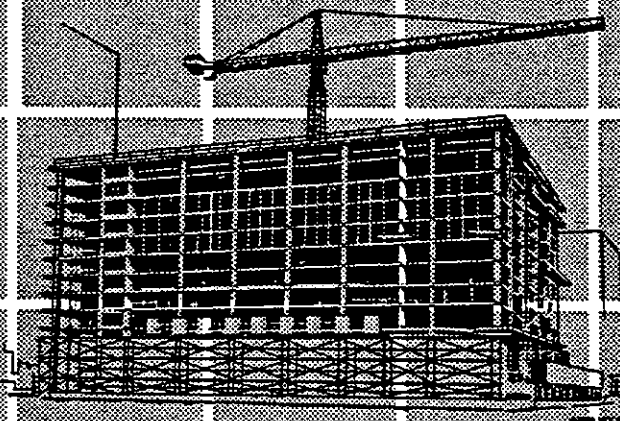


TECHNICAL PUBLICATION NO. 114

**PRACTICES IN THE CONSTRUCTION INDUSTRY  
THAT LEAD TO LEGAL PROBLEMS - PHASE THREE**

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The Building Construction Industry Advisory Committee under a grant from the  
State of Florida Department of Education*



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**EXECUTIVE SUMMARY**  
**FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS**  
**PROJECTION**



## I. EXECUTIVE SUMMARY

This project was conducted to complement and continue studies initiated under BCIAC Projects R 89-6 and R 90-15. The previous two studies, referred to as Law I and Law II, examined practices in the construction industry that lead to and are subject to lawsuits. A major objective of the studies was to identify causes rather than fix blame or list legal winners and losers. Law I revealed a central theme of practitioner failure to tend to business. Both administrative and technical aspects of management were receiving inadequate attention, and practitioners were seen as losing control of their activities, projects and companies. This theme was fed back to the industry in the form of a basic seminar. Law II extended and expanded that work to include a wider ranging and more specific survey, and development of four specific instructional modules for seminar presentation.

Law III, the present study, continued to explore the basic themes uncovered in I and II and continued to generate material suitable for presentation to industry groups or individuals. The exploration of themes was carried out through the medium of survey and interview in an increased industry audience. The basic survey maintained the structure and scope of Law II for data consistency while a companion survey focused on defective workmanship as an expanded area of interest. Survey results were greatly encouraging with an overall response rate of 24% statewide and much helpful commentary. Compiled data reflected a strong correlation with that of Law II. A fifth specific area instructional module for job cost accounting was prepared and revised after a trial presentation.

## II. FINDINGS, CONCLUSIONS, and RECOMMENDATIONS

### A. Findings

1. The research team conducted a statewide survey addressed to more than one thousand contractors and subcontractors. Firms were chosen from 1994 Blue Book listings and contacted by phone to determine business viability. Two questionnaires, one basic and one focused on defective workmanship, were sent out to each addressee. The number of responses was satisfactory from both generals and subs. Most addressees responded to both surveys. The responses came predominantly from firms with business volumes under one million dollars annually and with mixed patterns of attorney usage. Poor scheduling emerged as the number one cause of problems in the industry, with poor workmanship and contract not read or understood as strong second and third choices. Negotiation of differences without formal proceedings was the dominant dispute resolution technique among responders. As before, losing money was the dominant result of disputes. Data groupings overall were nominally consistent with the findings of Law I and Law II. The significant exception being identification of poor scheduling as the leading cause of problems. The survey on defective workmanship generated some first time information reported in this series of studies. The analysis of Section IV discusses this in detail. Highlights were: that most respondents felt defective workmanship occurs often in the industry, and that poor communication was the number one defect experienced with defective materials and ignorance following closely, and that a better trained work-force was needed. Absolute numbers and rankings are seen as less

significant than consistent identification of factors over time and in different surveys.

2. The instructional module on job cost accounting is titled simply as construction accounting. This reflects the textual organization to place job cost accounting in the proper context, i.e. effectively related to financial accounting which is what accountants typically want to focus on and discuss. The module was presented to a mixed group assembled by the Palm Beach County Minority and Women Office of Equal Opportunity. It was well received and the presentation generated some revisions and expansions of the textual material. There seems to be no lack of desire for the seminar presentations. Coordination with the licensing board to provide for continuing education credit will make all modules of this series more effective in attracting an audience.

#### **B. Conclusions**

The conduct of the study was worthwhile. Development of the module on construction accounting rounds out material preparation for the critical fields of need as revealed by the earlier studies in this series. These modules are now available as instructor aids or simply as reading material for interested industry members. The research results have significantly upgraded the data base on problems in the industry. We have been able to add to the previous store of data from earlier studies, and also generate a new format of data in a previously little explored area that has repeatedly been identified as a problem area. This expanded information has the potential to enable us to focus on problems with greater

precision than in the past. The project promoted extensive industry interaction by striving for participation of contractors statewide. This provided a forum for comment as well as response to specific questions, and enhanced awareness of BCIAC activity and concern for industry improvement.

### C. Recommendations

1. That the content of this project be made available in the form of presentations to construction industry associations or groups around the state. Consistent with the new requirement for continuing education, the topic areas identified as important through the present and previous studies of this series should be readily available to all license holders.

2. That a project to continue analysis of the data to date be authorized. There are many nuances to the raw data of this study which have been beyond the scope of the study to consider and reflect on further action. The issues addressed in our inquiry are of considerable interest to the international community. There is evidence of similar inquiry proceeding in several english speaking countries. The problems we experience here are not unique. The international construction community is searching for answers just as we are and cooperative or coordinated effort is not unrealistic.

### III. PROJECTION

Updating of instructional material should be considered in the near future. Several years have passed since development of the original modules. The data base and research initiative should be refined and continued with greater precision and sophistication.

**MAIN DISCUSSION**

## IV. MAIN DISCUSSION

### A. Background and Objectives

This project was originally conceived and proposed as a logical follow-on study to the Law I and Law II projects conducted earlier under funding from the BCIAC and the State Department of Education. These projects were completed in July of 1991 and November of 1992 respectively. This present study, referred to hereafter as Law III, was proposed to complement and continue the earlier works known formally as: Project R 89-6, "Develop and Teach a Course on Practices and Pitfalls in the Construction Industry That Are Subject to Lawsuits," later called Phase I; and Project R 90-15, "Practices in the Construction Industry Which Are Subject to Lawsuits Phase 2."

The two original projects examined practices in the Florida Construction Industry that lead to lawsuits. They not only sought to identify causes rather than fix blame, but went further and developed a series of seminar-type instructional modules for presentation to industry participants. These modules were shaped in response to the underlying root causes of problems in the industry as identified through extensive inquiry of practitioners and related professionals in the State of Florida. The modules address those aspects of activity, in the conduct of construction as a business, that have high potential for keeping practitioners out of trouble. Trouble, as used here, represents those conflicts or disputes characteristic to construction that arise among the various parties involved in projects. The present work is a logical extension of that work and continues to develop useful

information and material in this little understood, but extremely important, area of construction industry activities.

The two fundamental studies cited above served to highlight general causal factor areas and generate instructional material subsequently presented to broadly based industry individuals. The development of instructional material was founded on information culled from the compilation of survey and interview responses to questions relating to conduct of practitioners in specified situations. With minor refinement, the questions have been held consistent throughout the several projects, thereby contributing to the development of a database with increasing numbers of responses. It has been gratifying to see that the responses from the present study reflect the same patterns found in the earlier works.

#### **B. Approach, Technique and Scope**

The approach to satisfying the requirements of this study was twofold. First, to conduct a statewide survey expanding the data base of information garnered through the earlier studies. Second, to develop an additional module of curriculum in an area of appropriate interest.

Survey The third survey, that conducted under this study, was designed to increase and improve the data base developed in the first and second studies. In addition to modest refinement of format and wording, a second sheet was added dealing solely with defective workmanship. These are both shown in Appendix A, Survey Forms, and establish the format in which the raw count of response data has been recorded. For convenience in notation hereafter, we refer to the basic third survey as the Law III Basic Survey, and

the additional sheet as the Law III Defective Workmanship Survey.

The Law III Basic Survey continues, through organized sets of questions, to address specific issues of conduct identified in our earliest studies. These questions enabled us to focus directly and generate more data on: basic features of project related activities which directly or indirectly caused disputes sometimes resulting in litigation; the nature of economic impact on contractors involved; and the immediate or first level reasons for claims/disputes. Additionally, we sought data from respondents on levels of business volume to help us determine if responses to questions varied as a function of gross receipts; and on respondents use of attorneys to help us gauge dimensions of the overall problem.

The Law III Defective Workmanship Survey addresses an individual aspect of the overall inquiry theme. The strong identification of this aspect in previous studies and the pervasive revelations of defective work in post-Andrew analyses marked defective workmanship as a major problem area. It is an area that most contractors don't like to admit to, and many do not like to discuss. Nevertheless, we tried to obtain more specific information on this problem by structuring questions intended to elicit answers primarily of an acknowledgement and pre-defined categorical selection nature. Despite the threat or implication some contractors seem to sense in discussing this subject, we received a more positive response to this part of the survey than the basic Law III portion. There is no doubt that complexity of the basic portion, especially the two matrix questions which required specific answers that depended on recall or research for accuracy, deterred some responders from



completing those portions. However, it is worth noting that the issues addressed by these criticized portions of the survey are extremely complex in and of themselves. They reflect the basic operational patterns of our industry. The value of the specific detail we did obtain is of considerable importance and helps us to focus more clearly on critical aspects of the whole.

A random selection of contractors was made from the 1994 Blue Book listing of contractors in the State of Florida. All firms were contacted by telephone to ascertain if they were still in operation as a business and whether they would consider responding to the survey. Those responding positively were advanced to a smaller list. A series of mailings then distributed the surveys across the state with different dates to distinguish geographical region and contractor type. As in the past, response from the generals was stronger than that from the subs. Of 465 mailings to general contractors, 146 were returned as responses. This amounts to 26.2% and is very respectable as a statistical sampling. There were also 24 general contractor responses completed during personal interviews by the project student research assistant. Together, mailing and interviews produced 170 general contractor responses. The subs again were less responsive than the generals. A grand total of 619 mailings were made to an evenly distributed selection of Air Conditioning, Roofing, and Electrical contractors referred to in the study as sub-contractors. 118 of these firms responded for a figure of 19%. For whatever the reason, subcontractors are less responsive as a group to the mailed surveys.

The returned surveys indicate that many of the subcontractors

or specialty contractors contacted work as general (prime/main) contractors or both as a general (prime/main) and subcontractor. These functioning as a general reflects a distinction by contract type rather than the traditional distinction according to involvement in overall operations versus those only of a trade or specialty. The data compilation was structured to accommodate both modes. The distinction of subcontractors according to trade is reflected in both data sheets and graphs. In contrast, distinction of generals and subcontractors according to contract position, i.e. prime/main versus subcontractor, is reflected in a second set of data sheets only.

The results emanating from the survey are presented in this report in several ways: grouped raw data in format reflecting the questionnaires; comments made by the various responders; charts of the more significant data composites; and the questionnaires themselves are all part of the Appendices. Significant observations from the analysis are discussed in section IV C., immediately following this present text. As in Law II, the raw data for all of the questions in the basic survey reveal a characteristic that is consistent throughout. Responses from the generals reflect a greater attempt to answer the questions accurately and to provide constructive commentary. We speculated before on reasons for this. Perhaps it is a measure of generals having a better grasp of the business aspects of contracting, or of their stronger business positions, or of the organizational role of individual responders allowing them greater detachment from the everyday operational problems. We still do not know why generals seem to be more

responsive and the mystery is deepened by the diversity of subcontractor trades and their traditions of conduct. However, we now feel that our knowledge of generals as a group is sufficient to lend credibility to our observations.

The basic survey questions were focused on three areas. The first area had to do with nominal identification of responder category (general or sub), the size of business volume involved, and the nature of responder firm relationships with attorneys. This section was rewritten from the earlier survey under Law II. Despite rewriting, the same kind of information was being elicited.

The second area dealt with causal factors that responders felt problems they had experienced were traceable to. A listing of ten reasons and eight choices of results were given with poor scheduling the leader of indicated reasons, and with defective workmanship and contract not read or understood following in significant numbers. Defective estimate rounded out the top four choices. The orthogonal listings in this matrix were ranked with losing money the overwhelming choice of result; and, resolution within the traditional triangle, making up loss elsewhere, and gained concessions following in order. The absolute numbers associated with these choices are far less important than the pattern of conduct represented. Apart from the result of resolving problems within the traditional triangle, which we strongly endorse as a preferred mode of conduct, the four dominant reasons are not excusable and the remaining results highly undesirable as conduct.

The third area dealt with problem resolution. Again, a matrix of choices was offered with one dimension describing problems that

typically are bases for claims or disputes, and the other dimension describing the form of resolution between the parties. The first follows a gentle distribution noteworthy only in the sense that the leading whipping boy of contractors, the designer, comes off as the leading perpetrator of problems through originating incomplete, defective or conflicting design documents. The cross dimension, reflecting formality of resolution, shows that the vast majority of resolutions are without formal proceedings. This would seem to be indicative of the effectiveness of dealing with a problem at the earliest possible time with those whom are most concerned with an expeditious resolution. It also must be acknowledged that such resolution's early position in the escalating ladder of formality says a great deal in favor of trying to settle differences at the lowest level.

The defective workmanship survey questions were presented for the first time in our series of inquiries into problems in the industry. They were modeled on a similar survey conducted in a graduate student seminar last summer and have produced data that correlates strongly with those previously generated numbers. In this survey we have attempted to classify responders by management function, company size and personal years of experience. Questions were posed on specific defect types, responsibility, suitability of roles, qualification and training. A history of experience in disputes and resolutions arising from defective work was developed and opportunity provided for responders to describe in their own words the meaning of defective workmanship. Interesting highlights of the responses include evidence of: a very senior experienced

constituency, an ability for candid self-analysis, and a greater consistency of completeness than in the basic survey. The vast majority of responders felt that defective workmanship occurs often in the industry and overwhelmingly they feel that the industry needs a better trained work force. A full presentation of the questions is shown in Appendix A and the responses in Appendix B.

Curriculum Development This project called for development of another instructional module similar to those done under Law II. Job cost accounting, the proposed theme of focus, is in reality an integral part of construction accounting. The module material was developed to place job cost accounting in the overall context and emphasize the need to maintain accurate and timely records on costs attributable to the various job activities. As before, in the earlier modules, the material is presented in contractors' language and formatted to accommodate ample notes next to the written text. Sufficient sample tables and examples are included to illustrate application and to make further study in other references more easily understandable.

Presentation A test presentation of the accounting module was run in Palm Beach County on 13 April 1994. The gathering was sponsored by the Palm Beach County Women/Minority Office of Equal Opportunity. Over twenty persons were in attendance ranging from small business owners of contracting firms to architect/engineers. As might be anticipated, blacks and women were numerically dominant. Based on comments and internal evaluation the material was revised and expanded.

### C. Analysis

**The Two Surveys.** The data base on causal factors, dispute resolution and defective workmanship which was initiated in Law II was expanded with the results of two surveys directed to general and subcontractors throughout Florida. Both surveys were sent to 465 general contractors and 619 subcontractors. One survey was modeled on the survey conducted in Law II, and the other specifically asked questions related to defective workmanship. Of those surveyed, 141 generals and 122 subcontractors responded for a total response of 263. Respondents were chosen at random from the 1994 Blue Book of Building and Construction. All respondents were contacted by telephone first to ask if they would be willing to participate in the study. Twenty-five additional generals were interviewed at their offices in South Florida as well during completion of the two surveys; their responses have been included in the total number of generals.

**The Survey Distribution.** Surveys were sent to 116 generals in Broward County, 122 in Dade County, 118 in West Florida and 109 in North/Central Florida. 116 generals responded in addition to the 25 interviewees making a total of 141. Three groups of subcontractors, electrical, HVAC, and roofing, were solicited. As in the case of the generals, the surveys were sent to Broward and Dade counties, West Florida and North/Central Florida. 32 electrical, 53 HVAC, 37 roofing subs responded for a total of 122.

**Law III Basic Survey.** The first survey, Practices and Pitfalls which expanded the results of its predecessor in Law II, focused on the causal factors which contractors perceive to be responsible for

problems in the industry. It also explored the types of dispute resolution which are at work in the construction industry to address these problems. Overall, the responses of the two groups were similar with a marked difference only on several questions.

**Part I General Information. Question 1.** The response from general and subcontractors was roughly 54% generals and 46% subs. A small number of the 122 subcontractors who responded indicated that they also worked as generals. We believe this number to be significant. Nevertheless, since the major classification of the addressees is according to traditional trade classifications, these respondents have been included in the broad category of subcontractors. Only one firm of the 141 generals which responded indicated that it also acted as a subcontractor, and it was likewise counted among the generals. Among the subcontractors (by trade) who responded, there were thirty who indicated they worked solely or partially as generals. In a consideration of conduct as a function of these correspondingly different contractual relationships, the data was regrouped to reflect a greater number of prime/main contractors roles and a lesser number of contractual subcontractor roles. The following comments discuss data counts from both breakdowns. For the most part, the comments address the combined general and sub numbers which are the same in both modes of conduct. Where there is a significant difference in the distinction between generals and subs in either mode, that is noted and commented on. The back-up data compilation sheets are included Appendix B.

**Question 2.** Of the generals and subs, the largest number by far were firms whose current construction dollar volume is under one

million dollars per year.

**Question 3.** By a wide margin, both generals and subs indicated that they will call an attorney only when the need arises. Very few have never required the services of an attorney, and even fewer firms had an attorney on staff.

**Question 4.** One area where the survey results showed that generals and subs differ is in their use of an attorney to review their contracts. Generals indicated that they were more likely to have an attorney review their contracts than subs. More subs indicated that they never have contracts reviewed by an attorney.

**Question 5.** Generals and subs both, by a large margin, indicated that they used the AIA contract rather than either AGC or other contracts. However, subs availed themselves of an attorney when drawing up such contracts whereas about an equal number of generals used an attorney as did not. Only a very few respondents used no written contracts.

## **Part II -- Causal Factors.**

Again, as in our previous Law II survey, generals and subs indicated that poor workmanship was the number one cause of problems in the construction industry. Both groups also ranked not reading/understanding contracts as a major problem. In addition, generals thought that lack of procedural knowledge was a major cause of problems. Low on the list of causal factors are willful negligence, lack of self-financing, and lack of experience. This corresponds with the response to our previous survey in which these three factors ranked at or near the bottom of the list of causal



factors.

**Part III -- Problem Resolutions.**

The primary method of settling disputes, according to the survey, is by negotiation. Both generals and subs overwhelmingly indicated that their experience was to resolve problems by negotiation rather than any other method of formal or informal dispute resolution technique. Mutually agreed mediation was also used, but to a much lesser degree while court ordered mediation or arbitration is little or never used. Where litigation did play a part in dispute resolution, only a very few of those disputes which end up in litigation are settled by trial. These results bear out the results of our previous study, however, the second survey indicated that a lesser percentage of disputes end up litigation as a means of problem resolution.

**Part IV -- Your Industry Participation With Other Trade Members.**

The present survey added a section about the participation of contractors in trade or industry associations. While these groups are very popular among the respondents, according to the survey, subs were more likely than generals to be active members.

**Question 6.0.** The vast majority of contractors, both generals and subs, are members of a trade/industry/builder association.

**Question 6.1.** However, subs are more likely to regularly attend meetings than generals.

**Question 6.2.** Both groups indicated that seminars on changes in construction law are conducted by their own trade/industry/builder associations.

**Question 6.3.** Likewise, both groups indicated that such seminars

are useful.

**Question 6.4.** Although a majority of both groups thought that more seminars on these topics were necessary, more generals than subs thought that more seminars were not so necessary.

**Law III Defective Workmanship Survey.** In addition to the Law III Basic Survey, a second survey focusing on defective workmanship was included in the mailing. A copy of that survey has been reproduced in Appendix A and the results have been analyzed briefly below.

**Background Questions. Question 1.** The first survey question was intended to classify the respondents in terms of their position in their business organization. Of the total of generals and subs combined, the majority of those who responded indicated that their function in their company was that of an executive. Fewer of the respondents held mid-management positions and only a very few held supervisory positions. The generals and subs when compared, showed roughly the same pattern as the total. A small number of respondents indicated that they function in more than one category.

**Question 2.** The second survey question sought to classify the respondents in terms of the size of the firm. Of the total, most belonged to firms with 1 to 10 employees. The number of respondents who indicated that they belonged in larger firms progressively decreased with the size of the firm.

**Question 3.** The third survey question asked about the experience level of the respondents. The majority had been in the construction industry 26 years or more. Only a very few were newcomers to the industry. Overall, the respondents were very experienced contractors.

**Experience With Defective Workmanship.** **Question 4.** The vast majority of respondents felt that defective workmanship occurs often in the construction industry. This response was virtually identical for generals and subs.

**Question 5.** Both generals and subs listed making money as the primary objective of the construction industry.

**Question 6.** When asked what types of defects they had experienced, both groups indicated that Poor Communication was the number one defect. Both groups also ranked Defective materials and Ignorance as major defects, while generals also thought Overlooked Site Conditions were a problem. Least of all, the respondents indicated Designs Too Difficult to Build as a defect.

**Question 7.** When asked to rank who they thought responsible for the defective work, both groups indicated that business and labor were at fault. However, while generals indicated that business was mostly to blame, subs indicated that labor was to blame. These results are surprising in that each group seems to have blamed their own constituencies for defective work. On the other hand, neither group placed the blame for defective work on the A/E, the supplier, the inspector or the owners.

**Question 8.** Generals and subs differed significantly however when asked who they thought should be involved with the inspection process. Overall, the respondents indicated that the inspectors and the contractors should be involved. Neither group thought that lenders should get involved with the process, however generals indicated that insurance companies should, while subs ranked insurance companies in the last place of those who should get

involved.

**Question 9.** Both groups indicated that they felt that the first line supervisors had average qualifications to do their jobs within the industry.

**Question 10.** Overwhelmingly, both groups felt that a better trained work-force is needed. They agreed that apprenticeship was the best method of accomplishing this, followed by on-the-job training.

