well as other skill standards projects) might be best described as one of "path breaking" or "path finding." At the beginning of the project, there was little agreement even over terms and definitions—either within the construction industry or even across industry skill standards projects funded by the U.S. Department of Education or U.S. Department of Labor. There was no clear conception of what a published skill standard was or should be. Nor was there agreement on ways to package and disseminate the standards.

Developing and implementing industry skill standards is long-term endeavor that will require quality skill standards, a considerable effort at educating stakeholders about skill standards, and incentives. While there are complex technical issues involved in developing the skill standards in a form useful to the industry's stakeholders and educators, there are equally important challenges issues in educating stakeholders and generating consensus among the industry leadership to get skill standards put into use. Laborers-AGC has used numerous opportunities over the past four years to encourage adoption and use of skill standards and to develop a consensus among its industry in favor this approach. Among them have been workshops and focus groups held at the three regular annual industry conferences, inclusion in the strategic plans of the Laborers-AGC Education and Training Fund, and proposing and passing a resolution at LIUNA's union convention.

References

Laborers-AGC Education and Training Fund. *A Strategic Plan for Laborers' Training: Preparing Today for the Challenges of Tomorrow*. Pomfret Center, Connecticut: Laborers-AGC Education and Training Fund, 1997.

Laborers-AGC Education and Training Fund. *Lead Abatement Worker Skill Standards*. Pomfret Center, Connecticut: Laborers-AGC Education and Training Fund, June 1997.

Laborers-AGC Education and Training Fund. *Skill Standards for Open Cut Pipe Laying*. Pomfret Center, Connecticut: Laborers-AGC Education and Training Fund, June 1997.

Laborers-AGC Education and Training Fund. *1996 Training Fund Survey*. Pomfret Center, Connecticut: Laborers-AGC Education and Training Fund, 1997.

Laborers-AGC Education and Training Fund. *Concrete Worker Skill Standards*. Pomfret Center, Connecticut: Laborers-AGC Education and Training Fund, October 1996.

Laborers-AGC Education and Training Fund. *National Apprenticeship Standards for the Laborers-AGC Education and Training Fund for the Apprenticeable Occupation Construction Craft Laborer*. Pomfret Center, Connecticut: Laborers-AGC Education and Training Fund, 1994.

Laborers-AGC Education and Training Fund. *A Strategic Plan for Laborers' Training: Initiatives for the '90s*. Pomfret Center, Connecticut: Laborers-AGC Education and Training Fund, 1992.

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COALITION MISSION STATEMENTS

The Environmental Coalition Mission Statement is as follows:

In order to promote health, and worker safety; cut liability costs for employers, property owners, and other stakeholders; train people for meaningful and respected careers; and, eliminate confusion presented by multiple government standards, we the employers, workers, and other stakeholders propose to develop, market, and implement a set of occupational standards, education and training programs, and certification processes for the environmental remediation cluster of occupations.

The Heavy & Highway Coalition Mission Statement is as follows:

To ensure a workforce capable of protecting the public investment and constructing a world-class infrastructure, we the employers, workers, and other stakeholders propose to develop, market, and implement a set of occupational standards, education and training programs, and certification processes for the heavy and highway construction industry.

COALITION MEETINGS

DATE	LOCATION
October 19-21, 1993	Fairfax, VA
March 22-23, 1994	Phoenix, AZ
August 16-17, 1994	Seattle, WA
November 7, 1994	St. Louis, MO
November 21, 1994	San Antonio, TX
March 27-28, 1995	Baton Rouge, LA

PROJECT DIRECTORS MEETINGS

DATE	LOCATION
October 21-22, 1993	Washington, DC
April 9, 1994	Baltimore, MD
July 21-22, 1994	Washington, DC
November 3-4, 1994	Washington, DC
April 5-6, 1995	Washintgon, DC

DACUM MEETINGS

DATE	LOCATION	# PARTICIPANTS
January 10, 1994	Pomfret Center, CT	6
February 19, 1994	Tacoma, WA	6