**Question 11.** Both groups also felt that the industry in general should be responsible for implementing training, and to a lesser extent each individual company. The groups also agreed that government was the least desirable group for implementing such training.

**Question 12.** Most indicated that their company had a quality control program.

**Question 13.** The total of respondents were equally split when asked whether they were personally satisfied with the industry with slightly more subs showing dissatisfaction than generals.

**Question 14.** Generals and subs both suggested proper training and retraining as the most corrective method to be used to minimize defects followed by more direct supervision.

**Question 15.** More generals than subs indicated that they were involved in disputes resulting from defective workmanship.

**Question 16.** Again both groups responded alike in terms of how they settled these disputes. Most disputes were settled simply on site, a lesser but significant number were settled by negotiation, and only a few by mediation, arbitration, or litigation with

generals more likely to settle dispute through litigation. This last result may reflect the greater financial ability of generals to support litigation.

#### **D. Benefits**

The benefits experienced from this project are similar to those of Law II. They lie in four distinct areas of interest that were defined during earlier work. They are identified and detailed as follows:

Defined Educational Package - One discrete module of instructional material on job cost accounting has been developed. Its content identifies the unique position of job cost accounting in the general scheme of financial and managerial accounting for construction. As for previous modules, the material has been prepared to serve in several ways. The first is as an instructor package to assist in preparation and presentation of seminars to interested members of the industry. The second is to serve as a primary or refresher mini-text for practitioners who either want to study on their own or have an additional reference. The module does not pretend to compete with commercial texts on accounting in the sense of completeness and detail. It does set forth identity distinction between financial accounting and cost accounting with guidance and conceptual framework for the contractor on what he/she needs to focus on and when.

Expanded Data Base - This study has resulted in a significant expansion of the data base initiated in previous studies. We were able to reach out to a larger audience and elicit a response that

is of value in both a numerical and geographical sense. We have compiled and analyzed the results within the scope of our present resources and present that information in the form of data tables and graphs. The data tables presented are compiled in two different sets. One is in the traditional manner of distinguishing general contractors from subcontractors along lines of work activity. Here the general controls a job (usually multiple trade) with or without a work force of his own and hires subs and/or specialty contractors of other trades to work for him. The method of classification reflected by the second set is along lines of who acts as a main or prime contractor with the client even though the activity may represent solely a specific trade. Tables and graphs reflect the first distinction, tables only reflect the second. The compiled data is subject to considerable analysis beyond the scope of this study as well as providing a structured base for the continuous addition of data from random or organized solicitation.

Greater Industry Interaction and Action - This study and its products expand those initiated in the previous studies. We have continued the practice established earlier of encouraging industry, through those members we have contact with, to work as a single body toward common goals rather than as disparate units bent on maximizing their own parochial interests at the expense of all the rest. In the interim between this and the previous report publications, we have noticed a significant increase in promotion of this theme by industry groups and individuals. The comments submitted with survey responses, shown in Appendix C, reflect more

than awareness. They reflect concern and a desire to move toward better structural relations and professionalism within our industry. With only one module and seminar this time we had less opportunity to interact with and sense response in a face to face manner with our audience. However, informal discussions and inquiry on one-to-one bases have continued to reinforce our conviction that we are working in an important area of inquiry. That work reveals a widely held perception that the construction industry suffers from external abuse and internal lack of professionalism. The recent requirements for continuing education of contractors and building officials are important steps toward self-correction. As the requirements for such education have been structured and solidified, commercial interests and industry groups have taken up the challenge of providing seminars in a vastly increased mode. These interests and presentations have eclipsed our own modest attempts to reach out with helpful messages. The great benefit is more information is now getting to more people, exactly what we have found to be of great necessity.

Enhanced State Agency Awareness and Initiative - The brief discussion of continuing education in the preceding paragraph is strong evidence of greater State Agency Awareness and Initiative. We believe that these reports are useful to the several agencies that regulate and or monitor construction and also serve a useful purpose to the legislative staff. As we mentioned in the previous study Law II, the state is the dominant policy making body able to influence the conduct of business and the misconduct of its practitioners. We have seen the state take initiatives to examine

problems and set forth new policy. There is a hope in the industry and the citizenry at large that beneficial adjustment is under way. We trust that continued effort in this direction will respect the industry's hope that the state will continue to help us resolve our problems.

#### **E. Conclusion**

This study has continued to expand our knowledge of practices in the industry and problems that they generate. We have learned significantly more about the incidence of certain results of our deeds and misdeeds and we have learned significantly more about the nature of resolution for our various claims and disputes. The data collected under this study shows remarkably similar patterns to that collected under the previous effort Law II. Most importantly, the numbers and statewide spread of responses give much greater confidence in our compiled results. The notable exception to this generality is the dramatic movement of poor scheduling to the leading position in problem reasons as perceived by the industry players.

In addition, we floated a companion questionnaire on defective workmanship which generated responses showing remarkable correlation to a similar survey conducted on that subject a year previous during a scheduled graduate seminar class. We now have in hand a significant base of data on problems and related conduct within the construction industry. Additionally we have rounded out our instructional modules with the addition of a package on job cost accounting, a prime concern for project control and success.



The product of this study responded to a real need in the industry. That need is for more knowledge about what we are doing wrong and the prescriptive medicine to help us do better. Our efforts in dissemination have been overtaken largely by commercial interests and industry groups in response to state established requirements. Our efforts in collection of information on industry problems and conduct continue to generate a useful and unique base of data in this important aspect of our chosen livelihood. As the data reflects greater numbers of firms, it enjoys more credibility. It also enables us to be more selective in the identification of problems and suggestion of preventive action. We are seeing a lot of concern in the industry and efforts to resolve our lack of team objectivity and unity of purpose not only nation-wide but internationally as well. We are also seeing some pay-off and appreciating again that real progress is gained through knowledge. We must hold the pay-off edge and further fostering of the climate to continue development and dissemination of that knowledge.

APPENDIX A  
Survey Forms

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B.C.I.A.C SURVEY - LAW III

March 04, 1994

Dear Construction Colleague: This survey is sponsored by the State of Florida Building Construction Industry Advisory Committee. It is intended to generate information to help you. Please complete this form and return it as soon as possible. Your cooperation will help us all.

**PRACTICES & PITFALLS INQUIRY**  
 (Circle or fill blanks)

**PART I GENERAL INFORMATION**

1. You are: A. General Contractor \_\_\_\_\_ B. Sub-Contractor \_\_\_\_\_
2. Your current construction dollar volume is:  
 A. Under \$1,000,000 B. \$1,000,000-\$2,500,000 C. \$2,500,000-\$5,000,000  
 D. \$5,000,000-\$7,500,000 E. Over \$7,500,000
3. You: A. Have an attorney on staff.  
 B. Have an attorney on retainer.  
 C. Will call an attorney when the need arises  
 D. Have never required the services of an attorney.
4. How often will you have an attorney review your contracts before you sign them:  
 A. Always B. Sometimes C. Never
5. You use:  
 A. Industry standard contracts.  
 If so which: (1) AIA (2) AGC (3) Other \_\_\_\_\_  
 B. A non-standard contract drawn up:  
 (1) with (2) without attorney assistance.  
 C. No written contract.

**PART II CAUSAL FACTORS**

In the past three years, have you as an individual or firm in the construction industry been involved with a problem traceable to any of the reasons listed below? If so, please indicate how many times total for each reason in the # column, and the impact/s of those reasons in the RESULTS columns.

REASON	#	RESULTS*							
		a	b	c	d	e	f	g	h
1. Contract not Read/Understood									
2. Defective Estimate									
3. Lack of Procedural Knowledge									
4. Poor Scheduling									
5. Poor Workmanship									
6. Defective Materials									
7. Procurement Delays									
8. Willful Negligence									
9. Lack of Financing-Self									
10. Lack of Experience									

**\*RESULTS**

- a. Resolved within traditional client, A/E, contractor triangle
- b. You gained concessions
- c. You recovered from general/sub/sub-sub
- d. You made up loss elsewhere in project
- e. You lost money
- f. You were terminated
- g. Your business failed
- h. Unresolved

**PART III PROBLEM RESOLUTION**

Frequently, construction problems escalate into formal disputes. Claims may be involved. Claims not resolved with a concession or change order become disputes. Sometimes claims are originated by the contractor and sometimes claims are originated by the owner. Resolutions range from simple negotiations to full-blown litigation.

Please indicate your experience as an individual or firm in the following table by filling the number of times a particular resolution resulted from a specified claim or dispute:

CLAIM/DISPUTE	RESOLUTION*					
	a	b	c	d	e	f
1. Incomplete, Defective, or Conflicting Design Documents						
2. Unreasonable Personnel Attitudes						
3. Delay in Shop Drawing Review						
4. Differing Site Conditions						
5. Change in Scope						
6. Interference by Owner						
7. Failure to be Paid						
8. Non-performance by Sub-Contractor						
9. Non-performance by G.C for other than Owner's Non-payment						
10. Defective Construction						
11. Scheduling Delay						
12. Personal Injury or Property Damage						

**\*RESOLUTION**

- a. Negotiation without formal proceedings
- b. Mediation - mutually agreed
- c. Mediation - court ordered
- d. Arbitration
- e. Litigation - settled without trial
- f. Litigation - court decision

**PART IV YOUR INDUSTRY PARTICIPATION WITH OTHER TRADE MEMBERS**

- 6. A. Are you a member of a trade/industry/builder association?  
Yes \_\_\_\_\_ NO \_\_\_\_\_
- 3.1 A. Do you regularly attend meetings of this group?  
Yes \_\_\_\_\_ NO \_\_\_\_\_
- 3.2 A. Does this group conduct regular seminars on the changes in construction law?  
Yes \_\_\_\_\_ NO \_\_\_\_\_
- 3.3 A. Do you feel such seminars are useful to your understanding of construction law?  
Yes \_\_\_\_\_ NO \_\_\_\_\_
- 3.4 A. Do you feel more seminars on these topics are necessary?  
Yes \_\_\_\_\_ NO \_\_\_\_\_

**PART V COMMENTS - optional**

Prof Wilson C. Barnes  
305/475-4183

DEFECTIVE WORKMANSHIP SURVEY

21 December 1993

Dear Construction Colleague: This survey is sponsored by the State of Florida Building Construction Industry Advisory Committee. It is intended to generate data for a statistical base on issues of defective workmanship and will be used to improve understanding of the Construction Industry. The identity of responding firms and individuals will not be recorded or tracked.

1. What is your function within your company?  
 Executive    Mid-management    Supervisory
  2. Approximately how many people are employed within your company?  
 1-10    11-20    21-50    51-100    101-200  
 201 or more
  3. How many years of experience do you have in the construction industry?    0-5    6-10    16-20    21-25    26 or more
  4. Do you feel that defective workmanship occurs in the industry?  
 Always    Often    Occasionally    Never
  5. Rank the following objectives of the construction industry:  
 Make Money    Provide Quality Product    Provide Jobs  
 Satisfy Client.
  6. What types of defects have you experienced? (Please check those that apply)  
  
 Defective Materials    Overlooked Site Condition  
 Ignorance    Over Emphasis on First Cost  
 Defective Documentation    Dereliction or Negligence  
 Specialist Contractor's Lack of Knowledge  
 Unanticipated Consequence of Change  
 Design too Difficult to Build  
 Poor Communication
  7. Rank in order of responsibility for defective work?  
 Business Entity    Labor    A/E    Suppliers  
 Inspectors    Owners
-

Defective Workmanship Survey Page 2

8. Who should be involved in the inspection process? (Please check all that apply)  
 Owners  A/E  Contractors  Subs  Insurance Co.  
 Lenders  Inspectors

9. Are first line supervisors qualified to do their job within the industry?  
 Exceptionally  Above Average  Average  Inadequate  
 Incompetent

10. Do we need a better trained labor force?  Yes  No

If yes, how should this be accomplished?  
 Internship  Apprenticeship  On-Job-Training  
 Post-secondary Vocational Training

11. Who should be responsible for implementing training?  
 Individual  Company  Industry  
 Government

12. Does your company have an active Quality Control Program?  
 Yes  No

13. Are you personally satisfied with the Industry's standard of acceptable work?  Yes  No  
If no, why? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

14. What corrective measures can be taken to minimize defective workmanship?  
 Proper Training/Retraining  More Direct Supervision  
 More Inspections  More Owner Involvement  
 Better Leadership

15. Have you been involved in disputes resulting from defective work?  Yes  No

16. How were they resolved? (If multiple answers give numbers.)  
 Simply on site  Negotiation  Mediation  Arbitration  
 Litigation

17. How would you define defective workmanship? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**APPENDIX B**  
**Raw Data Count**

Law III - BASIC SURVEY

GENERAL/SUB CLASSIFICATION BY TRADE

Raw Data

Part I

Ques. 1. You are: A. General Contractor B. Subcontractor

Answ.:		<u>General</u>	<u>Subs</u>	<u>All</u>
		141	125	266

Ques. 2. Your current construction dollar volume is:

Answ.:		<u>General</u>	<u>Subs</u>	<u>All</u>
	A. Under \$1,000,000	42	49	91
	B. \$1,000,000-\$2,500,000	29	32	61
	C. \$2,500,000-\$5,000,000	31	22	53
	D. \$5,000,000-\$7,500,000	13	4	17
	E. Over \$7,500,000	26	8	34

Ques. 3. You: A. Have an attorney on staff.  
 B. Have an attorney on retainer.  
 C. Will call an attorney when the need arises  
 D. Have never required the services of an attorney.

Answ.:		<u>General</u>	<u>Subs</u>	<u>All</u>
	A.	4	4	8
	B.	30	17	47
	C.	101	87	188
	D.	9	9	18

Ques. 4. How often will you have an attorney review your contracts before you sign them:

Answ.:		<u>General</u>	<u>Subs</u>	<u>All</u>
	A. Always	22	5	27
	B. Sometimes	79	51	130
	C. Never	41	62	103

Ques. 5. You use:  
 A. Industry standard contracts.

Answ.:		<u>General</u>	<u>Subs</u>	<u>All</u>
	(1) AIA	105	60	165
	(2) AGC	9	7	16
	(3) Other	41	30	71

Answ. B. A non-standard contract drawn up

		<u>General</u>	<u>Subs</u>	<u>All</u>
	(1) with	49	21	70
	(2) w/o attorney assistance	38	56	94

Answ. C. No written contract.

		<u>General</u>	<u>Subs</u>	<u>All</u>
		1	10	11



Law III - BASIC SURVEY

GENERAL/SUB CLASSIFICATION BY TRADE

Raw Data-Generals + Subs

Part II CAUSAL FACTORS

Ques: In the past three years, have you as an individual or firm in the construction industry been involved with a problem traceable to any of the reasons listed below? If so, please indicate how many times total for each in the # column, and the impact/s of those reasons in the RESULTS columns.

REASON

1. Contract not Read/Understood
2. Defective Estimate
3. Lack of Procedural Knowledge
4. Poor Scheduling
5. Poor Workmanship
6. Defective Materials
7. Procurement Delays
8. Willful Negligence
9. Lack of Financing-Self
10. Lack of Experience

RESULTS\*

	a.	b.	c.	d.	e.	f.	g.	h.	TOTALS
1.	191	39	60	81	101	10	0	11	493
2.	58	52	7	78	197	0	0	7	399
3.	20	12	11	0	30	0	0	2	75
4.	149	109	50	172	270	0	0	38	795
5.	107	101	100	15	155	0	0	22	500
6.	47	49	55	18	128	0	0	2	299
7.	75	46	17	75	55	7	0	21	296
8.	0	2	17	11	40	0	0	20	90
9.	1	5	6	0	63	0	0	20	95
10.	6	3	12	4	73	0	0	5	103
TOTALS	659	419	335	457	1111	17	0	147	3145

\*RESULTS

- a. Resolved within traditional client, A/E, contractor triangle
- b. You gained concessions
- c. You recovered from general/sub/sub-sub
- d. You made up loss elsewhere in project
- e. You lost money
- f. You were terminated
- g. Your business failed
- h. Unresolved

Law III - BASIC SURVEY

GENERAL CLASSIFICATION BY TRADE

Raw Data-Generals

Part II CAUSAL FACTORS

Ques: In the past three years, have you as an individual or firm in the construction industry been involved with a problem traceable to any of the reasons listed below? If so, please indicate how many times total for each in the # column, and the impact/s of those reasons in the RESULTS columns.

REASON

1. Contract not Read/Understood
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4. Poor Scheduling
5. Poor Workmanship
6. Defective Materials
7. Procurement Delays
8. Willful Negligence
9. Lack of Financing-Self
10. Lack of Experience

RESULTS\*

	a.	b.	c.	d.	e.	f.	g.	h.	TOTALS
1.	87	6	58	62	71	10	0	1	295
2.	37	26	2	41	99	0	0	6	211
3.	3	1	1	0	13	0	0	0	18
4.	17	12	13	48	40	0	0	2	130
5.	45	88	91	14	20	0	0	2	260
6.	10	30	33	18	18	0	0	0	109
7.	33	31	12	64	36	0	0	8	184
8.	0	1	17	11	14	0	0	7	50
9.	1	1	6	0	14	0	0	2	24
10.	6	0	12	3	18	0	0	0	39
TOTALS	239	196	245	262	340	10	0	28	1320

\*RESULTS

- a. Resolved within traditional client, A/E, contractor triangle
- b. You gained concessions
- c. You recovered from general/sub/sub-sub
- d. You made up loss elsewhere in project
- e. You lost money
- f. You were terminated
- g. Your business failed
- h. Unresolved

Law III - BASIC SURVEY

SUBS CLASSIFICATION BY TRADE

Raw Data-Subs

Part II CAUSAL FACTORS

Ques: In the past three years, have you as an individual or firm in the construction industry been involved with a problem traceable to any of the reasons listed below? If so, please indicate how many times total for each in the # column, and the impact/s of those reasons in the RESULTS columns.

REASON

1. Contract not Read/Understood
2. Defective Estimate
3. Lack of Procedural Knowledge
4. Poor Scheduling
5. Poor Workmanship
6. Defective Materials
7. Procurement Delays
8. Willful Negligence
9. Lack of Financing-Self
10. Lack of Experience

RESULTS\*

	a.	b.	c.	d.	e.	f.	g.	h.	TOTALS
1.	104	33	2	19	30	0	0	10	198
2.	21	26	5	37	98	0	0	1	188
3.	17	11	10	0	17	0	0	2	57
4.	132	97	37	124	230	0	0	36	665
5.	62	13	9	1	135	0	0	20	240
6.	37	19	22	0	110	0	0	2	190
7.	42	15	5	11	19	7	0	13	112
8.	0	1	0	0	26	0	0	13	40
9.	0	4	0	0	49	0	0	18	71
10.	0	3	0	1	55	0	0	5	64
TOTALS	420	223	90	195	771	7	0	119	1825

\*RESULTS

- a. Resolved within traditional client, A/E, contractor triangle
- b. You gained concessions
- c. You recovered from general/sub/sub-sub
- d. You made up loss elsewhere in project
- e. You lost money
- f. You were terminated
- g. Your business failed
- h. Unresolved

Law III - BASIC SURVEY

GENERAL/SUB CLASSIFICATION BY TRADE

Raw Data-Generals + Subs

Part III Problem Resolution

Ques.: Please indicate your experience as an individual or firm in the following table by filling the number of times a particular resolution resulted from a specified claim or dispute:

- Answ.: 1. Incomplete, Defective, or Conflicting Design Documents  
 2. Unreasonable Personnel Attitudes  
 3. Delay in Shop Drawing Review  
 4. Differing Site Conditions  
 5. Change in Scope  
 6. Interference by Owner  
 7. Failure to be Paid  
 8. Non-performance by Subcontractor  
 9. Non-performance by G.C. for other than Owner's Non-payment  
 10. Defective Construction  
 11. Scheduling Delay  
 12. Personal Injury or Property Damage

	a.	b.	c.	d.	e.	f.	TOTALS
1.	453	82	2	16	22	13	588
2.	87	25	2	4	9	4	131
3.	174	6	0	1	1	2	184
4.	131	13	1	2	2	16	165
5.	275	55	0	18	7	15	370
6.	132	20	1	4	16	22	195
7.	169	27	12	31	68	62	369
8.	148	36	3	6	57	16	266
9.	25	17	2	2	9	18	73
10.	179	25	0	0	1	1	206
11.	166	53	0	0	5	2	226
12.	25	2	1	2	15	11	56
TOTALS	1964	361	24	86	212	182	2829

- a. Negotiation without formal proceedings  
 b. Mediation - mutually agreed  
 c. Mediation - court ordered  
 d. Arbitration  
 e. Litigation - settled without trial  
 f. Litigation - court decision

Law III - BASIC

GENERAL CLASSIFICATION BY TRADE

Raw Data-Generals

Part III Problem Resolution

Ques.: Please indicate your experience as an individual or firm in the following table by filling the number of times a particular resolution resulted from a specified claim or dispute:

- Answ.: 1. Incomplete, Defective, or Conflicting Design Documents  
 2. Unreasonable Personnel Attitudes  
 3. Delay in Shop Drawing Review  
 4. Differing Site Conditions  
 5. Change in Scope  
 6. Interference by Owner  
 7. Failure to be Paid  
 8. Non-performance by Subcontractor  
 9. Non-performance by G.C. for other than Owner's Non-payment  
 10. Defective Construction  
 11. Scheduling Delay  
 12. Personal Injury or Property Damage

	a.	b.	c.	d.	e.	f.	TOTALS
1.	308	69	2	14	16	10	419
2.	54	11	2	4	3	3	77
3.	100	5	0	1	1	2	109
4.	94	13	1	2	2	1	113
5.	183	25	0	18	6	9	241
6.	59	11	1	4	3	7	85
7.	73	19	7	27	30	23	179
8.	120	23	2	5	56	15	221
9.	7	0	0	0	1	0	8
10.	139	8	0	0	1	1	149
11.	91	36	0	0	4	2	133
12.	13	1	1	0	11	2	28
TOTALS	1241	221	16	75	134	75	1762

- a. Negotiation without formal proceedings  
 b. Mediation - mutually agreed  
 c. Mediation - court ordered  
 d. Arbitration  
 e. Litigation - settled without trial  
 f. Litigation - court decision

Law III - BASIC SURVEY  
 SUBS CLASSIFICATION BY TRADE

Raw Data-Subs

Part III Problem Resolution

Ques.: Please indicate your experience as an individual or firm in the following table by filling the number of times a particular resolution resulted from a specified claim or dispute:

- Answ.: 1. Incomplete, Defective, or Conflicting Design Documents  
 2. Unreasonable Personnel Attitudes  
 3. Delay in Shop Drawing Review  
 4. Differing Site Conditions  
 5. Change in Scope  
 6. Interference by Owner  
 7. Failure to be Paid  
 8. Non-performance by Subcontractor  
 9. Non-performance by G.C. for other than Owner's Non-payment  
 10. Defective Construction  
 11. Scheduling Delay  
 12. Personal Injury or Property Damage

	a.	b.	c.	d.	e.	f.	TOTALS
1.	145	13	0	2	6	3	169
2.	33	14	0	0	6	1	54
3.	74	1	0	0	0	0	75
4.	37	0	0	0	0	15	52
5.	92	30	0	0	1	6	129
6.	73	9	0	0	13	15	110
7.	96	8	5	4	38	39	190
8.	28	13	1	1	1	1	45
9.	18	17	2	2	8	18	65
10.	40	17	0	0	0	0	57
11.	75	17	0	0	1	0	93
12.	12	1	0	2	4	9	28
TOTALS	723	140	8	11	78	107	1067

- a. Negotiation without formal proceedings  
 b. Mediation - mutually agreed  
 c. Mediation - court ordered  
 d. Arbitration  
 e. Litigation - settled without trial  
 f. Litigation - court decision

Law III - BASIC SURVEY

GENERAL/SUB CLASSIFICATION BY TRADE

Raw Data-Generals + Subs

Part IV YOUR INDUSTRY PARTICIPATION WITH OTHER TRADE MEMBERS

Ques. 6. Are you a member of trade/industry/builder association?