VALIDATION MEETINGS

DATE	LOCATION	# PARTICIPANTS
October 30, 1994	Orlando, FL	9
November 6, 1994	St. Louis, MO	13
November 19, 1994	Houston, TX	17
November 20, 1994	San Antonio, TX	12
March 21-22, 1995	Philadelphia, PA	21
March 25-26, 1995	Baton Rouge, LA	15
April 8-9, 1995	Chicago, IL	25
April 18-19, 1995	Seattle, WA	10
May 6-7, 1995	Detroit, MI	17
May 16, 1995	Billings, MT	14
May 19-20, 1995	Portland, OR	9
TOTAL PARTICIPANTS		**174**

General Executive Board Resolution No. 7

SKILL STANDARDS SYSTEM

WHEREAS, the Laborers' International Union of North America (LIUNA) seeks to better educate and raise the skill level of its members through standardized training and to continue to gain recognition for those members as a skilled craft; and

WHEREAS, there is no formal documentation that clearly describes the skills, aptitudes, and abilities required of Construction Craft Laborers to perform the work of the trade in a safe and efficient manner; and that such documentation is needed to enable Construction Craft Laborers to compare the skills they possess with the skills they need; and

WHEREAS, there is no formal method for training funds, signatory contractors, and local unions to measure, verify, and document the skills that Construction Craft Laborers possess; and that such a method is needed to assure contractors and local unions that Construction Craft Laborers actually possess these skills; and

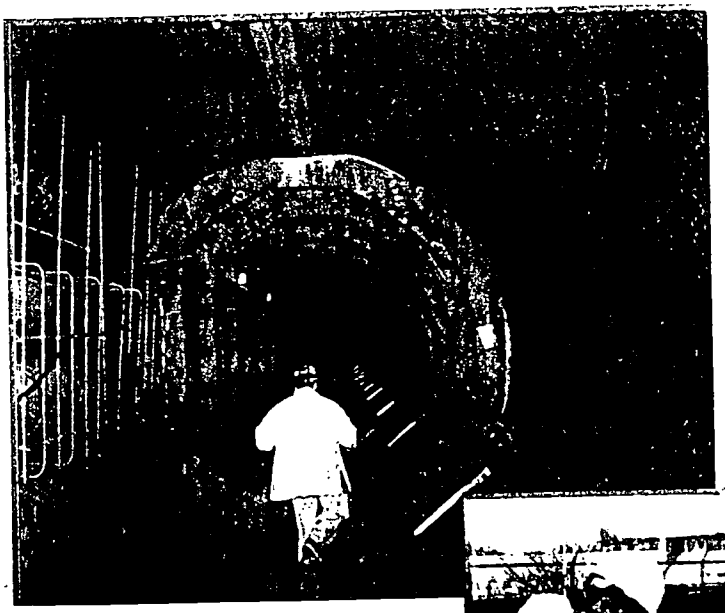
WHEREAS, there is a need to inform school systems about the required basic workplace education skills, so that elementary and secondary school students can be better prepared to succeed as Construction Craft Laborers; and

WHEREAS, our training funds have no formal method of reviewing and evaluating their curriculum against changes in the industry and international standards; and that such a method is needed to ensure our training is the best in North America; and

WHEREAS, architects, engineers, and project owners are increasingly recommending that skill certification be written into project specifications; now

THEREFORE BE IT RESOLVED, that the Laborers-AGC Education and Training Fund (Laborers-AGC) develop and implement a system of skill standards documentation and promote that system to signatory contractors, local unions, district councils, school systems, and Construction Craft Laborers .

A Strategic Plan for Laborers' Training



Preparing today for the challenges of tomorrow

Laborers-AGC Education and Training Fund

A Strategic Plan for Laborers' Training

The mission of Laborers' training is to improve the quality of life for LIUNA members and expand the competitive position of union employers.

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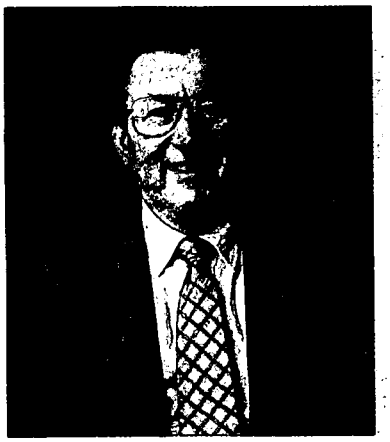

The Strategic Plan for Laborers' Training outlined on the following pages is the culmination of many hours of thoughtful discussion and deliberation about the issues vital to the future of Laborers' training. Beginning with the extensive training needs assessment process, through the creation of a strong mission statement, to the ultimate production of a plan of implementation, this strategic planning process has been a model of cooperation among the individuals and organizations affected by the success of Laborers' training. The result is a strategic plan that truly reflects the training needs of all representatives of the extended LIUNA community.