Answ.:	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	111	92	203
No	30	23	53

6.1 Do you regularly attend meetings of this group?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	55	59	114
No	78	49	127

6.2 Does this group conduct regular seminars on the changes in construction law?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	88	78	166
No	25	23	48

6.3 Do you feel such seminars are useful to your understanding of construction law?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	102	89	191
No	13	11	24

6.4 Do you feel more seminars on these topics are necessary?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	79	64	143
No	35	34	69

Part V Comments - optional

see appendix C., 1. (Comments)

Law III - DEFECTIVE WORK SURVEY  
GENERAL/SUB CLASSIFICATION BY TRADE

Raw Data

DEFECTIVE WORKMANSHIP SURVEY

1.	What is your function within your company?			
		<u>General</u>	<u>Subs</u>	<u>All</u>
	Executive	107	95	202
	Mid-managment	40	24	64
	Supervisory	17	16	33
2.	Approximately how many people are employed within your company?			
		<u>General</u>	<u>Subs</u>	<u>All</u>
	1-10	82	45	127
	11-20	22	35	57
	21-50	15	24	39
	51-100	15	11	26
	101-200	5	3	8
	201 or more	8	0	0
3.	How many years of experinece do you have in the construction industry?			
		<u>General</u>	<u>Subs</u>	<u>All</u>
	0-5	5	4	9
	6-10	31	16	47
	16-20	46	28	74
	21-25	36	27	63
	26 or more	28	43	71
4.	Do you feel that defective workmanship occurs in the industry?			
		<u>General</u>	<u>Subs</u>	<u>All</u>
	Always	22	9	31
	Often	80	68	148
	Occasionally	40	41	81
	Never	0	0	0
5.	Rank the following objectives of the construction industry:			
		<u>General</u>	<u>Subs</u>	<u>All</u>
	Make Money - 1	75	45	120
	Make Money - 2	12	7	19
	Make Money - 3	19	16	35
	Make Money - 4	10	5	15



Provide Quality Product - 1	17	15	33
Provide Quality Product - 2	22	22	34
Provide Quality Product - 3	70	26	96
Provide Quality Product - 4	3	9	12
Provide Jobs - 1	1	3	4
Provide Jobs - 2	3	5	8
Provide Jobs - 3	15	10	25
Provide Jobs - 4	96	55	151
Satisfy Client - 1	23	13	36
Satisfy Client - 2	77	39	116
Satisfy Client - 3	12	20	32
Satisfy Client - 4	1	1	2

6. What types of defects have you experienced? (Please check those that apply)

	<u>General</u>	<u>Subs</u>	<u>All</u>
Defective Materials	94	65	159
Overlooked Site Condition	90	40	130
Ignorance	88	67	155
Over Emphasis on First cost	48	51	99
Defective Documentation	71	40	111
Dereliction or Negligence	53	51	104
Spec. Contractor's Lack of Knowledge	61	52	113
Unanticipated Consequence of Change	68	49	117
Design too Difficult to Build	22	18	40
Poor Communciation	102	88	190

7. Rank in order of responsibility for defective work?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Business Entity - 1	65	28	93
" " - 2	21	21	42
" " - 3	15	16	31
" " - 4	8	6	14
" " - 5	2	8	10
" " - 6	2	6	8
Labor - 1	46	37	83
" - 2	56	22	78
" - 3	24	15	39
" - 4	10	9	19
" - 5	1	1	2
" - 6	3	2	5

A/E - 1	5	8	13
" - 2	43	18	61
" - 3	30	17	47
" - 4	15	20	35
" - 5	12	11	23
" - 6	3	2	5
Suppliers - 1	4	5	9
" - 2	18	4	22
" - 3	25	15	40
" - 4	26	16	42
" - 5	30	22	52
" - 6	14	16	30
Inspectors - 1	2	6	8
" - 2	5	11	16
" - 3	16	13	29
" - 4	33	20	53
" - 5	37	17	54
" - 6	18	12	30
Owners - 1	2	7	9
" - 2	2	12	14
" - 3	9	10	19
" - 4	20	10	30
" - 5	24	12	36
" - 6	46	29	75

8. Who should be involved in the inspection process? (Please check all that apply)

	<u>General</u>	<u>Subs</u>	<u>All</u>
Owners	57	56	113
A/E	109	59	168
Contractors	135	94	229
Subs	89	62	151
Insurance Co.	12	12	24
Lenders	26	13	39
Inspectors	120	105	225

9. Are first line supervisors qualified to do their job within the industry?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Exceptionally	3	1	4
Above Average	29	21	50
Average	95	60	155
Inadequate	10	28	38
Incompetent	0	5	5

10. Do we need a better trained labor force?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	133	110	243
No	4	3	7

If yes, how should this be accomplished?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Internship	26	20	46
Apprenticeship	92	78	170
On-Job-Training	81	64	145
Post-secondary Vocational Training	46	49	95

11. Who should be responsible for implementing training?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Individual	28	33	61
Company	67	63	130
Industry	100	73	173
Government	17	19	36

12. Does your company have an active Quality Control Program?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	104	77	181
No	37	37	74

13. Are you personally satisfied with the Industry's standard of acceptable work? If No, why. See Appendix C., 1.

	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	72	51	123
No	69	60	129

14. What corrective measures can be taken to minimize defective workmanship?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Proper Training/Retraining	115	96	211
More Direct Supervision	73	61	134
More Inspections	36	21	57
More Owner Involvement	8	18	26
Better Leadership	71	44	115

15. Have you been involved in disputes resulting from defective work?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	90	53	143
No	54	61	115

16. How were they resolved?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Simply on Site	73	39	112
Negotiation	66	33	99
Mediation	10	8	18
Arbitration	12	8	20
Litigation	27	9	36

17. How would you define defective workmanship?

See Comments - Appendix C., 2.

Law III - BASIC SURVEY

GENERAL/SUB CLASSIFICATION BY CONTRACT POSITION

Raw Data

Part I

Ques. 1. You are: A. General Contractor B. Subcontractor  
 Answ.: 

	<u>General</u>	<u>Subs</u>	<u>All</u>
	172	94	266

Ques. 2. Your current construction dollar volume is:  
 Answ.: 

	<u>General</u>	<u>Subs</u>	<u>All</u>
A. Under \$1,000,000	58	33	91
B. \$1,000,000-\$2,500,000	38	23	61
C. \$2,500,000-\$5,000,000	33	20	53
D. \$5,000,000-\$7,500,000	13	4	17
E. Over \$7,500,000	29	5	34

Ques. 3. You: A. Have an attorney on staff.  
 B. Have an attorney on retainer.  
 C. Will call an attorney when the need arises  
 D. Have never required the services of an attorney.  
 Answ.: 

	<u>General</u>	<u>Subs</u>	<u>All</u>
A.	4	4	8
B.	34	13	47
C.	124	64	188
D.	11	7	18

Ques. 4. How often will you have an attorney review your contracts before you sign them:  
 Answ.: 

	<u>General</u>	<u>Subs</u>	<u>All</u>
A. Always	23	4	27
B. Sometimes	91	39	130
C. Never	58	45	103

Ques. 5. You use:  
 A. Industry standard contracts.  
 Answ.: 

	<u>General</u>	<u>Subs</u>	<u>All</u>
(1) AIA	114	51	165
(2) AGC	9	7	16
(3) Other	48	23	71

Answ.: B. A non-standard contract drawn up  

	<u>General</u>	<u>Subs</u>	<u>All</u>
(1) with	53	17	70
(2) w/o attorney assistance	56	38	94

Answ.: C. No written contract.  

	<u>General</u>	<u>Subs</u>	<u>All</u>
	1	10	11

Law III - BASIC SURVEY

GENERAL/SUB CLASSIFICATION BY CONTRACT POSITION

Raw Data-Generals + Subs

Part II CAUSAL FACTORS

Ques: In the past three years, have you as an individual or firm in the construction industry been involved with a problem traceable to any of the reasons listed below? If so, please indicate how many times total for each in the # column, and the impact/s of those reasons in the RESULTS columns.

REASON

1. Contract not Read/Understood
2. Defective Estimate
3. Lack of Procedural Knowledge
4. Poor Scheduling
5. Poor Workmanship
6. Defective Materials
7. Procurement Delays
8. Willful Negligence
9. Lack of Financing-Self
10. Lack of Experience

RESULTS\*

	a.	b.	c.	d.	e.	f.	g.	h.	TOTALS
1.	191	39	60	81	101	10	0	11	493
2.	58	52	7	78	197	0	0	7	399
3.	20	12	11	0	30	0	0	2	75
4.	149	109	50	172	270	0	0	38	788
5.	107	101	100	15	155	0	0	22	500
6.	47	49	55	18	128	0	0	2	299
7.	75	46	17	75	55	7	0	21	296
8.	0	2	17	11	40	0	0	20	90
9.	1	5	6	0	63	0	0	20	95
10.	6	3	12	4	73	0	0	5	103
TOTALS	654	418	335	454	112	17	0	148	3138

\*RESULTS

- a. Resolved within traditional client, A/E, contractor triangle
- b. You gained concessions
- c. You recovered from general/sub/sub-sub
- d. You made up loss elsewhere in project
- e. You lost money
- f. You were terminated
- g. Your business failed
- h. Unresolved

Law III - BASIC SURVEY

GENERAL CLASSIFICATION BY CONTRACT POSITION

Raw Data-Generals

Part II CAUSAL FACTORS

Ques: In the past three years, have you as an individual or firm in the construction industry been involved with a problem traceable to any of the reasons listed below? If so, please indicate how many times total for each in the # column, and the impact/s of those reasons in the RESULTS columns.

REASON

1. Contract not Read/Understood
2. Defective Estimate
3. Lack of Procedural Knowledge
4. Poor Scheduling
5. Poor Workmanship
6. Defective Materials
7. Procurement Delays
8. Willful Negligence
9. Lack of Financing-Self
10. Lack of Experience

RESULTS\*

	a.	b.	c.	d.	e.	f.	g.	h.	TOTALS
1.	134	8	58	62	75	10	0	1	348
2.	45	34	2	47	122	0	0	6	256
3.	19	1	6	0	24	0	0	0	50
4.	48	17	13	103	66	0	0	5	252
5.	94	98	100	15	48	0	0	2	357
6.	35	32	35	18	30	0	0	2	152
7.	37	41	14	64	41	5	0	9	211
8.	0	1	17	11	24	0	0	12	65
9.	1	1	6	0	26	0	0	2	36
10.	6	0	12	3	29	0	0	0	50
TOTALS	419	233	263	323	485	15	0	39	1777

\*RESULTS

- a. Resolved within traditional client, A/E, contractor triangle
- b. You gained concessions
- c. You recovered from general/sub/sub-sub
- d. You made up loss elsewhere in project
- e. You lost money
- f. You were terminated
- g. Your business failed
- h. Unresolved

Law III - BASIC SURVEY

SUB CLASSIFICATION BY CONTRACT POSITION

Raw Data-Subs

Part II CAUSAL FACTORS

Ques: In the past three years, have you as an individual or firm in the construction industry been involved with a problem traceable to any of the reasons listed below? If so, please indicate how many times total for each in the # column, and the impact/s of those reasons in the RESULTS columns.

REASON

1. Contract not Read/Understood
2. Defective Estimate
3. Lack of Procedural Knowledge
4. Poor Scheduling
5. Poor Workmanship
6. Defective Materials
7. Procurement Delays
8. Willful Negligence
9. Lack of Financing-Self
10. Lack of Experience

RESULTS\*

	a.	b.	c.	d.	e.	f.	g.	h.	TOTALS
1.	57	31	2	19	26	0	0	10	145
2.	13	18	5	31	75	0	0	1	143
3.	1	11	5	0	6	0	0	2	25
4.	101	92	37	69	204	0	0	33	536
5.	13	3	0	0	107	0	0	20	143
6.	12	17	20	0	98	0	0	0	147
7.	38	5	3	11	14	2	0	12	85
8.	0	1	0	0	16	0	0	8	25
9.	0	4	0	0	37	0	0	18	59
10.	0	3	0	1	44	0	0	5	53
TOTALS	235	185	72	131	627	2	0	109	1361

\*RESULTS

- a. Resolved within traditional client, A/E, contractor triangle
- b. You gained concessions
- c. You recovered from general/sub/sub-sub
- d. You made up loss elsewhere in project
- e. You lost money
- f. You were terminated
- g. Your business failed
- h. Unresolved



Law III - BASIC SURVEY

GENERAL/SUB CLASSIFICATION BY CONTRACT POSITION

Raw Data-Generals + Subs

Part III Problem Resolution

Ques.: Please indicate your experience as an individual or firm in the following table by filling the number of times a particular resolution resulted from a specified claim or dispute:

- Answ.: 1. Incomplete, Defective, or Conflicting Design Documents  
 2. Unreasonable Personnel Attitudes  
 3. Delay in Shop Drawing Review  
 4. Differing Site Conditions  
 5. Change in Scope  
 6. Interference by Owner  
 7. Failure to be Paid  
 8. Non-performance by Subcontractor  
 9. Non-performance by G.C. for other than Owner's Non-payment  
 10. Defective Construction  
 11. Scheduling Delay  
 12. Personal Injury or Property Damage

	a.	b.	c.	d.	e.	f.	TOTALS
1.	453	82	2	16	22	13	588
2.	87	25	2	4	9	4	131
3.	174	6	0	1	1	2	184
4.	131	13	1	2	2	16	165
5.	275	55	0	18	7	15	370
6.	132	20	1	4	16	22	195
7.	169	27	12	31	68	62	369
8.	148	36	3	6	57	16	266
9.	25	17	2	2	9	18	73
10.	179	25	0	0	1	1	206
11.	166	53	0	0	5	2	226
12.	25	2	1	2	15	11	56
TOTALS	1964	361	24	86	212	182	2829

- a. Negotiation without formal proceedings  
 b. Mediation - mutually agreed  
 c. Mediation - court ordered  
 d. Arbitration  
 e. Litigation - settled without trial  
 f. Litigation - court decision

Law III - BASIC SURVEY

GENERAL CLASSIFICATION BY CONTRACT POSITION

Raw Data-Generals

Part III Problem Resolution

Ques.: Please indicate your experience as an individual or firm in the following table by filling the number of times a particular resolution resulted from a specified claim or dispute:

- Answ.:
1. Incomplete, Defective, or Conflicting Design Documents
  2. Unreasonable Personnel Attitudes
  3. Delay in Shop Drawing Review
  4. Differing Site Conditions
  5. Change in Scope
  6. Interference by Owner
  7. Failure to be Paid
  8. Non-performance by Subcontractor
  9. Non-performance by G.C. for other than Owner's Non-payment
  10. Defective Construction
  11. Scheduling Delay
  12. Personal Injury or Property Damage

	a.	b.	c.	d.	e.	f.	TOTALS
1.	312	69	2	14	16	10	423
2.	56	12	2	4	8	3	85
3.	103	5	0	1	1	2	112
4.	99	13	1	2	2	1	118
5.	188	26	0	18	6	9	247
6.	63	15	1	4	4	9	96
7.	74	26	8	28	36	25	197
8.	131	25	2	5	56	16	235
9.	8	1	0	0	2	0	11
10.	141	9	0	0	1	1	152
11.	98	38	0	0	5	2	143
12.	18	1	1	2	12	3	37
TOTALS	1291	240	17	78	149	81	1856

- a. Negotiation without formal proceedings
- b. Mediation - mutually agreed
- c. Mediation - court ordered
- d. Arbitration
- e. Litigation - settled without trial
- f. Litigation - court decision

Law III - BASIC SURVEY

SUB CLASSIFICATION BY CONTRACT POSITION

Raw Data-Subs

Part III Problem Resolution

Ques.: Please indicate your experience as an individual or firm in the following table by filling the number of times a particular resolution resulted from a specified claim or dispute:

- Answ.: 1. Incomplete, Defective, or Conflicting Design Documents  
 2. Unreasonable Personnel Attitudes  
 3. Delay in Shop Drawing Review  
 4. Differing Site Conditions  
 5. Change in Scope  
 6. Interference by Owner  
 7. Failure to be Paid  
 8. Non-performance by Subcontractor  
 9. Non-performance by G.C. for other than Owner's Non-payment  
 10. Defective Construction  
 11. Scheduling Delay  
 12. Personal Injury or Property Damage

	a.	b.	c.	d.	e.	f.	TOTALS
1.	141	13	0	2	6	3	165
2.	31	13	0	0	1	1	46
3.	71	1	0	0	0	0	72
4.	32	0	0	0	0	15	47
5.	87	29	0	0	1	6	123
6.	69	5	0	0	12	13	99
7.	95	1	4	3	32	37	172
8.	17	11	1	1	1	0	31
9.	17	16	2	2	7	18	62
10.	38	16	0	0	0	0	54
11.	68	15	0	0	10	0	93
12.	7	1	0	0	3	8	19
TOTALS	673	121	7	8	73	101	983

- a. Negotiation without formal proceedings  
 b. Mediation - mutually agreed  
 c. Mediation - court ordered  
 d. Arbitration  
 e. Litigation - settled without trial  
 f. Litigation - court decision

Law III - BASIC SURVEY

GENERAL/SUB CLASSIFICATION BY CONTRACT POSITION

Raw Data-Generals + Subs

Part IV YOUR INDUSTRY PARTICIPATION WITH OTHER TRADE MEMBERS

Ques. 6. Are you a member of trade/industry/builder association?

Answ.:	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	132	71	203
No	37	16	53

6.1 Do you regularly attend meetings of this group?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	67	47	114
No	92	35	127

6.2 Does this group conduct regular seminars on the changes in construction law?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	107	59	166
No	30	18	48

6.3 Do you feel such seminars are useful to your understanding of construction law?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	123	68	191
No	16	8	24

6.4 Do you feel more seminars on these topics are necessary?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	94	49	143
No	43	26	69

Part V Comments - optional

see appendix C., 1. (Comments)

Law III - DEFECTIVE WORK SURVEY

GENERAL/SUB CLASSIFICATION BY CONTRACT POSITION

Raw Data

DEFECTIVE WORKMANSHIP SURVEY

1.	What is your function within your company?			
		<u>General</u>	<u>Subs</u>	<u>All</u>
	Executive	129	73	202
	Mid-managment	48	16	64
	Supervisory	22	11	33
2.	Approximately how many people are employed within your company?			
		<u>General</u>	<u>Subs</u>	<u>All</u>
	1-10	96	31	127
	11-20	33	24	57
	21-50	20	19	39
	51-100	16	10	26
	101-200	5	3	8
	201 or more	8	0	0
3.	How many years of experinece do you have in the construction industry?			
		<u>General</u>	<u>Subs</u>	<u>All</u>
	0-5	8	1	9
	6-10	34	13	47
	16-20	57	17	74
	21-25	40	23	63
	26 or more	37	34	71
4.	Do you feel that defective workmanship occurs in the industry?			
		<u>General</u>	<u>Subs</u>	<u>All</u>
	Always	25	6	31
	Often	93	55	148
	Occasionally	54	27	81
	Never	0	0	0
5.	Rank the following objectives of the construction industry:			
		<u>General</u>	<u>Subs</u>	<u>All</u>
	Make Money - 1	81	39	120
	Make Money - 2	13	6	19
	Make Money - 3	26	9	35
	Make Money - 4	12	3	15

Provide Quality Product - 1	23	9	32
Provide Quality Product - 2	28	16	44
Provide Quality Product - 3	73	23	96
Provide Quality Product - 4	4	8	12
Provide Jobs - 1	1	3	4
Provide Jobs - 2	4	4	8
Provide Jobs - 3	17	8	25
Provide Jobs - 4	109	42	151
Satisfy Client - 1	27	9	36
Satisfy Client - 2	85	31	116
Satisfy Client - 3	16	16	32
Satisfy Client - 4	1	1	2

6. What types of defects have you experienced? (Please check those that apply)

	<u>General</u>	<u>Subs</u>	<u>All</u>
Defective Materials	108	51	159
Overlooked Site Condition	100	30	130
Ignorance	104	51	155
Over Emphasis on First cost	54	45	99
Defective Documentation	76	35	111
Dereliction or Negligence	63	41	104
Spec. Contractor's Lack of Knowledge	74	39	113
Unanticipated Consequence of Change	79	38	117
Design too Difficult to Build	24	16	40
Poor Communciation	121	69	190

7. Rank in order of responsibility for defective work?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Business Entity - 1	71	22	93
" " - 2	25	17	42
" " - 3	22	9	31
" " - 4	8	6	14
" " - 5	4	6	10
" " - 6	4	4	8
Labor - 1	52	31	83
" - 2	64	14	78
" - 3	26	13	39
" - 4	15	4	19
" - 5	1	1	2
" - 6	3	2	5

A/E - 1	8	5	13
" - 2	43	18	61
" - 3	32	15	47
" - 4	21	14	35
" - 5	18	5	23
" - 6	4	1	5
Suppliers - 1	6	3	9
" - 2	19	3	22
" - 3	28	12	40
" - 4	30	12	42
" - 5	35	17	52
" - 6	18	12	30
Inspectors - 1	5	3	8
" - 2	8	8	16
" - 3	20	9	29
" - 4	39	14	53
" - 5	41	13	54
" - 6	20	10	30
Owners - 1	6	3	9
" - 2	7	7	14
" - 3	12	7	19
" - 4	21	9	30
" - 5	26	10	36
" - 6	53	22	75

8. Who should be involved in the inspection process? (Please check all that apply)

	<u>General</u>	<u>Subs</u>	<u>All</u>
Owners	71	42	113
A/E	120	48	168
Contractors	161	68	229
Subs	100	51	151
Insurance Co.	14	10	24
Lenders	27	12	39
Inspectors	146	79	225

9. Are first line supervisors qualified to do their job within the industry?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Exceptionally	4	0	4
Above Average	36	14	50
Average	98	57	155
Inadequate	13	25	38
Incompetent	2	3	5

10. Do we need a better trained labor force?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	160	83	243
No	6	1	7

If yes, how should this be accomplished?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Internship	30	16	46
Apprenticeship	110	60	170
On-Job-Training	97	48	145
Post-secondary Vocational Training	55	40	95

11. Who should be responsible for implementing training?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Individual	35	26	61
Company	78	52	130
Industry	115	58	173
Government	21	15	36

12. Does your company have an active Quality Control Program?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	128	53	181
No	43	31	74

13. Are you personally satisfied with the Industry's standard of acceptable work? If No, why. See Appendix C., 1.

	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	86	37	123
No	85	44	129

14. What corrective measures can be taken to minimize defective workmanship?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Proper Training/Retraining	137	74	211
More Direct Supervision	90	44	134
More Inspections	40	17	57
More Owner Involvement	13	13	26
Better Leadership	83	32	115



15. Have you been involved in disputes resulting from defective work?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Yes	105	38	143
No	69	46	115

16. How were they resolved?

	<u>General</u>	<u>Subs</u>	<u>All</u>
Simply on Site	83	29	112
Negotiation	74	25	99
Mediation	11	7	18
Arbitration	15	5	20
Litigation	29	7	36

17. How would you define defective workmanship?

See Comments - Appendix C., 2.