Through our own involvement—direct and indirect—we both have gained personal insight into the challenges facing Laborers' training as our Union moves into the twenty-first century. As Co-Chairmen and Trustees of Laborers-AGC, we look forward to the next five years, confident that the commitment demonstrated in formulating this strategic plan also will be applied to implementing the initiatives.

We extend our heartfelt thanks and congratulations to all who generously contributed to this project. Because of your efforts, Laborers' training is poised for continued success.

INTRODUCTION

In 1992, the Laborers-AGC Education and Training Fund (Laborers-AGC) developed and implemented its first strategic plan, which served as a map to guide Laborers' training for the next five years. That plan established challenging objectives that provided Laborers' training with opportunities to grow in new directions.

Recognizing the value of strategic planning to the future of Laborers and Laborers' training, the General Executive Board submitted Resolution No. 5 at the 21st LIUNA Convention in September 1996. The resolution mandated that "Laborers-AGC develop a second strategic plan of operation for Laborers' training that will serve as a vision for the next five years."

Laborers-AGC initiated the strategic planning process by conducting a needs assessment that targeted the key stakeholders within Laborers' training, namely LIUNA officials, contractors, training directors, and rank-and-file members. First, the Fund moderated four focus groups to collect ideas and suggestions regarding training issues the strategic plan should address. Next, a written survey was conducted to gather information on current and future training needs.

In January 1997, Laborers-AGC held strategic plan workshops at the 1997 Tri-Fund Conference to allow conferees an opportunity to help define the areas that the plan should address. Following the conference, an executive committee was formed, representing Laborers' International Union of North America (LIUNA), Laborers-AGC Education and Training Fund (Laborers-AGC), Laborers-Employers Cooperation and Education Trust (LECET), Laborers' Health and Safety Fund of North America (LHSFNA), and training funds from each of the LIUNA regions. At their first meeting in March 1997, the executive committee drafted the mission statement—"The mission of Laborers' training and education is to improve the quality of life for LIUNA members and expand the competitive position of union employers." This mission statement serves as the cornerstone of the strategic plan.

Using the information from the needs assessment and conference workshops, the executive committee identified seven critical initiatives to be addressed in the strategic plan.

1. Curriculum Development and Delivery
2. Funding and Financial Management
3. Lifelong Learning
4. Marketing, Recruitment, and Retention
5. Organizational Communication, Coordination, and Cooperation
6. Skill Standards Development and Implementation
7. Total Quality Management

These seven initiatives became the focus of five strategic plan subcommittees comprising more than 80 individuals with vested interests in Laborers' training. Each subcommittee was charged with defining the challenge of and vision for their initiative, as well as creating the action plan to implement it.

The completed Strategic Plan for Laborers' Training is the vision for the future of Laborers' training. All totaled, nearly 1,000 individuals contributed to its creation. The plan will grow, change, and ultimately succeed only through the continued participation of all individuals and organizations affected by Laborers' training.

Strategic Plan Executive Committee

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Laborers' Training and Retraining Trust Fund for Northern California

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Director
Northwest Laborers-Employers Training Trust Fund

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ACKNOWLEDGEMENTS

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Skill Standards Development and Implementation

Total Quality Management

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Curriculum Development and Delivery

Our Challenge

Over the years, Laborers-AGC has established a reputation for creating quality training programs. As good as these programs are, a number of challenges require us to revisit our curriculum development and delivery process to make it more effective. Industry technology is changing our work; new materials (such as polymers), equipment (such as robotics), and procedures (such as trenchless tunneling), make today's work much different from a decade ago. Laborers want courses that provide basic construction skills training as well as more flexibility in course structure.

New markets—like munitions and ordnance cleanup and decommissioning of nuclear power plants—require Laborers to learn new skills and acquire additional knowledge to work safely and productively. Our membership includes increasing numbers of women and minorities; their needs as well as those of other new and experienced members must be addressed and reflected in our programs. Advances in learning technology create opportunities for teaching in ways that can dramatically enhance learning.

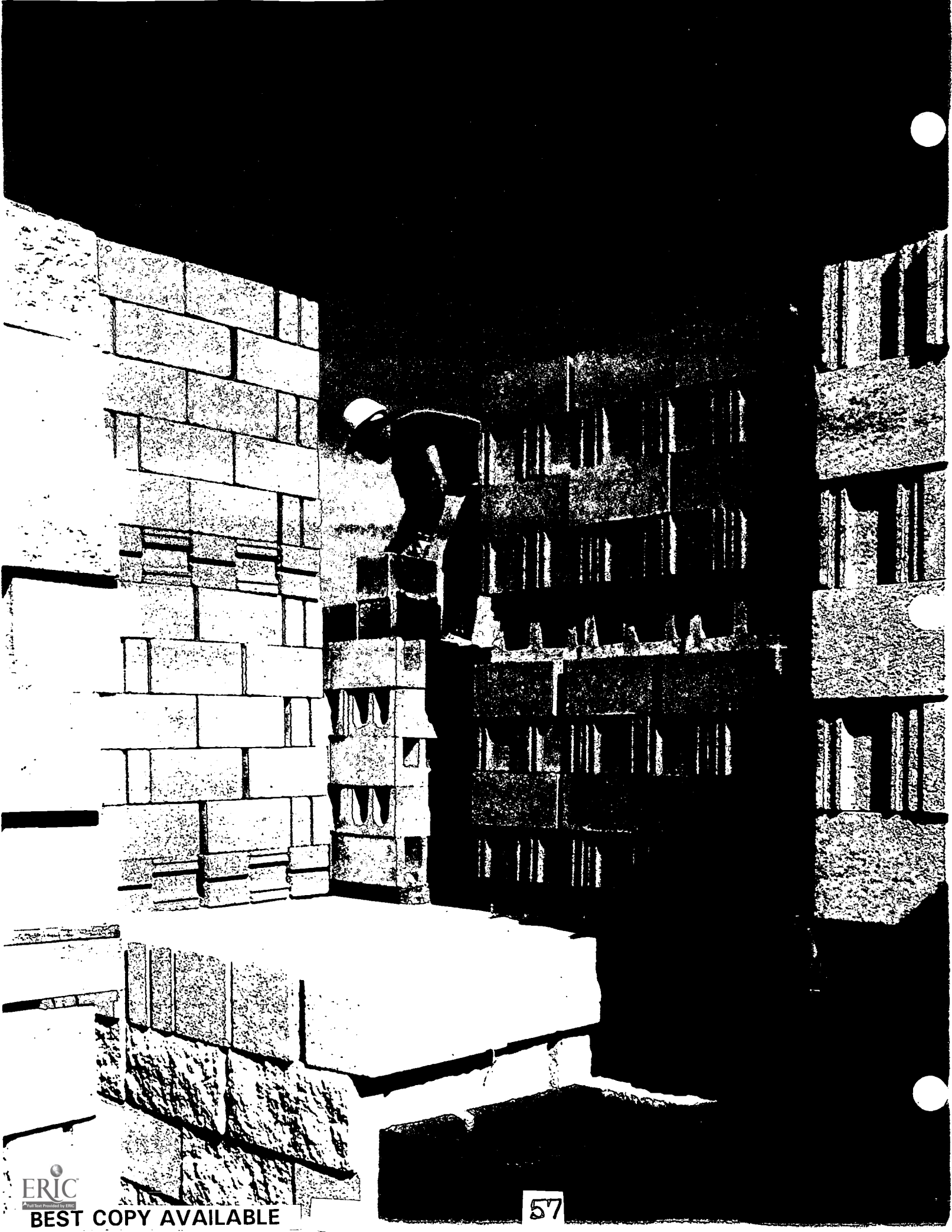
Our Vision

Each challenge encourages us to rethink how we develop curriculum and deliver instruction. We need to monitor changes in the industry and develop programs within months. Moreover, we should develop and deliver materials that match the learning styles, languages, and needs of our membership and affiliated training funds. This means not only incorporating more visuals, but also accommodating regional needs, offering curriculum in modules, integrating learning technology, and helping training funds access technology that allows instructors to become more effective teachers.