**APPENDIX C**  
**Comment Responses**

APPENDIX C1

COMMENTS FROM GENERAL CONTRACTOR INTERVIEW/SURVEYS 10 July 1994

"It is our hope that this survey will lend itself to provide solutions to some of the problems within the industry."

"There are clear indications the problems discussed in this survey are on the rise, and real solutions need to be explored."

"I hope that the results of your survey will help to solve some of the industries problems."

"These problems need to be addressed."

"The industry will benefit from your findings."

"This is an effective way of going about discovering the industry problems."

"Considering the amount of time spent on this survey I sincerely hope the results ingeneral will prove to be fruitful in improving product quality."

"This survey proved to be much to difficult."

"Questions could be more concise and still get the desired results."

"This is a reasonably good project but the questionnaire need(s) to be less complex."

"Full understanding of contract documents is essential to a successful organization."

"Very interesting survey."

"The format of the survey could be simplified."

"Defective workmanship can be minimized through training (& licensing where appropriate) conducted by industry regulation, corporate quality control programs, better leadership and instilling pride in workmanship."

"These are only a few of the problems facing construction today."

"The questions in section II & III could be in a more generalized format so that the answers can be given accurately without eh respondent having to research them."

"The questions are very pertinent to what is happening in the industry today."

"Part I: poorly design and not reflective of the construction

industry, i.e. Question # 1 & 2. Part II: Confusing."

"The title of your survey is appropriate. Smaller contractors and subs should be very mindful of the issues that you are looking at."

"The issue addressed here definitely needs attention."

"Very good survey."

"Part II & III difficult to answer."

#### OPTIONAL COMMENTS FROM GENERAL CONTRACTOR MAIL SURVEYS

##### DADE

I believe that the construction industry has been unfairly over publicized or post-Andrew fly-by-night contractors. The people, for the most part that chose these dishonest companies did so after receiving higher bids from reputable companies. They chose a cheaper price over quality and reputation."

"An effective G.C. today needs to have a good personal knowledge of the law."

"The bid problem in my scale of projects is that the owner is typically uneducated or unrepresented in the construction process and particularly to make sure process and particularly to make sure somebody makes sure that the Architects/Engineers do their job correctly and completely."

##### BROWARD

"There is no substitute for a competent, construction specialist attorney when major disputes arise in the course of business."

"More qualified sub-contractors are needed including better licensing and qualifications. Most general contractors are qualified and knowledgeable but very few subs."

"When the buying public realizes that a contractor cannot operate a high quality business, in full compliance of all laws and regulations without proper compensation, we may once again be able to provide quality construction. There are many laws regulating legitimate contractors, how about one requiring the buyer to use only licensed contractors."

"Trade needs more competent workers from labor thru engineers. Most of the trade only worries about the developers. Unfortunately there are only a few of us left that care about quality and are knowledgeable enough to get it done. Architects and Engineers overbuild to cover their butts."

##### PALM BEACH/MONORE

## CENTRAL/NORTH FLORIDA

"State Dept. of Business and Professional Regulation is too slow and irresponsible -- complaints take (2) two + years to go thru process -- Homeowner suffers -- this is unforgivable -- fix system or do away with this entity for holding up false hope of assistance."

"Team building and partnering approaches are the way to avoid ongoing conflict in the business -- industry needs a mindset change."

"Seminars and continuing education classes are needed in the everchanging building codes subject, at the very least, certified contractors should be notified of all code changes."

"Our company is commercial oriented and we have no association or group here."

"Our biggest concern is the lack of handson construction people moving through the ranks to become supervisors and above."

## WEST FLORIDA

"Industry too open to easy entry of competition and non-license orcertified contractors. Homeowner permitting is not governed properly."

"This is not geared to industrial construction which is my field. This is for junkers." (volume under \$1,000,000)

"You can always learn something to held filter your knowledge."

"The only problems I've ever had over the years is a couple of customer's tried to beat me out of my money. In one case I shut down the job and walked away. The other was a developer who changed specs on me and I lost \$150,000 on the project."

"Most generals are aware of construction law, if subcontractors were as knowledgeable it would help cleaning up many unscrupulous contractors."

"Parts II and III are inpractical to complete without considerable research and time - sorry."

## COMMENTS FROM SUBCONTRACTORS HVAC/WEST FLORIDA

"There does not seem to be any concern for the subcontractor. He is required to sign a personal promise to pay for material, sugn a contract that favors G.C.'s and owners with no recourse to receive owed monies for labor or materials, wait long periods to receive payments, and almost always carry the jobs till the owner/g.c., pay

is they do at all. Florida law should require payment immediately to all subs for work performed at GC's request with penalty for interest added for delay of payment. This law should be simple and direct to force owners, g.c.'s to have money available at start and throughout the project."

"Our experince with attorneys has often been unsatisfactory."

"Private owners are usually reasonable if you have the opportunity to deal with them. Our biggest problem at present is during public school construction where no one wants to be willing to solve problems within a reasonable time and lack of answers costs us subs large sums of money. Some of the problems involve extras but quit often not extra money, jsut a decision on how to proceed: I am considering cutting out school construction even though it has represented 30-50% of our volume the past few years (usually 4 million or more)."

"A/E should have hands on experience not just college."

#### HVAC/NORTH-CENTRAL FLORIDA

" The dollar volume and amount of business we do is probably less than this survey is targeted toward, we are primarily a service contractor, only doing custom homes retrofits and remodels as a rule."

"Small contractors that deal with all decisison matters personally. All problems dealt with immediately."

"I feel too many contractors work without being legal (ins. work comp. etc.) also I think contractors should not be allowed in from out of state and do work in Florida they don't pay Florida workers compensation rates."

"95% of all disputes in the new home/remodel business are from homeowners OKing changes and not wanting to pay for them at closing. I never make change orders unless signed dated and cost agreed upon. I seldom use an attorney."

#### HVAC/BROWARD

"Owners must get more involved in the specifications of quality and in the selection of contractors and subcontractors. A/E's are weak and won't stand behind their specs. Too many grandfather (catch all) phrases in the specs. Poor quality of plans and specs cost the owner and our industry in the long run."

#### HVAC/DADE

--NO COMMENTS--

#### ROOFING/BROWARD

"Being heavily in the roofing industry, I think contractors need to be educated on how to make a fair profit. Most are not and will eventually fail while keeping prices artificially low. Most conflicts should be resolved with customers, even if it means losing money -- no sense in paying lawyers."

"Seminars for contractors are not productive, for the most part, training programs are vitally necessary for employees and subcontractors. In our opinion, construction law is overly complicated and badly written. Simplify the law. Too much emphasis placed on contractor workmanship and legal ramifications, no enough on bad design."

#### ROOFING/DADE

"The construction industry is filled with people who are incompetent. The only way you learn is when an inspector tells you you are wrong. I am intelligent and would love to learn, where do I go? Continuing education is a joke. You need standardization of instructions, mandatory attendance by contractors at any seminar for inspectors so that everyone is playing by the same rules. You need video tape instruction for every kind of installation, including the right and wrong way to do things. You need to make the permitting process simpler and faster and stop costing legitimate contractors so much money and having to compete against illegal contractors without insurance or licenses."

"The problem of legal, law-abiding contractors is that cities/counties have, in addition to some highly qualified people, others who have a complete disregard for professionalism. The "Andrew" experience has made matters almost impossible."

"It is very difficult to quantify legal problems in my business with the above box graphs. Basically, the public at large does not understand the roofing business and does not want to, therefore problems arise when we cannot comply with unreasonable demands."

#### ROOFING/WEST FLORIDA

"Learn construction law when take the state test."

"One needs to address the layers of sub-sub-sub contractors devised to escape the payment of workers' comp ins. and accountability. The piece work, mentality encourages poor workmanship."

"I feel the changes in Fla. Laws should be explicitly furnished in writing to each pertinent contractor and sub-contractor. This is basically the only problem we have had is keeping up with laws and law changes and the insurances regulations that are against the small businessman and MFR regulations that are sometimes not well thought out and change without notice."

#### ROOFING/NORTH-CENTRAL FLORIDA

--NO COMMENTS--

ELECTRICAL/NORTH-CENTRAL FLORIDA

--NO COMMENTS--

ELECTRICAL/WEST

"There should be laws passed to protect the subcontractor 1) in getting regular draws 2) getting paid 90% when c.o. is issued 3) getting balance within 6 weeks after c.o. 4) guaranteed pay for all changes made & extras added by owner or inspectors."

ELECTRICAL/BROWARD

"Your survey is intended for those contractors who work on large projects and usually have conflicts inherent with projects with large slopes. These projects are also a typical open bid process. My firm does very little work in this area, only when asked. This firm's projects are usually negotiated and or closed bid. My firm is now in its 48th year of business and if we wish to remain in business for another 48 years we will avoid the low bid, open to anyone with a station wagon process. A company can be successful without bidding large projects if you always get paid, and government stays out of your business. Unfortunately this does not happen and we all struggle in this industry. This whole industry starts with owners, we can not change them, but second are architects and engineers, they must start demanding prequalifications of all subs contractors, and suppliers. Then they must refuse bids from those not in good standing."

"More seminars should be held by the county and cities free of charge in order to improve the quality of work in the South Florida area."

ELECTRICAL SUBS/DADE

"We do not count disputes and their resolution in our computers."



APPENDIX C2

RESPONSES TO QUESTION 17. - DEFECTIVE WORK SURVEY  
"How would you define defective workmanship?"

FOOFING CONTRACTORS-BROWARD

"Work not done according to specifications. Non-conformance to standards."

"Defective workmanship is trades man doing something he knows is not up to standards or a contractor cutting corners or a customer forcing a contractor to cut corners. The biggest problem I see is customers forcing process so low that quality work is impossible. We refuse to do work that we cannot make a fair profit on!!!"

"Work that would lead to a less than adequate structure."

"Not in conformance with manufacturers specifications and southern building code." (from other S.E. than Broward or Dade)

"Completed work which falls below the standard of quality established for the job (all STDs, must at least equal building code)."

"Not installed according to manufacturers specs., wrong products specified for conditions existing."

ROOFING CONTRACTORS-CENTRAL AND NORTH

"Workmanship not done to quality standards."

"A finished product that does not meet industry, safety or warranty standards."

"Workmanship against good roofing & waterproofing practice."

"Not according to code or what the owner is entitled to."

"Any failure of the roof system not contributed to faulty material, and before the expected life of the system is up."

"Open seams blister, buckles, droopy flashing, bare spots."

ROOFING CONTRACTORS-DADE

"1. The finished product does not look or do what it is supposed to do. It doesn't stand up. People don't like it if it does look good. It doesn't work. It is not acceptable."

"Most defective workmanship that I see is primarily carelessness in job execution. In most cases I would define it as: Portions of work that have been executed improperly because the person does not know how to do it properly or does know how but just doesn't do it properly."

"Def. workmanship is the attitude created result of, "We always did it their way or that's good enough," from your laborers that do not analyze the consequences of poor or inadequate construction because they don't understand the scientific reasons for doing it differently."

"Work not up to industry standards."

"Failing to meet industry accepted standards of finish and workmanship."

"Occurring leaks, faulty esthetics, owner complaints."

"Ignorance and lack of knowledge in our industry."

"Lack of responsibilities from workers and poor experience."

#### ROOFING CONTRACTORS-WEST

"Causes homeowner problems after finishing job and also when I check job and see some things are not properly installed and have to be removed and re-done."

"Was not performed per manufacture specifications."

"When a particular item fails to provide the function for which it was designed or is an inferior product than that which the plans enumerated."

"Blatant misapplication of any product solely for the purpose of making money."

"Work that doesn't meet codes. Can't check work after job is complete. Have in progress inspections."

"Dishonesty in selling, poor quality workmanship, skimping to save time, generally lack of training that comes from apprenticeship with well experienced old timers who learned with pride -- attitude is the problem with workers today. The idea that a test and written exam will show you know how very incorrect and does not replace good old on the job experience under someone who knows. This takes good opportunity from many and does not create good industry. It makes too many pur (?) quality chiefs and no good quality indians."

ELECTRICAL CONTRACTORS-BROWARD

BROWARD

"The out put of work inconsistent with the require standard and expectation."

"Poor quality and lack of pride in there trade. Piece workers create most of the defective workmanship."

"If it is not near and clean."

"Work done in a sloppy unprofessional manner. Short cuts taken in workmanship. Improper fastening devices, smaller wire sizes, etc."

"A product not meeting industry or code standards."

"Buildings that are designed to save money instead of quality. Such as Mizner Park in Boca Raton, and Trade Winds of Boca in west Boca Raton. Inspector paid off in order to get CO's."

"Uncaring attitude - inexperience and haste."

"Defective workmanship is the workmanship that only last for 0-10 years. I've seen situation where a particular method or products was used knowing it would only last for a year or two. Defective workmanship can not always be see, often it is latent in nature and not discovered until either the warranty is up or the contractor is out of business. Unfortunately our industry is being built by a transi(en)t class of people who are here today and gone tomorrow. It is often a circus atmosphere. No one cares or takes pride in their work. Bottom line is low bid wins always. This survey is not going to generate any positive influence unless you can change the owners attitudes."

ELECTRICAL CONTRACTORS-CENTRAL AND NORTH

"Must be to code, functional, and done in a "workmanlike manner"."

"Any work not properly installed. Any equipment damaged in shipping or installation."

"Anything which fails to meet the standards of the industry and the expectations of the owner."

"Not meeting code."

ELECTRICAL CONTRACTORS-DADE

"Poor quality job."

"When the person do the work do not feel proud of his job. Proud has to be #1 compensation. #2 if it not that way is defective."

"Work that is not done in a first class workman like manner. Shoddy work that could become a safety hazard in the future."

"Most defective carelessness and lack of pride by the work force."

"Work that does not meet minimum code non is installed in a workmanship manner which exhibit a quality installation. You can meet code and still have a poor installation."

"Work that does not have a neat appearance and safe environment when complete."

#### ELECTRICAL CONTRACTORS-WEST

"Not meeting local and national code requirements, and not meeting project specification."

"Below standard-not code approved. Bad, unlicensed; uneducated, self taught persons doing protects without proper training or permits. (A/C co's are the biggest law breakers creating danger and hazards to owners)."

"Workmanship that require revision of the work or that leaves customer dissatisfied."

"Workmanship not meeting codes, not following the job specifications, sloppy work."

#### AIR CONDITIONING CONTRACTORS-BROWARD

"Installed work that does not meet the specification."

"Corners cut by laze uncaring employers and supervisors-work performed incorrectly wint (?) knowledge of workers."

"Lack of knowledge with regard to product function."

"Any work that does not exceed minimum standards-sloppy installations. Work that may function but not be done in a craftsman like manner."

"Deviation from measurable standards."

"Sloppy, non conformance to code and specs (?)."

"Poor training."

"Not up to the quality that the owner expects for the price paid."

"Does not meet min. standards."

"Lack of training."

AIR CONDITIONING CONTRACTORS-CENTRAL AND NORTH

"No one following industry standards or codes."

"Work not meeting industry standards."

"Using poor quality or damaged material, using un (or under) qualified labor substituting sub par material for specified - cutting corners by leaving out materials that are not specified in writing but expected in a quality job-installing work that cannot be easily economically serviced."

"Not taking pride in your job by not caring what you are doing to do the job right."

"Poor labor performed in process of work to be done."

"Failure within 30 days-sometimes failure on start up-air to air heat pumps."

AIR CONDITIONING CONTRACTORS-DADE

"Poor communication leading to improper installation - from the manufacture thru the final inspection."

"A finished product that does not meet the specification of the A/E or does not meet accepted industry standards."

AIR CONDITIONING CONTRACTORS-WEST

"Employees with no training, sent out to perform work beyond there knowledge. Low paying projects forcing the employee of unqualify personnel to perform work at low wages."

"Poor quality work. A job that looks bad and/or fails to perform as anticipated or desired."

"Work not done within code or manufactures recommendations."

"Poor quality of field assemble."

"1. Inadequate space to install all required items. 2. Poor quality of installation by inadequately trainers and motivated employees."

"Sloppy work."

"Work which does not meet specifications and accepted industry standards."

"Work that does not meet standards or owner's expectations."

"Company trying to make extra money - cheapens units."

"Imperfect- whether by design or ignorance."

"Any work that is below the industry's standard of acceptable work or below code."

"Not installed in a satisfactory manner - i.e. not per code or mfg. instructions - plus just plain sloppy."

"Any work that does not meet the manufactures specification and meet industry standards."

"Poor quality of installation or material."

"Improper training."

"When the quality of construction does not meet acceptable industry standards."

"The ability to successfully accomplish a task that is acceptable to our standards and the standards of contractor and architect."

"Work of such poor quality as to not perform properly to function for which it was designed resulting in eff(ient); dangerous conditions, and/or dissatisfied customer."

#### GENERAL CONTRACTOR-OTHER S.E.

"Everyone's work but ours. With us good enough is not good enough. It must be perfect or better."

"Obvious, neglectful workmanship."

"No interest in work. What ever they can get away with."

"Poor quality of final product (when using acceptable products)."

"Unsatisfactory workmanship that results in structural defects or fit and finish appearance defects."

"Work that cannot pass the minimum building codes."

"Improperly installed, poor quality work."

"Sloppy workmanship. Inferior materials, work done by untrained people."

"Any work not up to the standards of quality workmanship."

"That workmanship which does not satisfy the full intent of the job specifications."

"Do work unto others as you would have work (construction) done onto you!"

"Improper installation, improper working condition as a result of improper A/E specifications (design problem)."

GENERAL CONTRACTORS-BROWARD

"A project or components there of that do not perform adequately or for a suitable period of time to improve application. Also careless and/or sloppy application."

"Poor installation no quality control."

"Any work that does not measure up to minimum standards."

"Products of installations that do not perform the needs of the owner. Installations and products that are our plum' not flush out square; croked (?); not properly connected; using the wrong material or product."

"Work which does not allow or diminishes the use of the building to it's design standards or aesthetically unappealing."

"Product failure due to installation and/or manufactures."

"Workmanship that does not comply with the contract documents and considered unacceptable by the architect."

"Installed wrong the 1st time. Nor working properly, poor quality."

"Inferior quality of finished product."

"Work or material not meeting minimum code or industry standards, or not meeting expected performance criteria."

"Work done in a manner that will cause failure or breakdown on a product produced."

"Unacceptable by contractor/owner."

"Item in question does not meet the quality of its intended use."

"Any condition which would contribute to premature failure of a system or failure to achieve the desired level of appearance."

"Work that is either aesthetically or structural unacceptable."

"Any workmanship that is not done properly and safely; also sloppy work that is not up to code. Quality of material."

"Work that does not comply with the contract plains and specifications."

"Work that does not meet specs."

GENERAL CONTRACTORS-CENTRAL AND NORTH

"Installation designed to do the minimum work necessary to pass inspection without regard to end result performance, or industry standard."

"Any one not doing their best. The best should be the least we except."

"Anything that falls below the expectations of the supervisor in charge, or owners reasonable expectations."

"Workmanship which does not meet minimum standards established by code, specifications, individual disciplines and common sense."

"Not to code, cosmetics."

"Work that is not installed in accordance to national and industry standards as defined by each specific agency."

"Work that does not meet the intents of that contract documents."

"Work installed which does not meet the requirements of the contract documents or acceptable industry standards."

"Workers too interested in finishing the job too fast so they can get their money and go on to another job."