Our Action Plan

Our action plan for this initiative involves four major strategies:

- Create a process to develop curriculum that considers existing and emerging markets and accesses and uses many resources (e.g., contractors, manufacturers, and Laborers) in producing materials.
- Form a diverse and comprehensive industry committee to help set priorities and monitor curriculum development.
- Implement use of instructional technologies, such as computer-based instruction, CD-ROM, distance learning, and videos. Incorporate visuals, languages, and learning-style information into materials. Enable affiliated funds to use the technologies to deliver training.
- Improve standardization of curriculum by working through the Directors Development Program and the Instructor Development Program to ensure that materials are adopted and used in a consistent manner.



Our Challenge

Laborers' training is challenged to increase funding for training initiatives while containing training costs through improved resource management and to maintain the high quality of existing programs while increasing the number of programs offered. The demand for training programs increases as a result of technological advances in the industry, expanded safety regulations, and initiatives like mandatory construction apprenticeship by the year 2001. Accessing alternative financial resources will become more challenging when and if federal funds are reallocated to state and local agencies or supplementary funds are decreased or eliminated.

Our Vision

Financial support for Laborers' training comes primarily from collectively bargained contributions. This self-reliance can and should be supplemented with outside funding sources.

Negotiated contributions can increase to meet LIUNA member training needs primarily by expanding our membership base into new areas and increasing market share. At the same time, we need to increase efforts to access all complementary resources, such as grants and fees for service. Finally, we should make better use of all available resources by improving our financial and other resource management. Increased funding and better financial management will result in benefits such as: (1) adequate financing for new training initiatives, (2) increased access to grants and other supplemental funding for Laborers' training, and (3) containment of training costs.

Our Action Plan

Our action plan for this initiative involves seven major strategies:

- Develop and implement a Laborers' training funding strategy.
- Designate a Laborers-AGC staff person to coordinate the effort to acquire needed funding. Ensure identification and distribution of information about local funding opportunities in coordination with LECET and LHSFNA.
- Develop financial information to help demonstrate the value of training.
- Perform and distribute research on the budget implications of the apprenticeship initiative to assist training funds prepare for its implementation.
- Strengthen relationships with federal, state/province, and local funding officials.
- Provide a policy on and encourage the development of revenue from other sources, such as site rentals and service contracts.
- Develop a model financial management information system that can be utilized by training funds.

Our Challenge

A number of modern challenges demand that Laborers' training adopt a lifelong-learning perspective. Challenges include the introduction of new construction materials and technology, expanded membership with diverse language and literacy needs, new demands on services (such as displaced worker training), and new work opportunities for which new skills and knowledge are required.

Resolution No. 6 adopted at the 21st LIUNA Convention directed Laborers-AGC to build a comprehensive lifelong learning system as the the key to developing and retaining safer, healthier, and more productive Laborers. The resolution acknowledged that through a lifelong learning structure, training helps establish pride in work, improves life skills, advances individual careers, and ensures member employability. Lifelong learning also facilitates recruitment and retention of members and helps improve the overall image of organized labor. A system of lifelong learning is an effective way of ensuring that every member has a continuous opportunity to improve work and life skills.

Our Vision

We need to create an environment of continuous improvement through training and educational opportunities so that our members come to recognize that lifelong learning equals lifelong earning. We should create a system in which individuals are recognized for participating in training, with recognition ranging from the obvious benefit of increased employability to public ceremonies acknowledging completion of training. Further, a comprehensive program of lifelong learning will help Construction Craft Laborers build careers based on their own goals.