"Sloppy work often not straight, level, or plumb, off on measurements."

"Dissatisfied home owners, rejection of inspections by building departments, will not fulfill designed function it for (?) completion."

"Work that is sloppy in appearance. Work that will result in early maintenance problems. Work that has to be redone to be acceptable."

"Non conformance to specifications."

"Having to do work more than once."

"Workmanship incorrect in material structure or aesthetic appearance."

"Lack of attention to details; leaving something undone or for another trade to deal with."

"Very obvious - you would not want it for yourself. 90% of all workers 35 and younger, do not know how to work-what to do or how to do it and there main concern is getting a pay check that they believe is owed to them regardless."



"That work which does not meet the industry standards but which would have if properly executed."

GENERAL CONTRACTORS-DADE

"Patch work to cover up mistakes - poor substitutions for saving money-sacrificing quality and safety."

"Sub contractors are not interested in quality workmanship."

"Work that is not according to A/E plans and specs or up to the owners satisfaction."

"Poor quality, structurally unsound, and/or aesthetically unpleasing."

"Anything that causes the project not to function as it was intended."

"Poor appearance or finished product."

"Fortunately, there are industry standards for just about anything assembled and/or incorporated into "construction". These standards are not always complied with. Defective workmanship, in this context, results from meeting not the standards as applicable."

"Workmanship substandard and not to code."

"Any work not complying with local and federal authorities (codes), and architectural/manufacture specifications master specs."

"Not up to industry standard. Not operate as designed, not designed to last...!"

"Trades rushing to install item and other following cover it up. Not installed in an acceptable or workman like manor."

"Work which is not up to a acceptable standard to both a potential customer and the owner of the business."

"Work that is not acceptable in appearance, not performed per plans and specifications, and work that is simply done sloppy in form and function."

"Workmanship that does not meet my quality control standards, carelessness in most cases."

"Work performed by a tradesman/trades person that is not perfect! That is not acceptable!"

"Work below industry standards."

"Not meeting code, project specifications or industry standards."

"Poor craftsmanship."

"Not following plans or specs."

"The building or construction of a unit during which an individual cuts corners, fails to use proper tools, demonstrates lack of experience or otherwise demonstrates a lack of seriousness of purpose of the task at hand."

GENERAL CONTRACTORS-WEST

"Work that has a lasting effect of poor quality and lead to other problems (or contributes)."

"Generally labor skills are poor quality or just sloppy workmanship. Material quality sometimes don't allow for proper installation and labor skills to over ride this inadequacy don't always exist."

"Work not to industry standards."

"Workmanship not in direct compliance with the intent of contract documents, codes and standard practice."

"Not up to my standards."

"Work not done in a good workmanship manner."

"Completed work that was inadequately specified or installed."

"Finished work not meeting industry established level of acceptable work."

"Mostly minor cosmetic items that don't mean much to most, but still should be looked at by inspectors or owners."

"Can be defined in may ways. Results are multiple warranty visits, inspection failures, unsatisfied client."

"Work that is not straight, plumb, true, void of defects."

"Not up to our company's standard."

"Trades people not genuine mechanics in their trade performing less than acceptable work."

"A unacceptable finished product that I wouldn't and won't pay for."

"Improper process."

"Work tht does'nt comply with the contract documents."

"Problem resulting from workmanship not materials in which problems can be prevented. Example: Drywall nails bulging - the most common cause is missing the stud wall - That is call poor quality workmanship. This can be prevented."

"Work that does not meet a minimal standard of acceptance."

"Work improperly performed in spite of directions that were not even read."

"Work not acceptance by one who pays or inspects."

"Any work completed without regard for vogue but available quality or procedure adopted over the years or pure neglect for product literature."

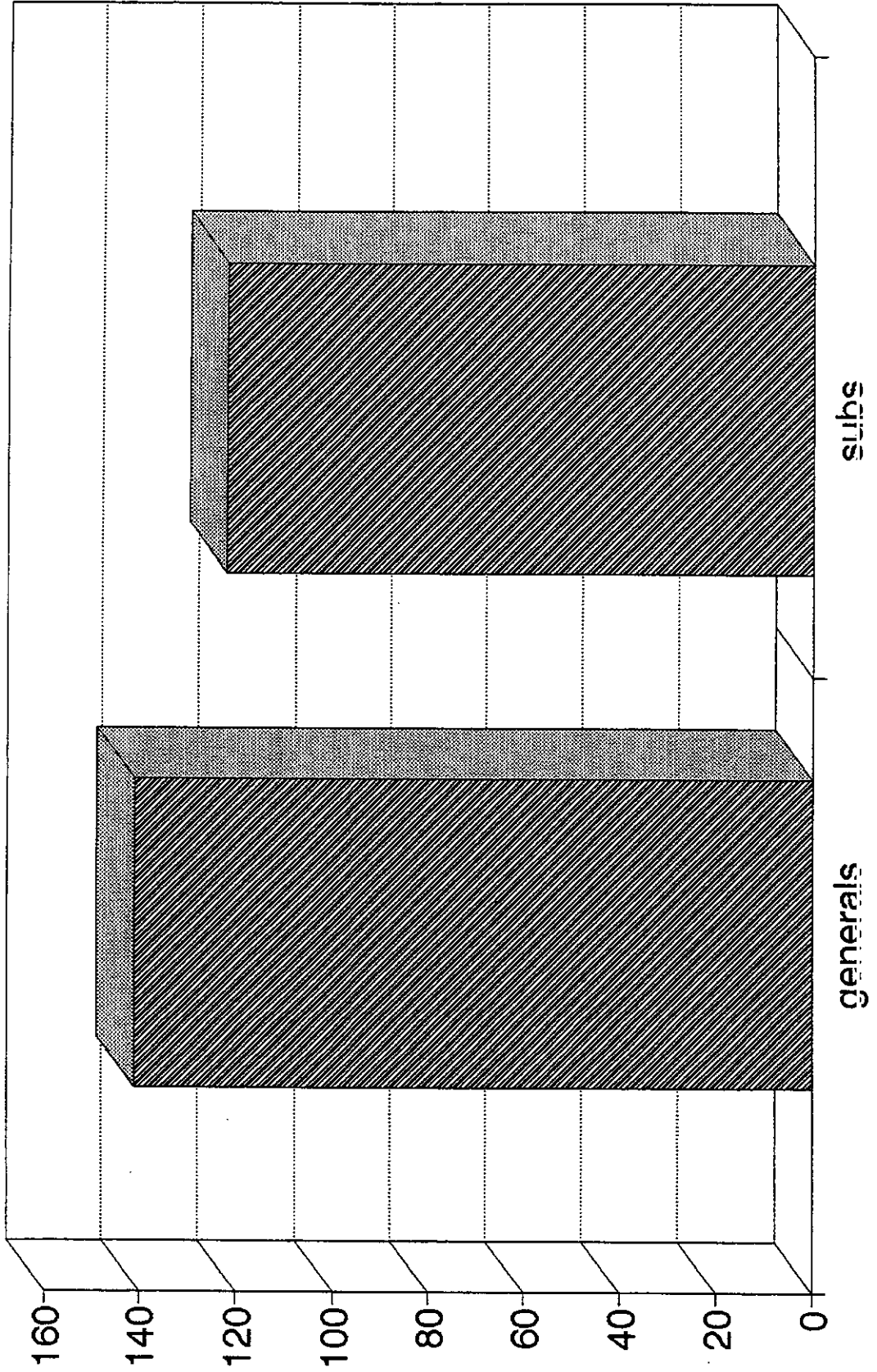
"Unacceptable to contractor or owner."

"Not built according to design and/or applicable codes."

APPENDIX D  
Data Charts

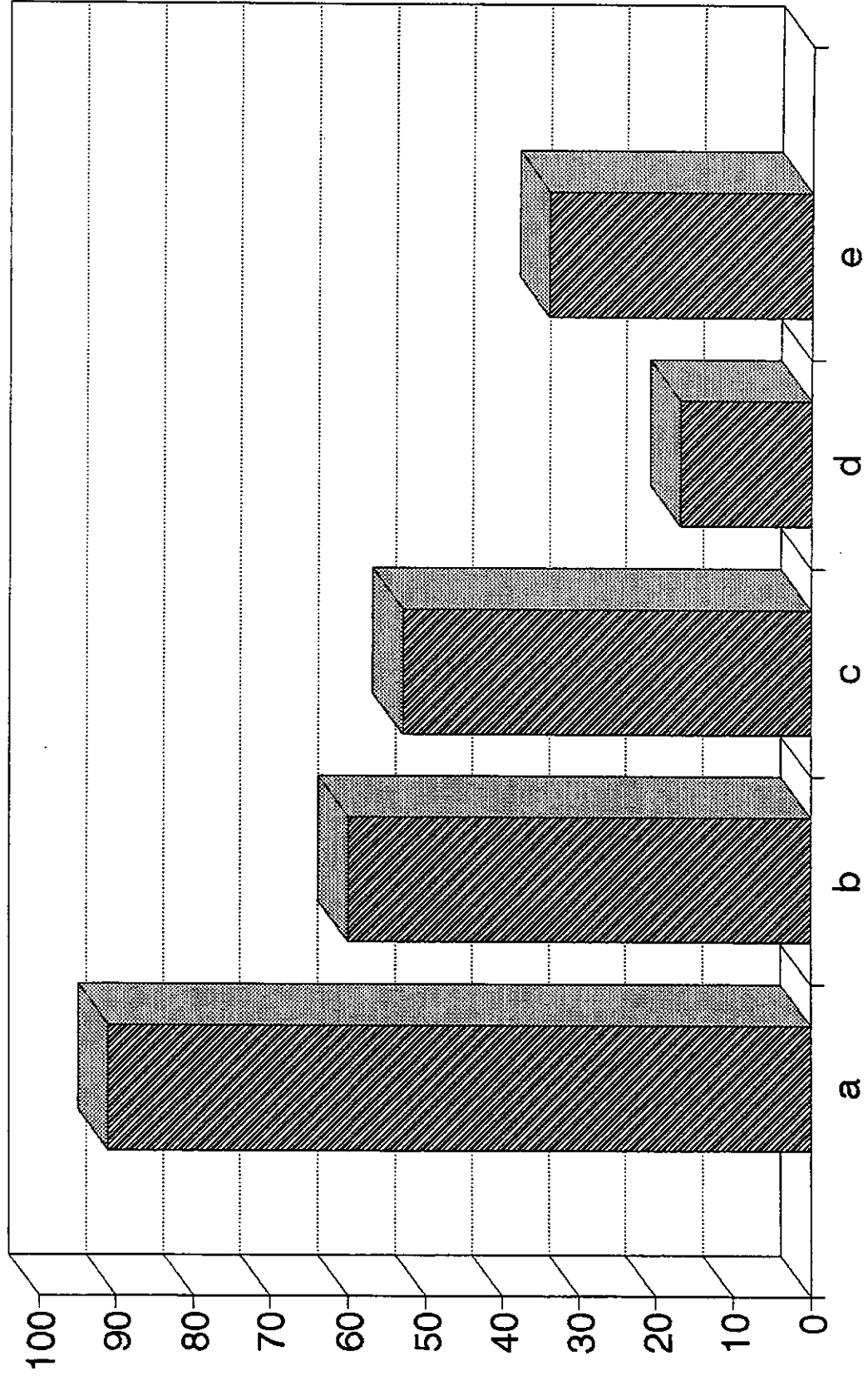
# QUESTION 1

Are You a General or Subcontractor?



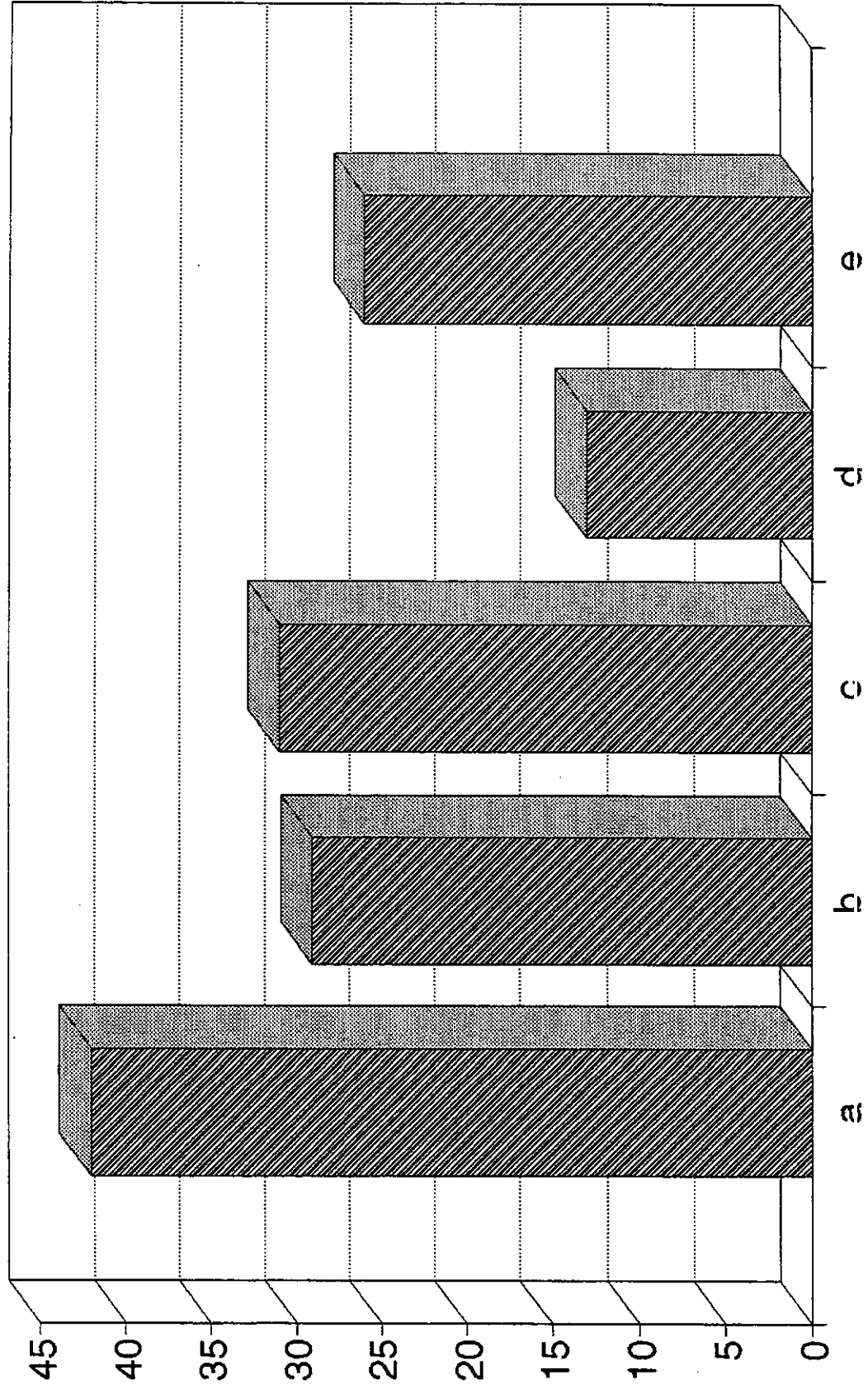
# QUESTION 2 (TOTAL)

Construction volume is?



# QUESTION 2 (GENERALS)

Construction volume is?



# QUESTION 2 (SUBS)

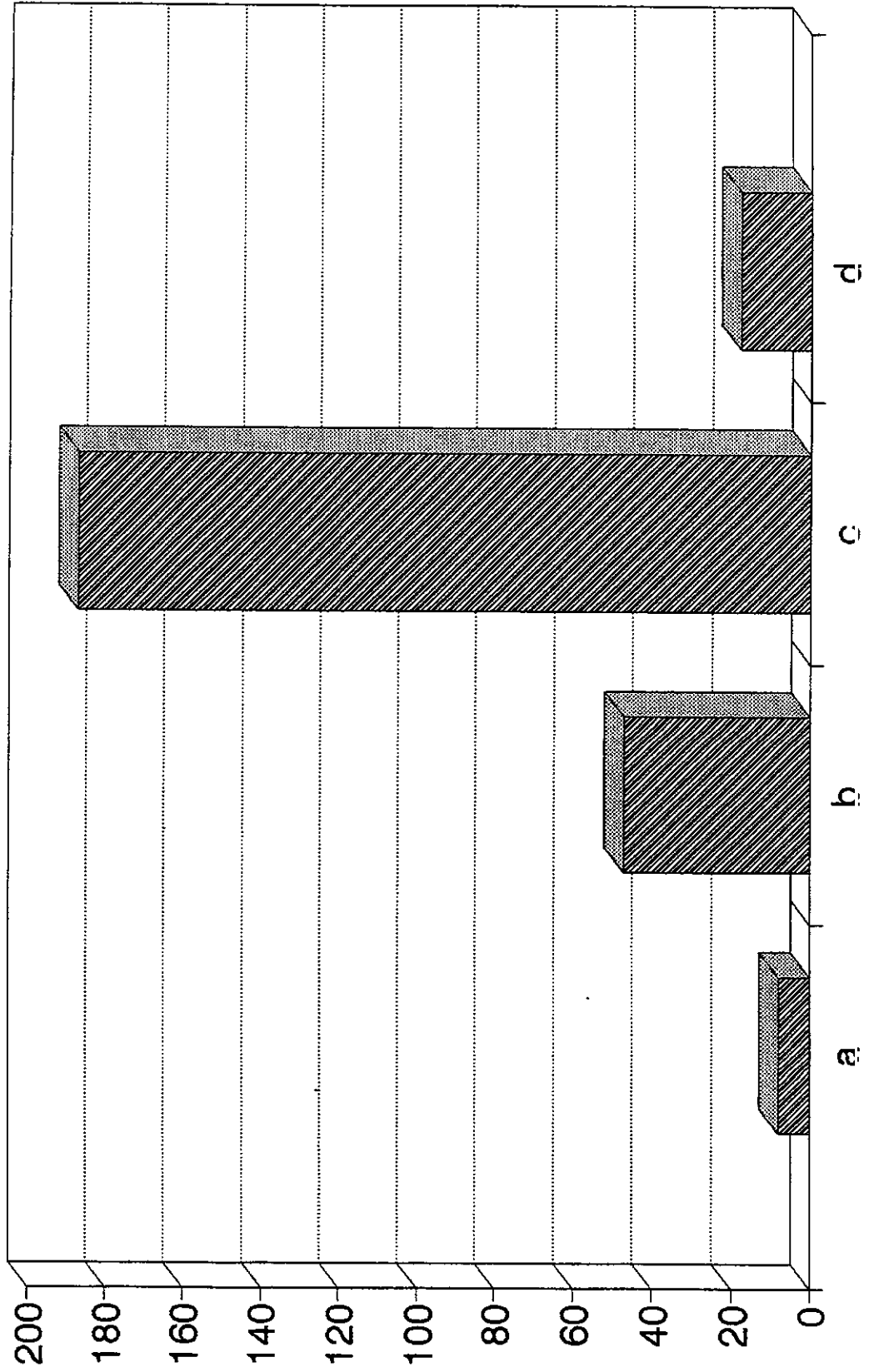
Construction volume is?





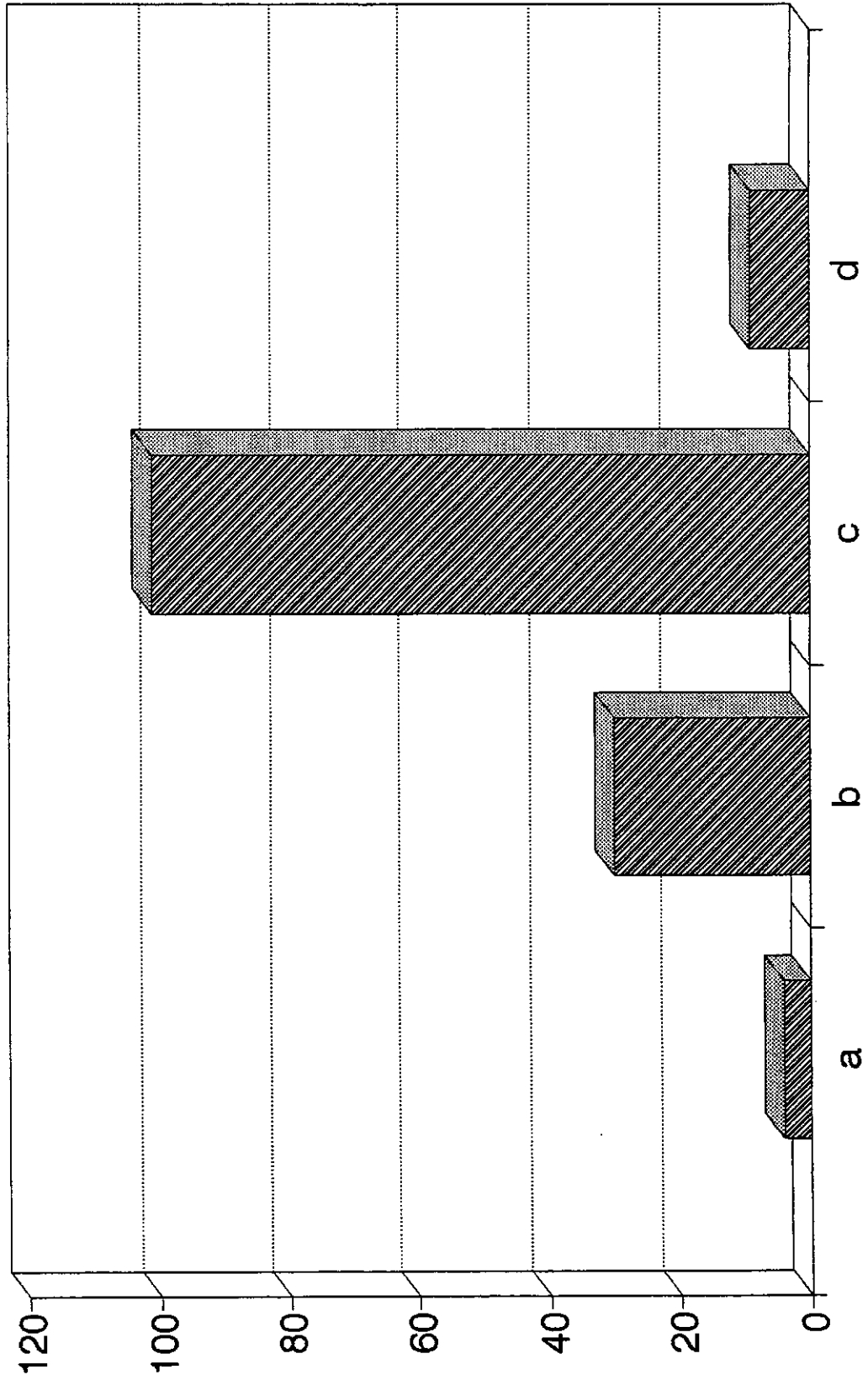
# QUESTION 3 (TOTAL)

Attorney - Relationship



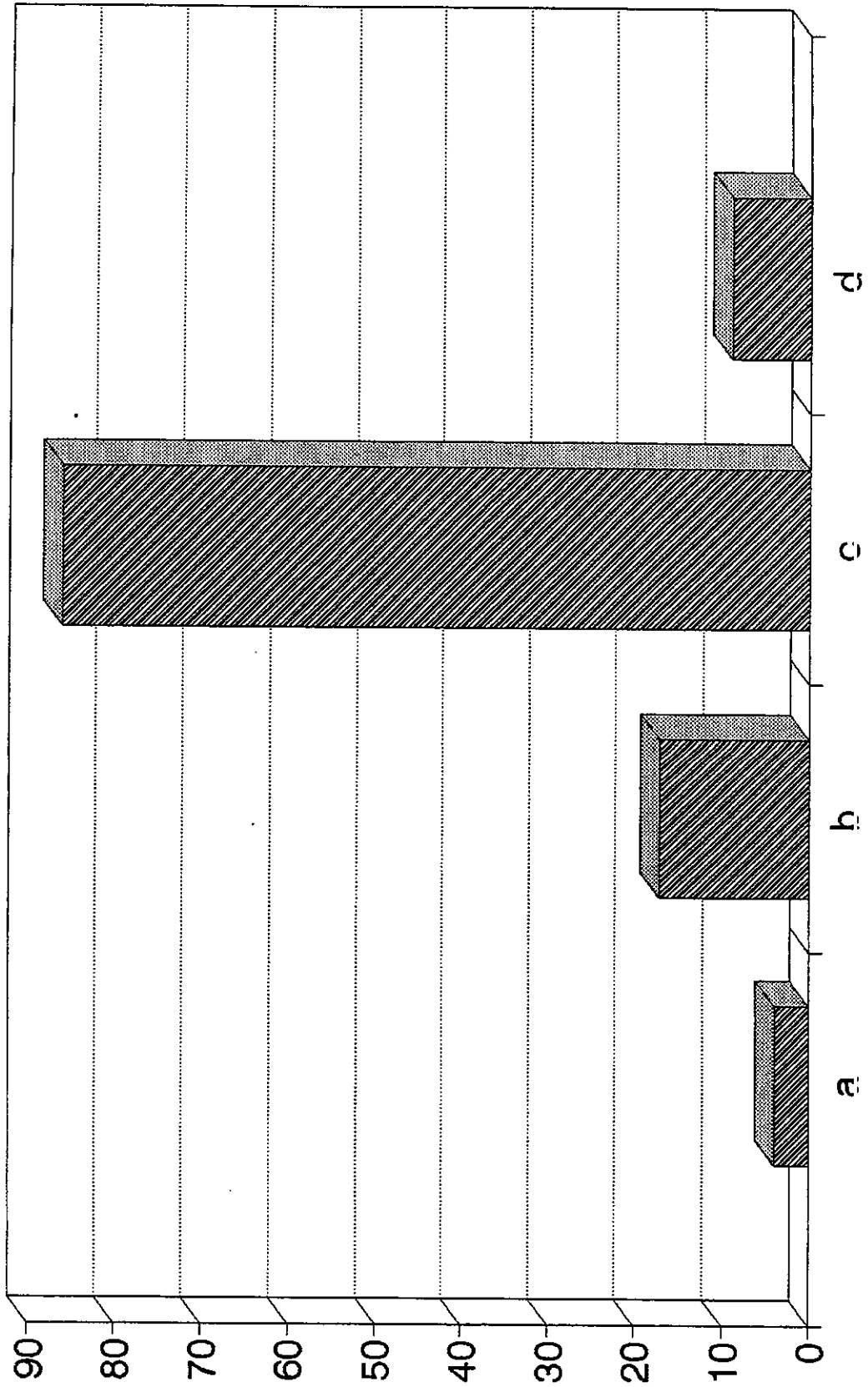
# QUESTION 3 (GENERALS)

Attorney - Relationship



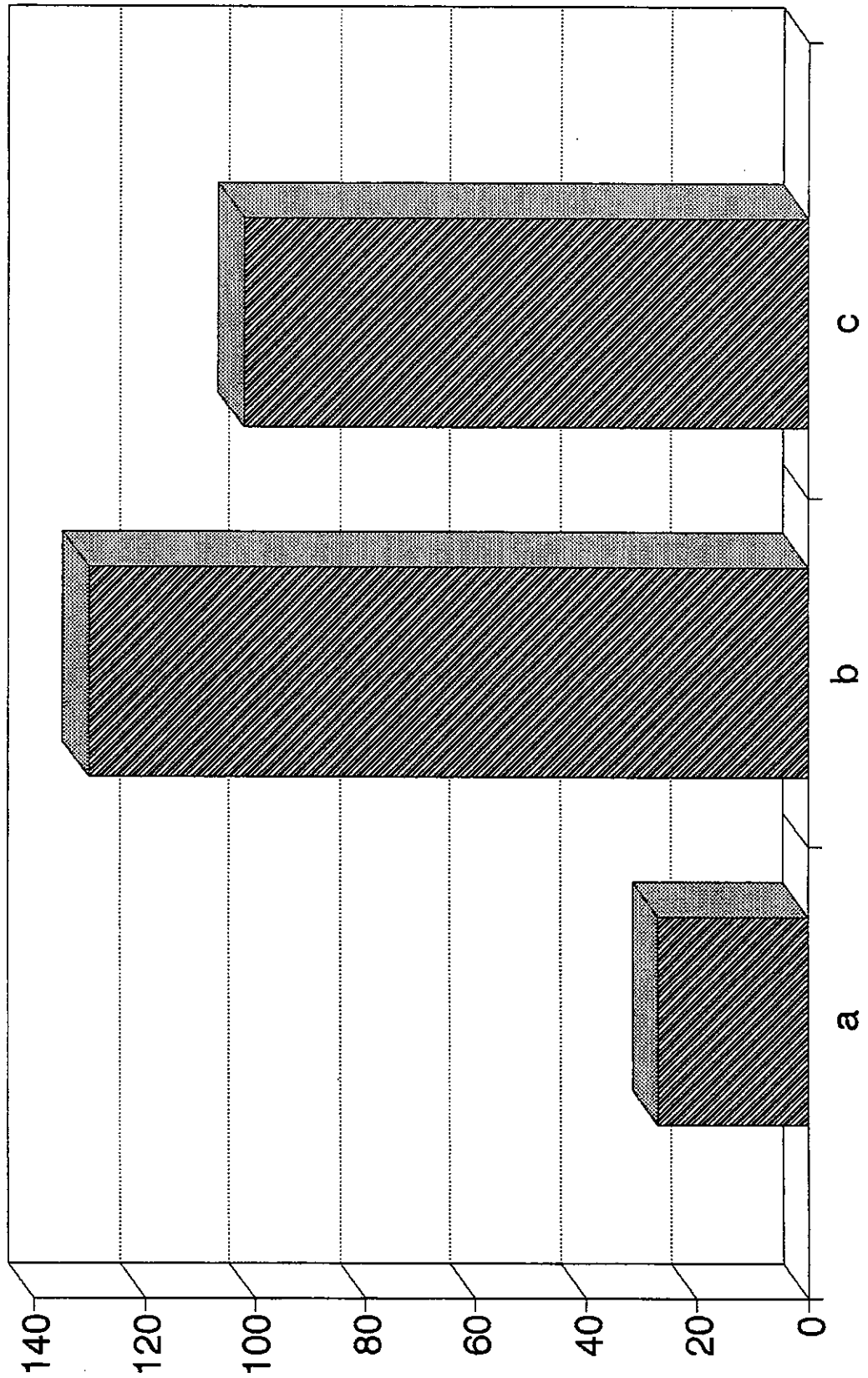
# QUESTION 3 (SUBS)

Attorney - Relationship



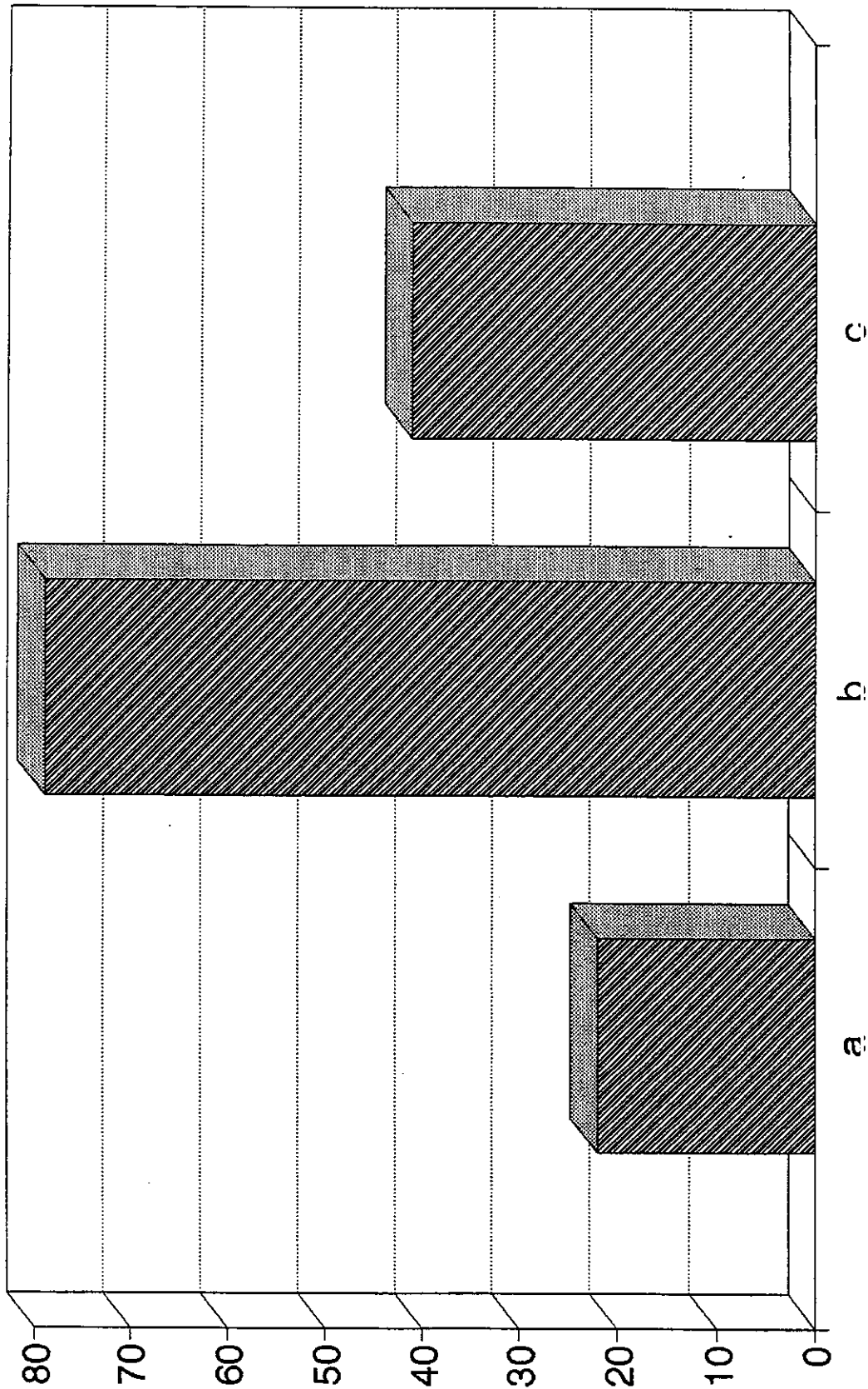
# QUESTION 4 (TOTAL)

Attorney review contracts?



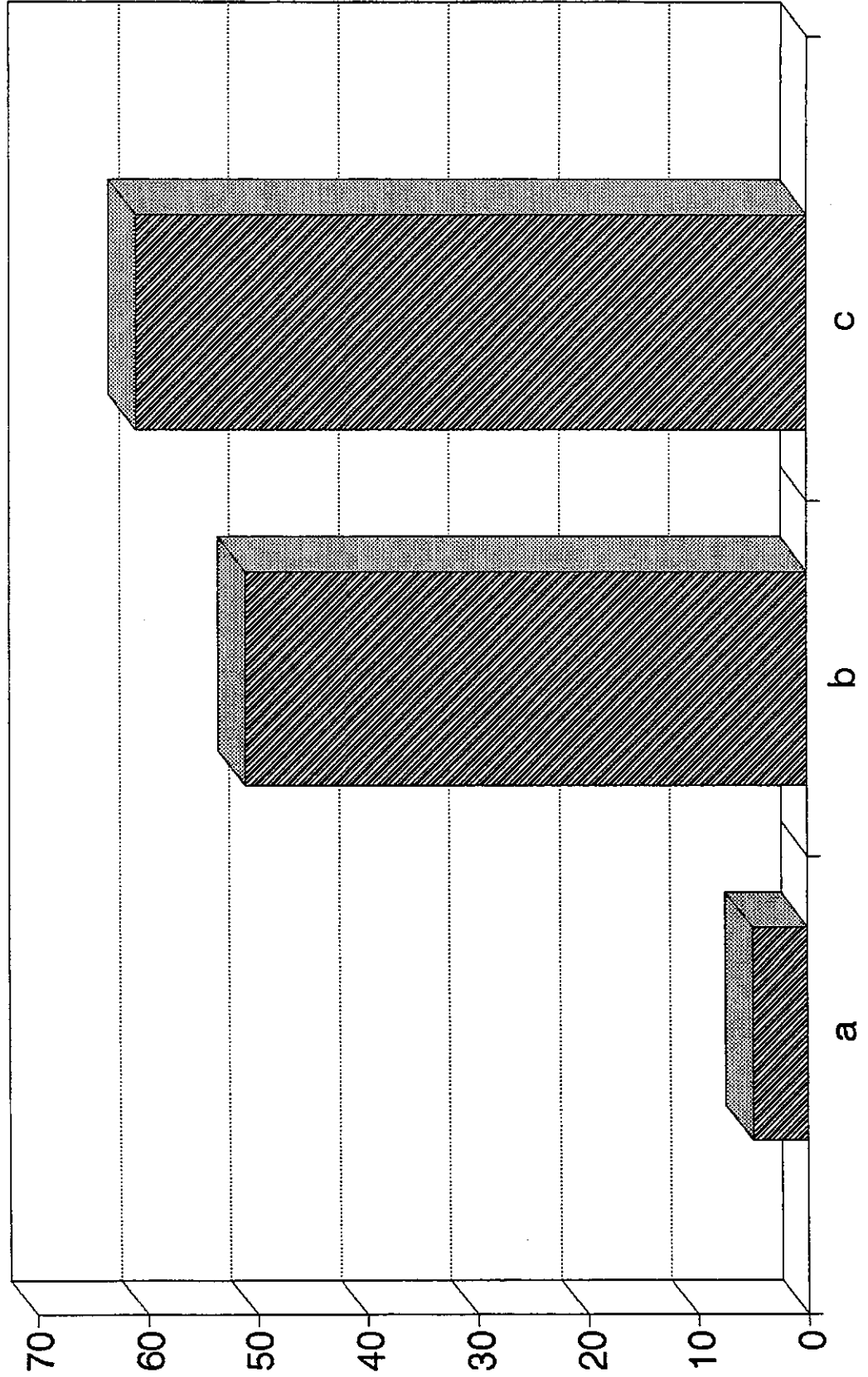
# QUESTION 4 (GENERALS)

Attorney review contracts?



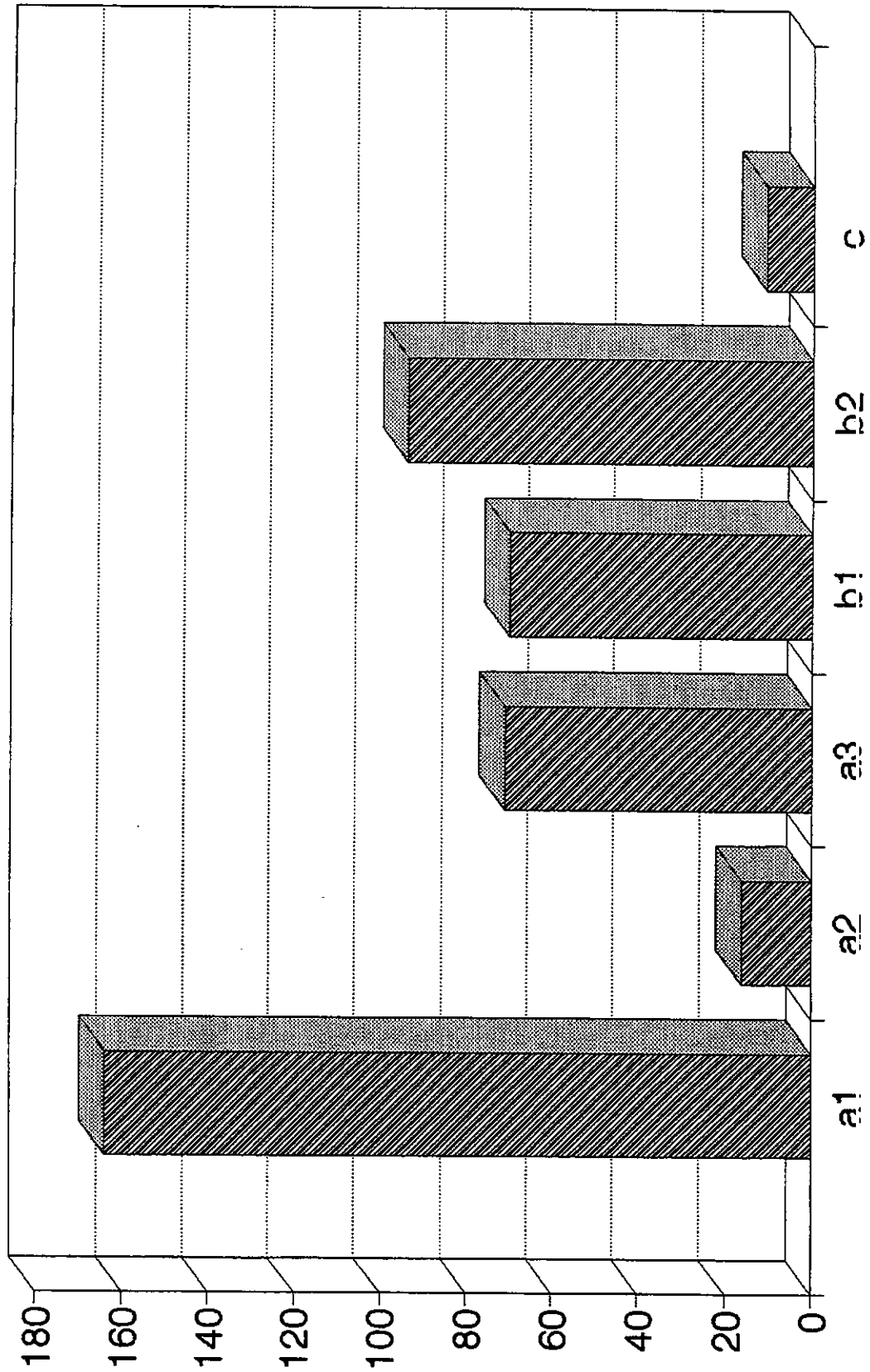
# QUESTION 4 (SUBS)

Attorney review contracts?



# QUESTION 5 (TOTAL)

Types of contracts used?



# QUESTION 5 (GENERALS)

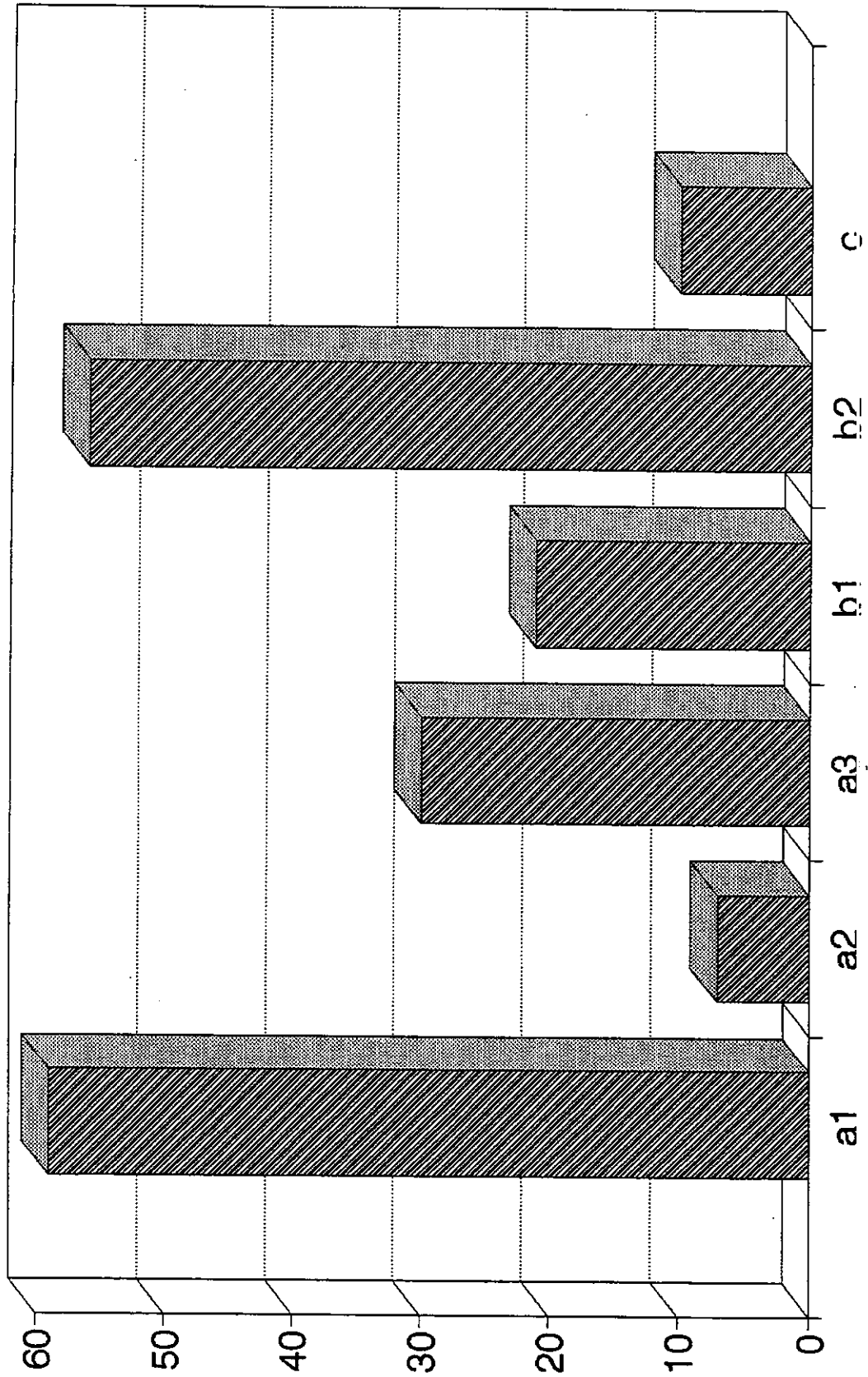
Types of contracts used?