Our Action Plan

Our action plan for this initiative involves four major strategies:

- Detail and promote career paths for Construction Craft Laborers in construction, including all types of work Laborers do, and adding links to occupations in other areas of construction and to the formal educational system.
- Develop reward systems for training that include a variety of opportunities for acknowledgment. Involve members' families to promote training in the union and community.
- Create a record-keeping and tracking system to ensure that verification of members' skills, earned during training, accompany them through their work lives. (This system will be used in a variety of ways; therefore, it is linked to a number of initiatives of this strategic plan.)
- Create a continuum of training materials and training opportunities to serve the total Laborer. Materials need to address skills and knowledge ranging from literacy and language to health and safety, through basic construction skills, to other types of jobs along the career path. Information about opportunities and access to training also must be ensured.

Marketing, Recruitment, and Retention

Our Challenge

The construction industry employs approximately one in ten North American workers, generates payrolls in the hundreds of millions of dollars, builds projects valued at billions of dollars, and contributes greatly to the Gross National Product of the U.S. and Canada. Training is the key to success in construction because it helps to ensure the skills of workers and the quality of the work they perform. Yet as an industry, construction is facing challenges—the work force is aging and a sizable portion of the LIUNA membership will retire in the next five to ten years. As a Union, we are challenged to actively recruit members for a variety of reasons: reduction in the number of high school graduates who choose construction as an occupation; an annual worker turnover rate of approximately 25 percent and the cyclical nature of our work; public misunderstanding of the labor movement; and the physically demanding nature of the work. However, we can increase our market share through a comprehensive marketing, recruitment, and retention plan.