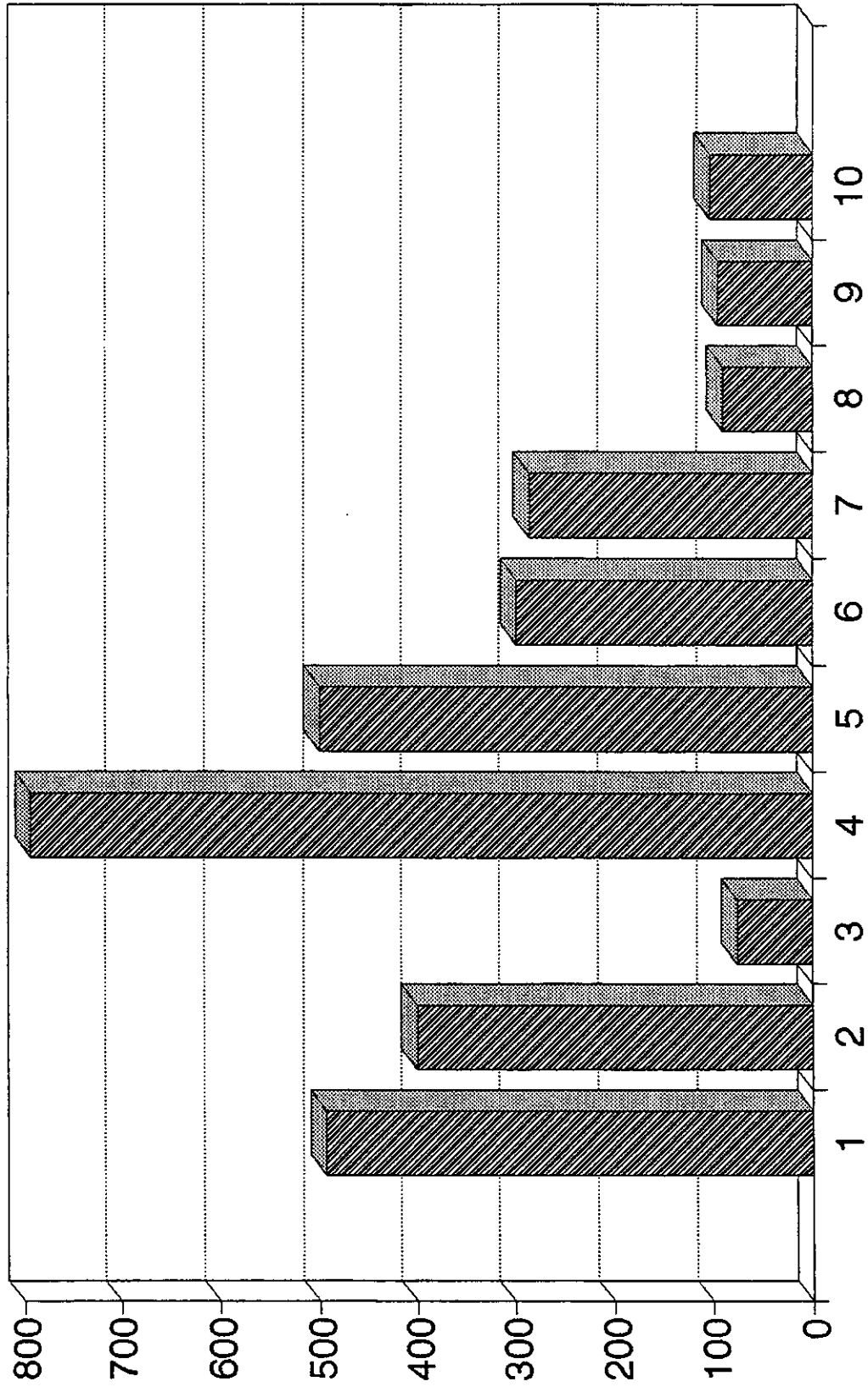
# QUESTION 5 (SUBS)

Types of contracts used?



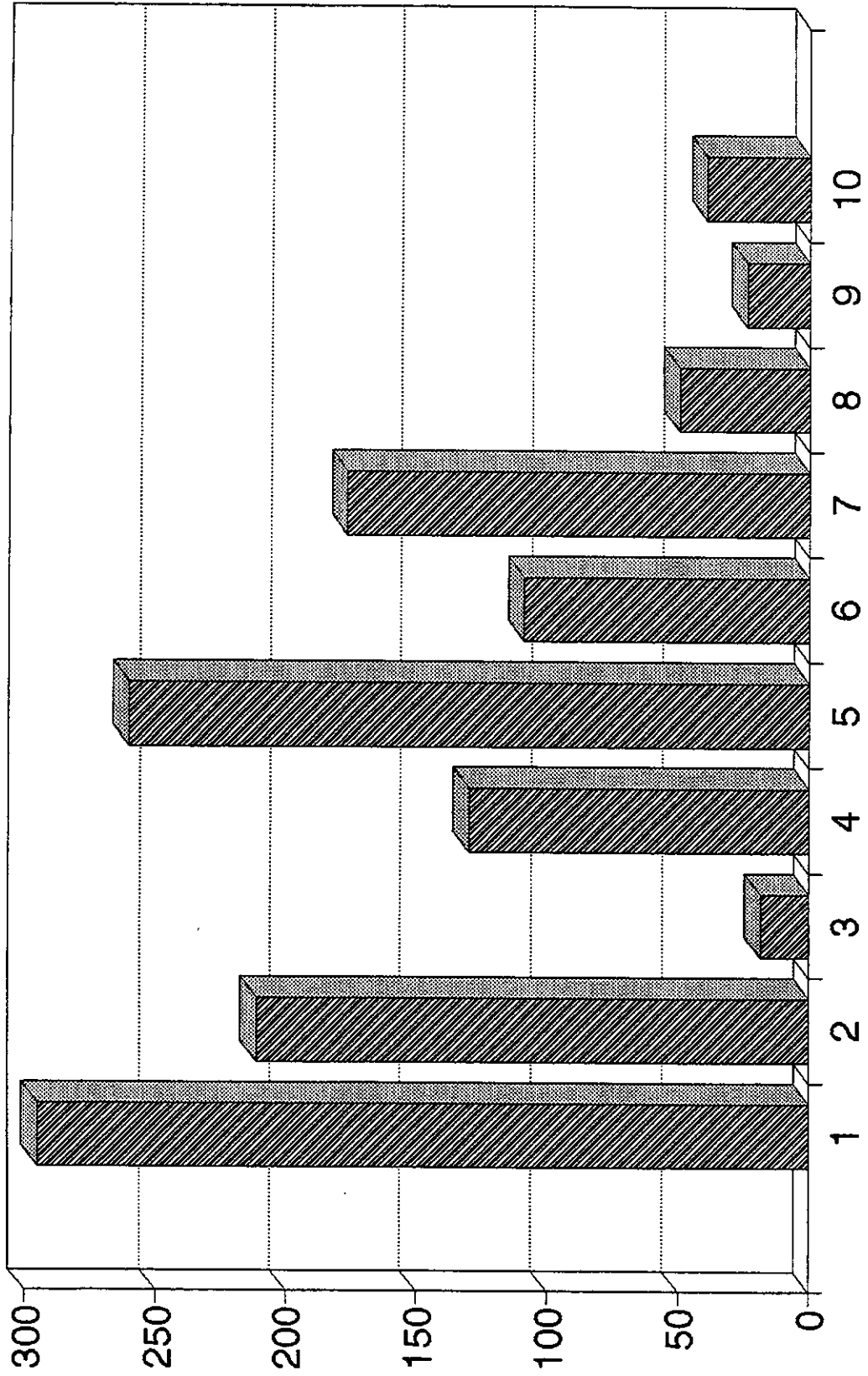
# PART II (TOTAL)

Causal Factors



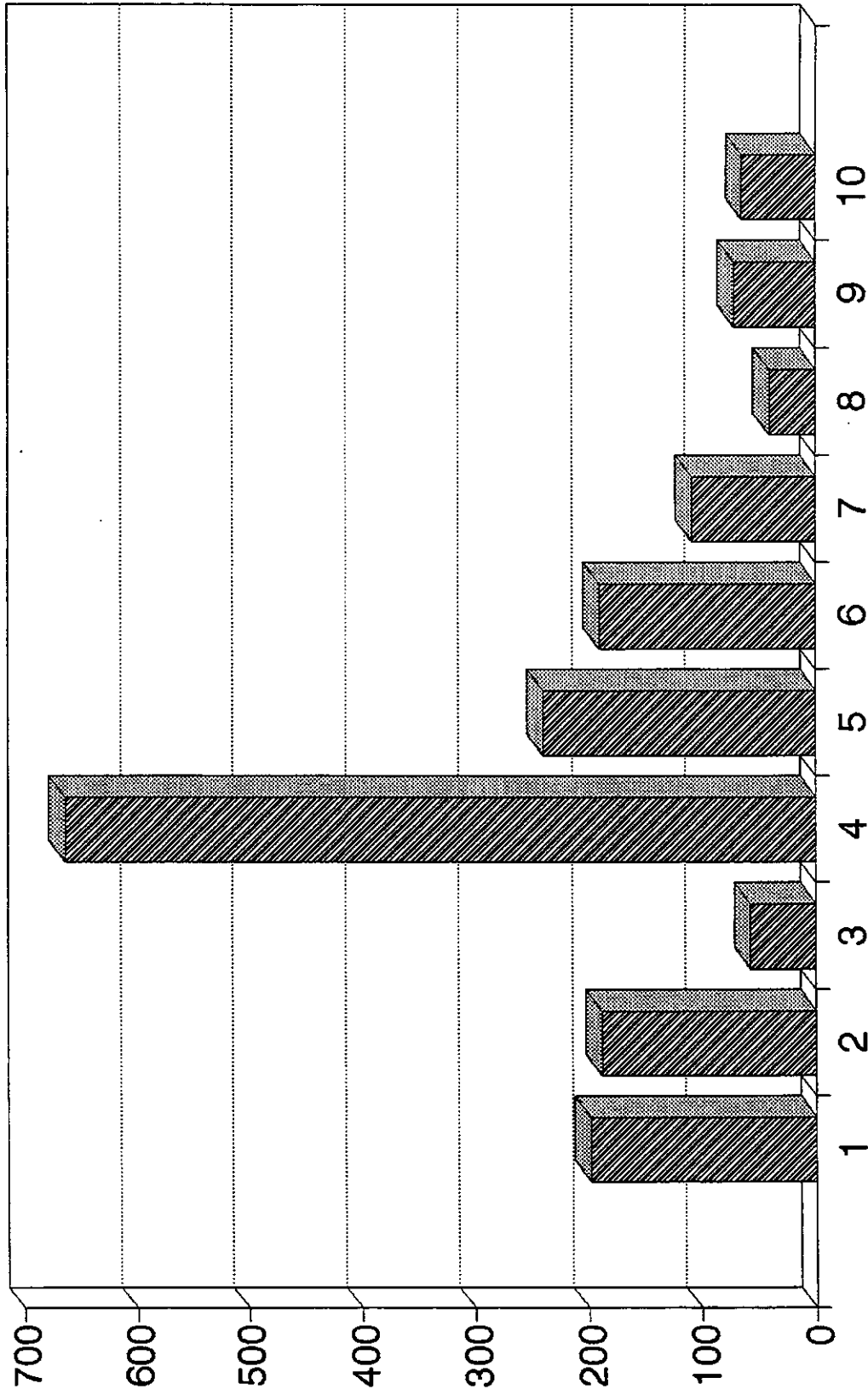
# PART II (GENERALS)