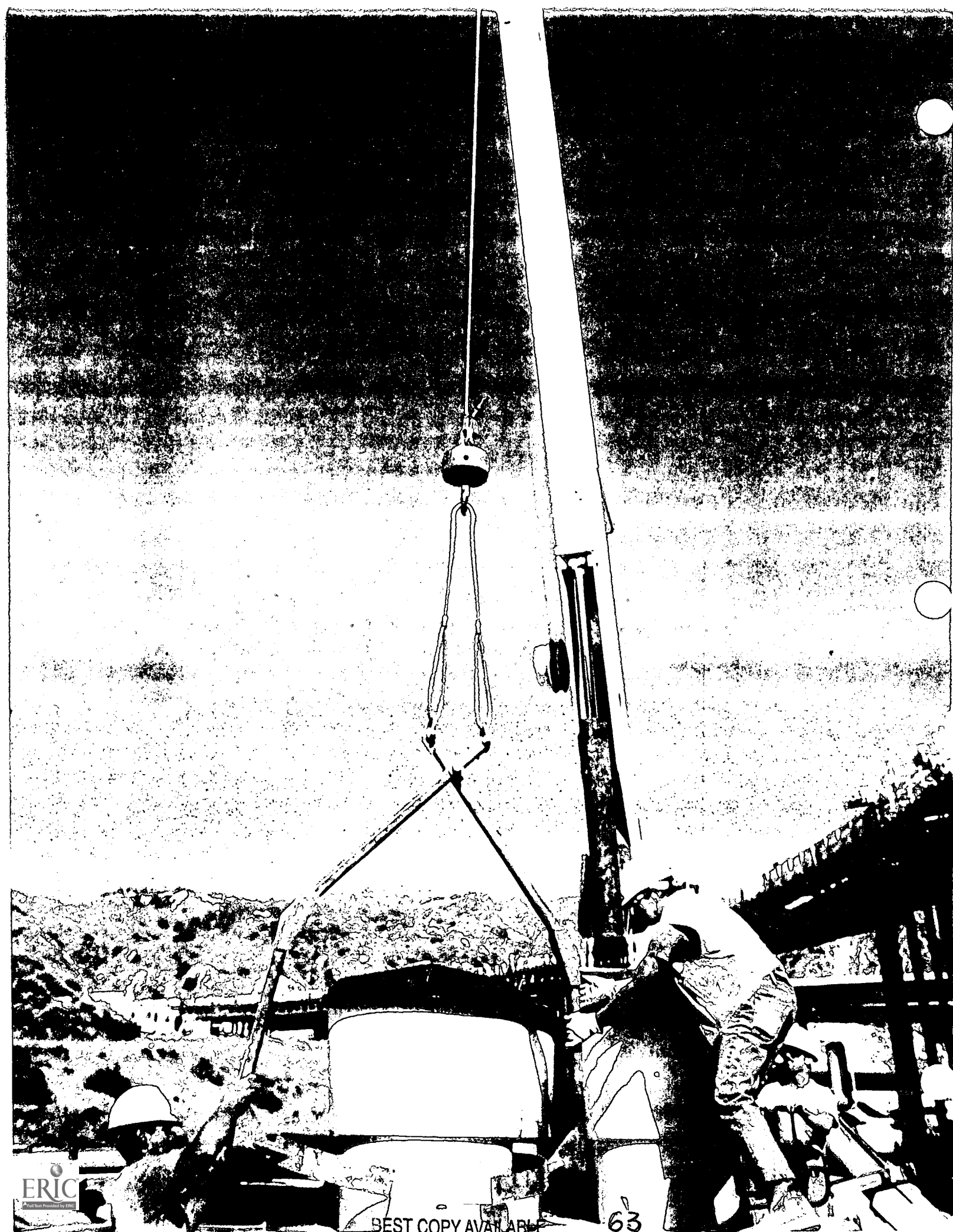
Our Vision

We need to develop a comprehensive marketing plan that not only addresses the needs of primary stakeholders but also covers the history of the Union and our philosophy of training. This initiative acknowledges that every dollar spent on marketing has a return of five dollars that can be used to provide member services; that it is easier to keep existing members than to recruit new ones; and that once a member participates in training, he or she is more likely to continue training. A five-year recruitment and retention plan will result in benefits such as: (1) a more diverse and stable work force with decreased turnover, (2) a larger number of work hours as a result of increased worker skills and versatility, (3) expanded recognition of Construction Craft Laborer as a skilled trade, (4) increased employer involvement in program planning, and (5) recognition for Laborers' training as the "industry standard."

Our Action Plan

Our action plan for this initiative involves seven major strategies:

- Work with LIUNA to develop the New Member Orientation Program.
- Develop recruitment and retention materials for new and existing members that address the diversity of our members and potential members and ensure easy access to training.
- Work in concert with LHSFNA and LECET to design a personal follow-up protocol with signatory employers.
- Design and implement skills tracking and certification system, working with other organizations and other strategic plan initiatives.
- Research the specific value of training—particularly economic and social—and use resulting data in marketing and recruitment.
- Develop and implement local counselor outreach programs to facilitate relationships with school guidance and career counselors.
- Work with LHSFNA and LECET to develop and pilot local "demonstration days" to spotlight our training programs and facilities.



Organizational Communication, Coordination, and Cooperation

Our Challenge

Organizational communication, coordination, and cooperation allow all areas and individuals of an organization to share ideas, build expectations, accomplish goals, and plan for the future. These activities transform the separate activities of the Tri-Funds and individual training funds into collective benefits for union members and union employers. We have made significant strides over the past five years in improving organizational communication and coordination. However, since industry and technology are rapidly changing, and the diversity of our union membership is increasing, we must improve organizational communication, coordination, and cooperation to accomplish our mission of improving the quality of life for LIUNA members and the competitiveness of union employers.

Our Vision

To advance the interests of LIUNA members and signatory contractors, we need to further strengthen communication, coordination, and cooperation between Laborers-AGC and the affiliated training funds, and among the Tri-Funds, utilizing new technology whenever and wherever possible. This initiative will result in benefits, such as: (1) an increasingly skilled and knowledgeable work force from which signatory employers can hire, (2) better training at lower cost as a result of increased resource sharing and elimination of duplicate services, and (3) a greater appreciation of the value of Laborers' training.

Our Action Plan

Our action plan for this initiative involves seven major strategies:

- Review existing communication processes and vehicles. Develop and implement communication strategies and mechanisms within Laborers' training that complement existing communication processes and take advantage of new technology.
- Develop and implement a training and employment status information system that assists signatory contractors in locating skilled Laborers and assists Laborers in obtaining and maintaining employment. (This system will be used in a variety of ways; therefore, it is linked to a number of initiatives of this strategic plan.)
- Address the diversity of our membership in all our communications.
- Develop and distribute a document describing Tri-Fund coordination and relationships.
- Utilize the Directors Development Program to emphasize coordination and resource sharing.
- Increase awareness of the value of career planning and training by developing and implementing the New Members Orientation Program. (This strategy also is part of the marketing initiative action plan.)
- Organize and utilize functional manager groups (e.g., finance, information systems, publications) within the Tri-Funds at both the national and local levels.

Our Challenge

Historically, competitive edge in construction is based on price. However, in the last three years, our union, our joint labor-management trust funds, and the U.S. and Canadian governments have recognized that competitive advantage can more appropriately be found in value—value as expressed in quality, productivity, and safety. The key to value in training is worker skills. But skills require skill standards that describe in detail the work that Construction Craft Laborers perform and are used as a basis for training and evaluation activities.

We must develop and implement a system of skill standards and promote that system to signatory contractors, local unions, district councils, school systems, and Construction Craft Laborers. The importance of skill standards was reinforced by passage of Resolution No. 7 at the LIUNA 21st Convention. The convention action reflects the Goals 2000 initiative (in the United States, as well as similar initiatives in Canada) to create skill standards that ensure the quality of products and enable employers to promote their work as superior to that of their competitors.

Our Vision

We need to define and document skill standards for all the work of Construction Craft Laborers and build the skills into our products and processes. Standardization of skills will result in benefits such as: (1) training providers can better plan and develop uniform curriculum, assessment, and instruction, (2) individual workers will be encouraged to set goals and assess their progress toward those goals, (3) employers will be able to market their products with the knowledge that the work will be of the highest quality and performed in the safest and most productive manner, (4) project owners will feel confident they are getting the best possible return on their investment by routinely incorporating skill standards into project bid processes, and (5) Construction Craft Laborers will achieve international recognition from contractors and governmental agencies.

Our Action Plan

Our action plan for this initiative involves five major strategies:

- Perform occupational analysis and develop skill standards for all the work that Construction Craft Laborers perform and build this information into the curriculum development process.
- Create a record-keeping system through which to track member skills as they complete training. (This system will be used in a variety of ways; therefore, it is linked to a number of initiatives of this strategic plan.)
- Coordinate U.S. and Canadian work on skill standards, particularly in areas such as apprenticeship records and assessment.
- Promote and use skill standards in bid specifications and architectural considerations to improve the competitive position of our signatory contractors.
- Build innovative assessment procedures, including performance-based testing, into training.

Our Challenge

Laborer's training requires systematic feedback from its customers and regular evaluation of program components to ensure quality. Feedback and evaluation data—the cornerstone of a total quality program—must be built into the ongoing process of decision-making to ensure continuous improvement. While Laborers' training is widely acclaimed for its effectiveness, it has never undertaken a comprehensive program of continuous improvement that: (1) carefully and routinely asks each of our customers—employers, project owners, and union members—how well training meets their needs, and (2) regularly collects and analyzes the full range of information in training outcomes.

Total quality management is becoming the industry standard, nationally and internationally; the same resolution that mandated a second strategic plan for Laborers' training directs Laborers-AGC to adopt total quality management precepts so that they influence all areas of Laborers' training. Our challenge includes identifying the criteria for excellence that a total quality management organization should adhere to, as well as creating a model for Laborers' training and implementing a plan that identifies Laborers' training organizations as total quality management organizations.

Our Vision

Laborers-AGC needs to develop and implement a model total quality management system that will address all aspects of the organization to ensure they are managed professionally, cost effectively, and productively. We envision an environment where the existence of a total quality management system is acknowledged and recognized. Among the benefits of the program are continuous improvement of training and recognition of the quality of the training we offer. The system will serve as a model that can be adopted throughout the system of Laborers' training. Further, we expect to generate outcome measures on training that demonstrate the economic and social value of training and build that information into decision-making and marketing.

Our Action Plan

Our action plan for this initiative involves three major strategies:

- Identify and implement a customer-based total quality management system for Laborers-AGC that could serve as a model for all of Laborers' training.
- Provide support for and encourage LHSFNA, LECET, and affiliated training funds to participate as partners in the quality management system.
- Integrate quality management precepts into the Instructor Development Program, the Directors Development Program, the Skill Standards Initiative, and other appropriate activities of Laborers-AGC.

A more detailed version of the
Strategic Plan for Laborers' Training
may be obtained by contacting
Laborers-AGC Education and Training Fund
at (860) 974-0800.

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