## Causal Factors

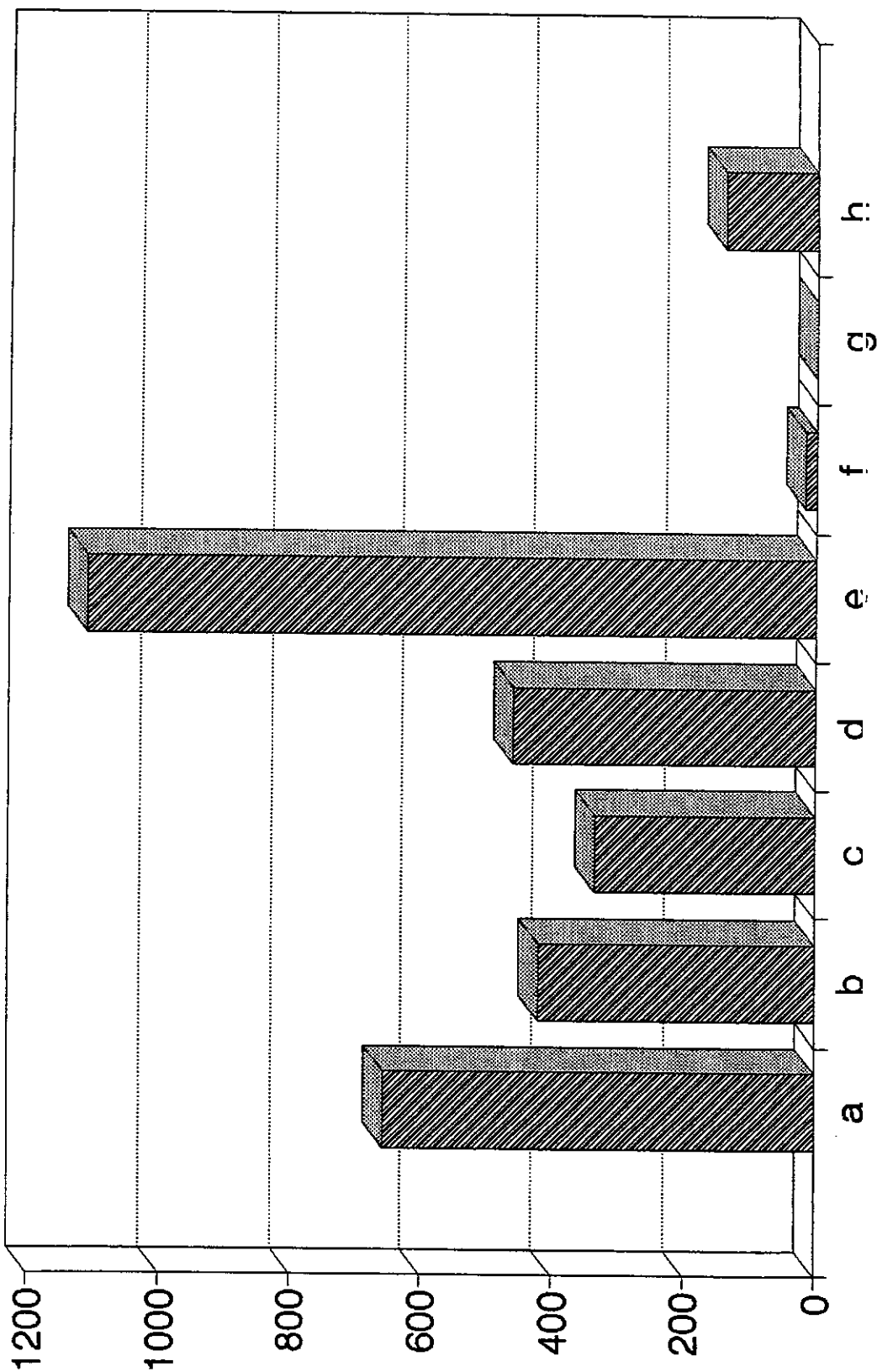


# PART II (SUBS)

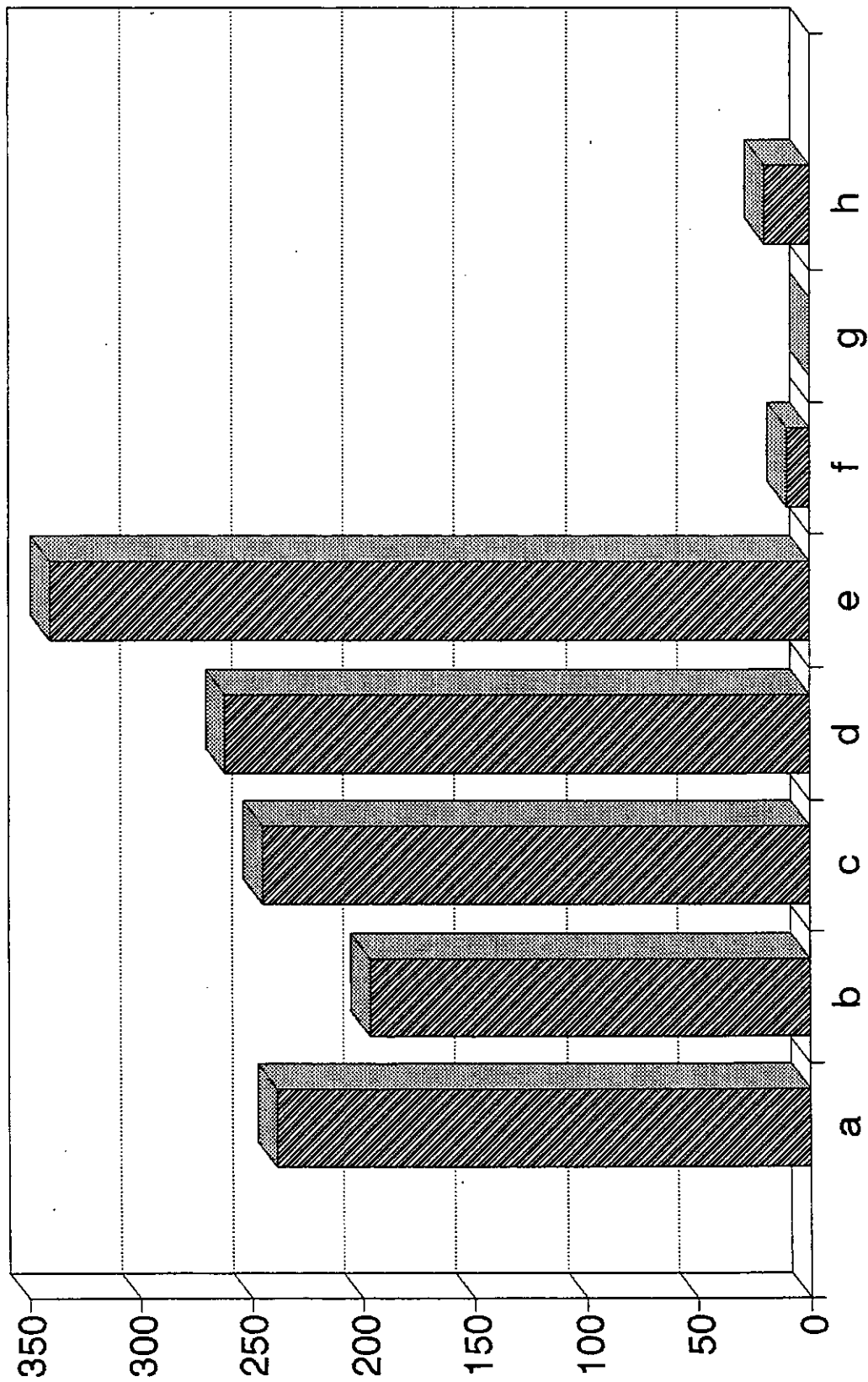
## Causal Factors



# PART II (TOTAL) PROBLEM RESULTS



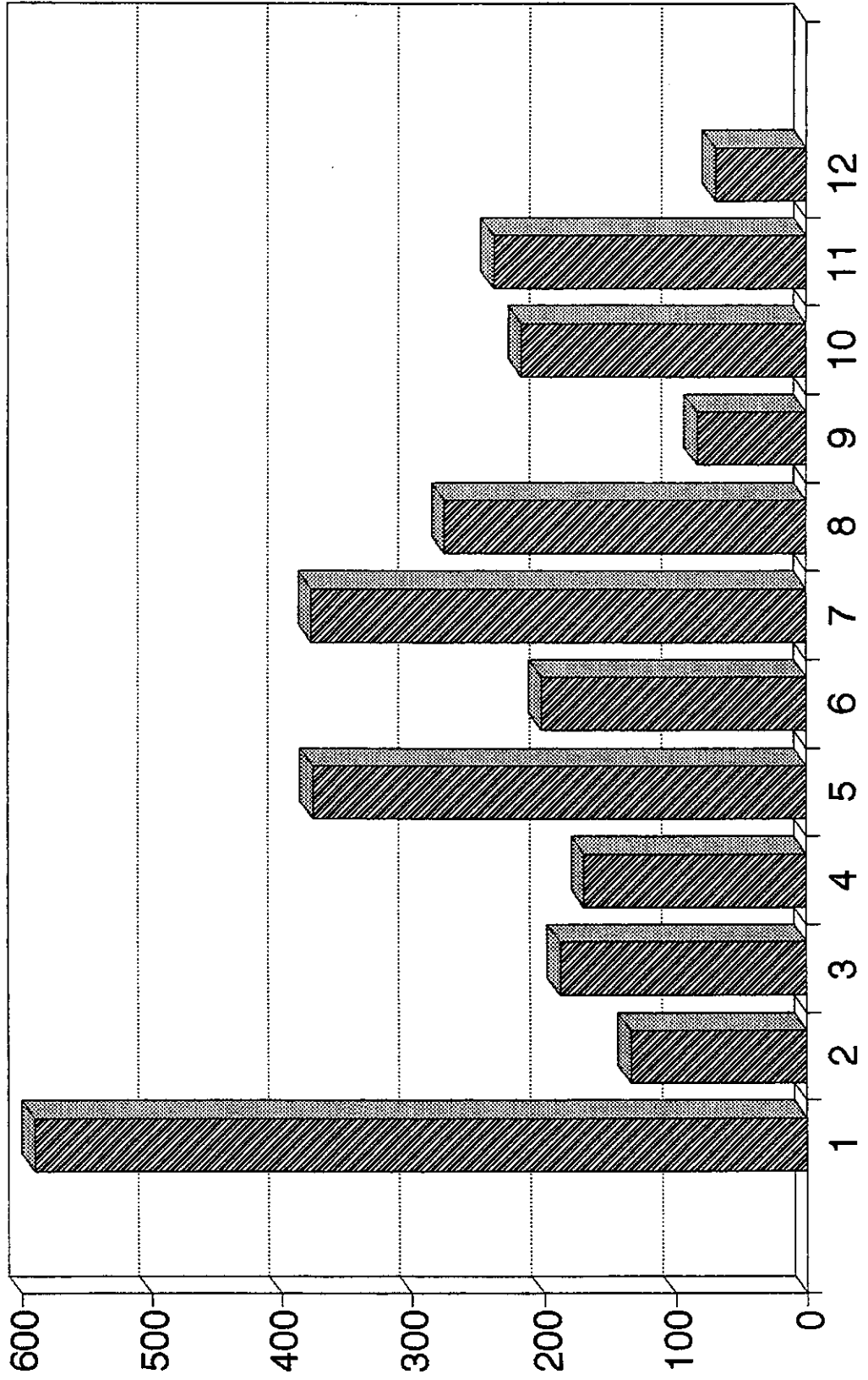
# PART II (GENERALS) PROBLEM RESULTS



# PART II (SUBS) PROBLEM RESULTS

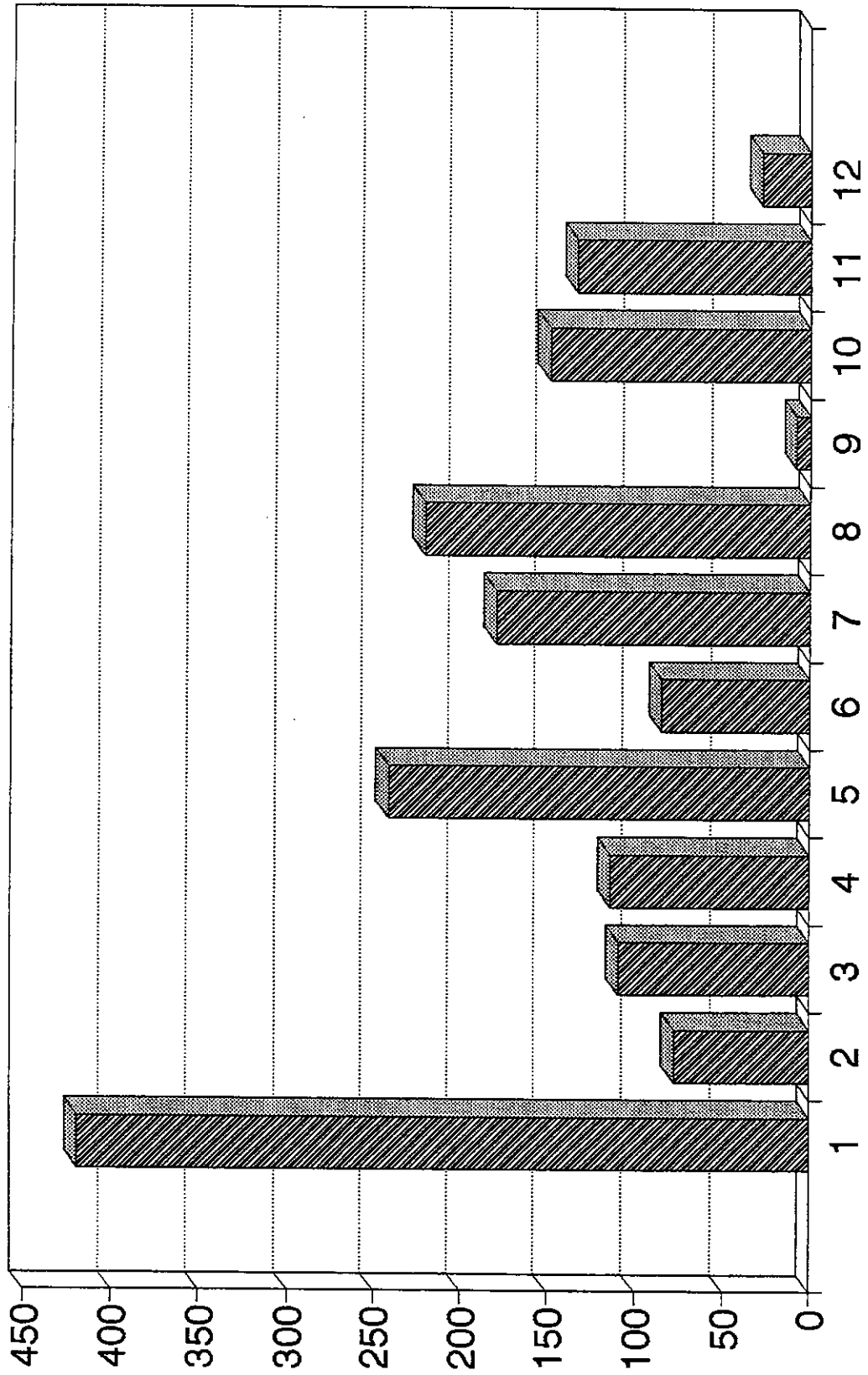


# PART III (TOTAL) SOURCE OF DISPUTES

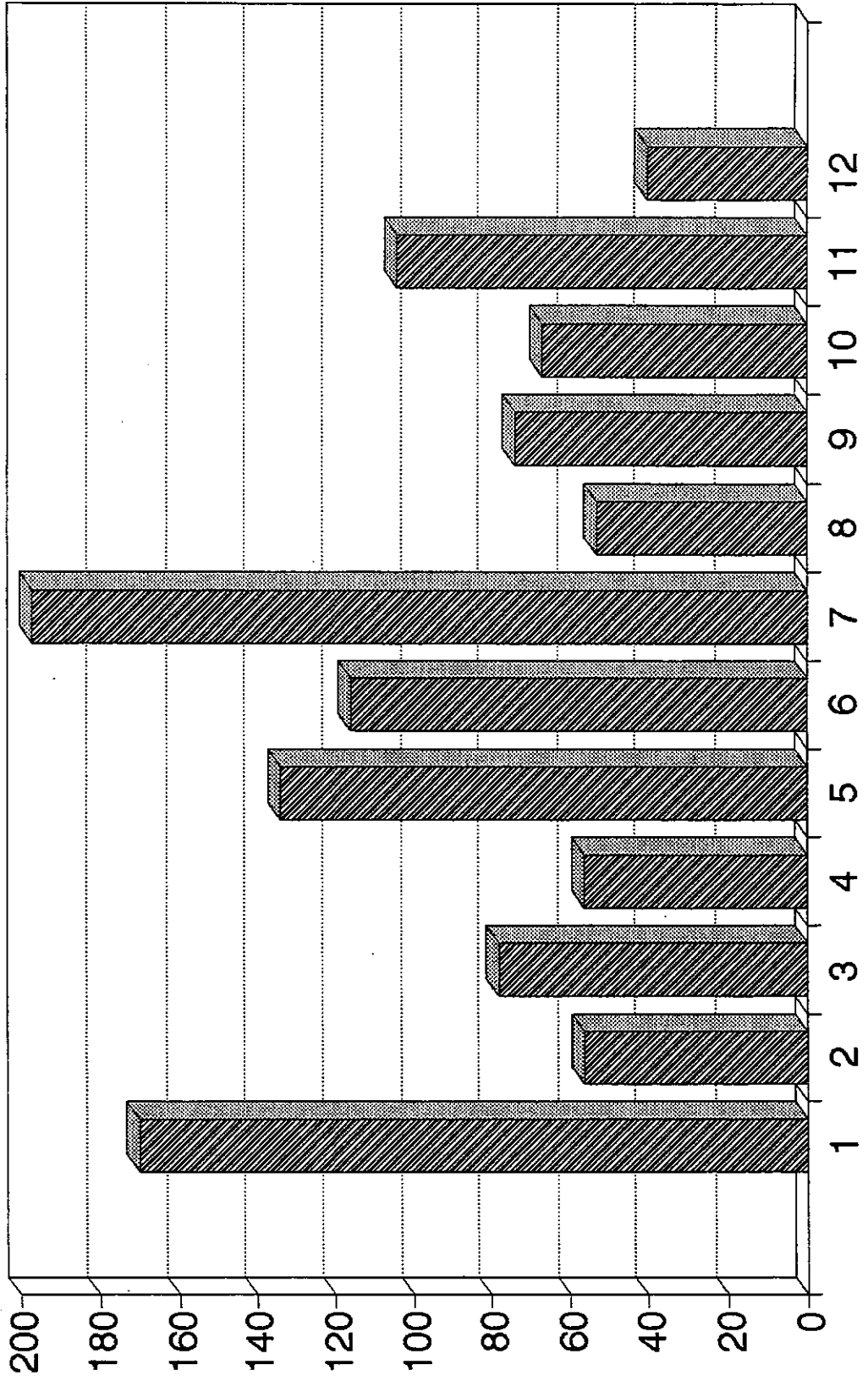




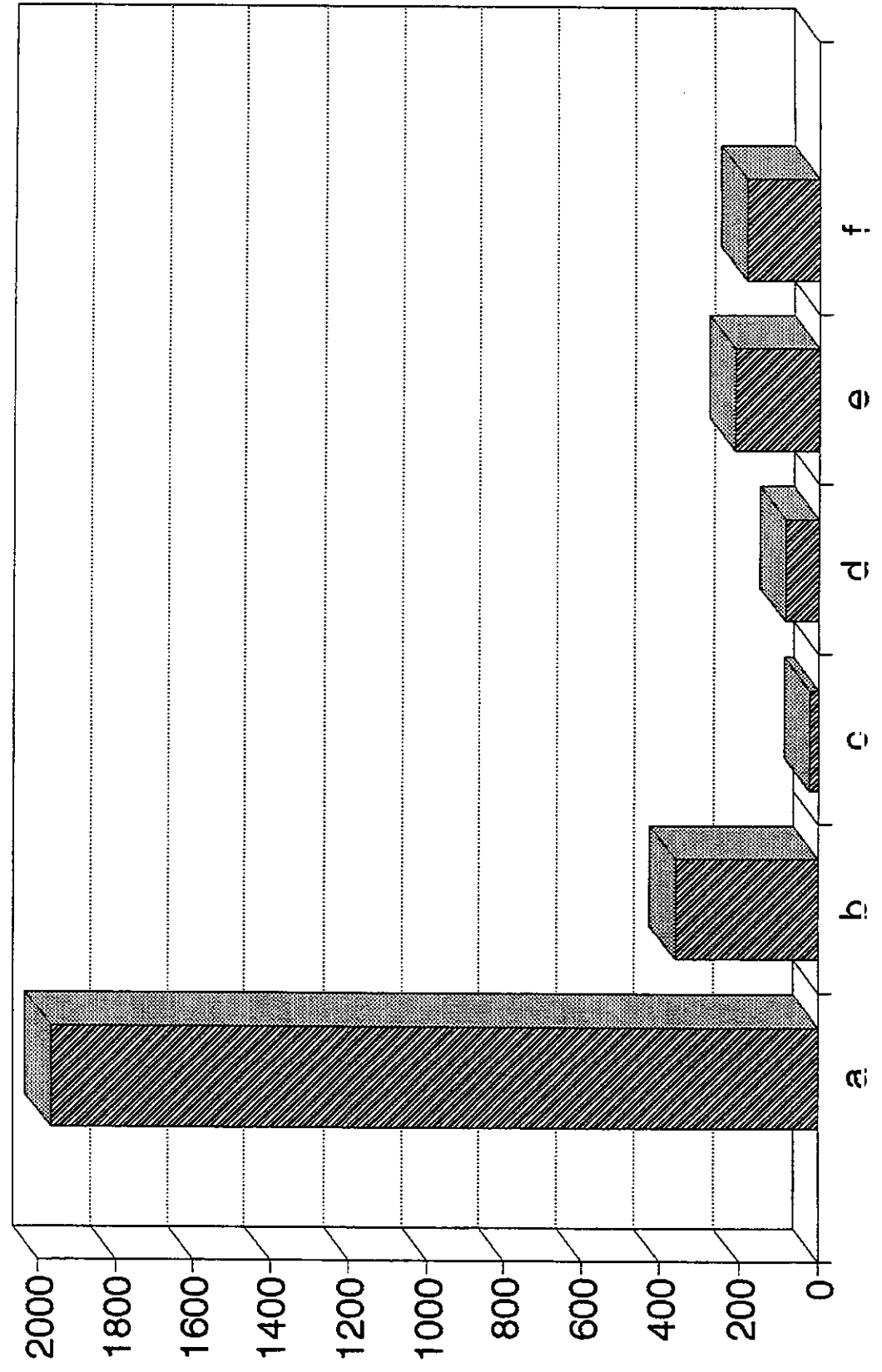
# PART III (GENERALS) SOURCE OF DISPUTES



# PART III (SUBS) SOURCE OF DISPUTES



# PART III (TOTAL) PROBLEM RESOLUTIONS



# PART III (GENERALS)

## PROBLEM RESOLUTIONS

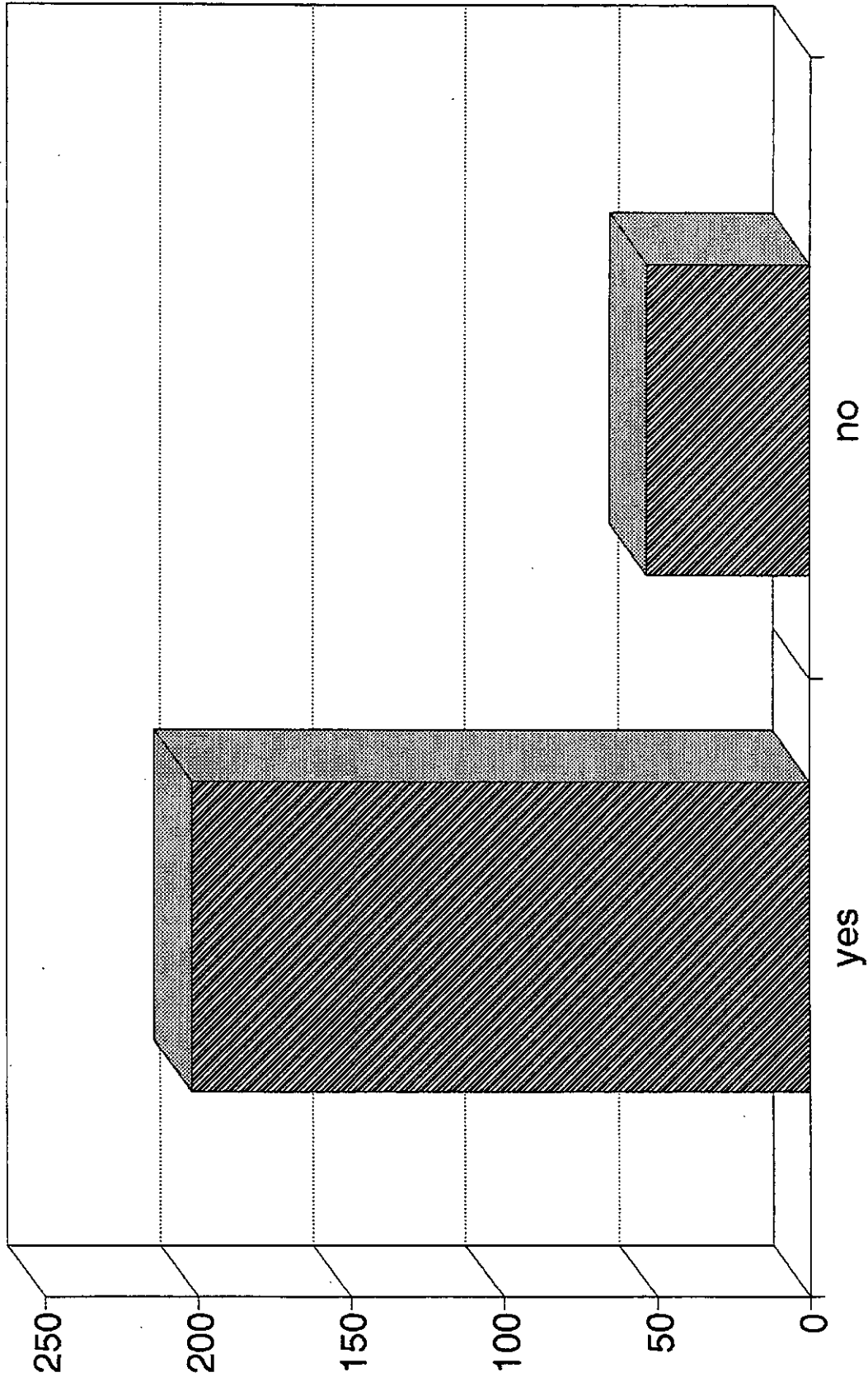


# PART III (SUBS) PROBLEM RESOLUTIONS



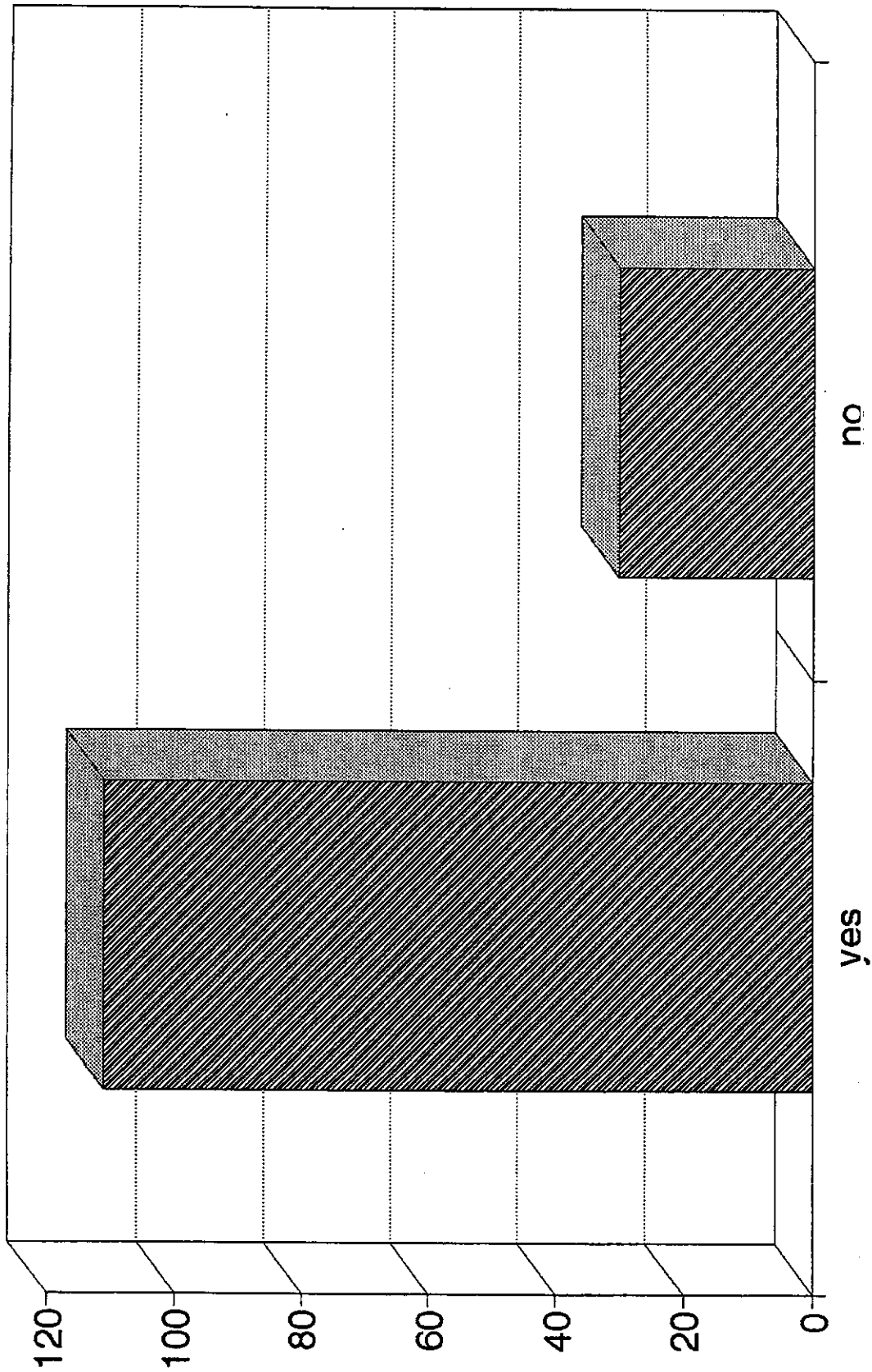
# QUESTION 6.0 (TOTAL)

Are you a member of a trade association



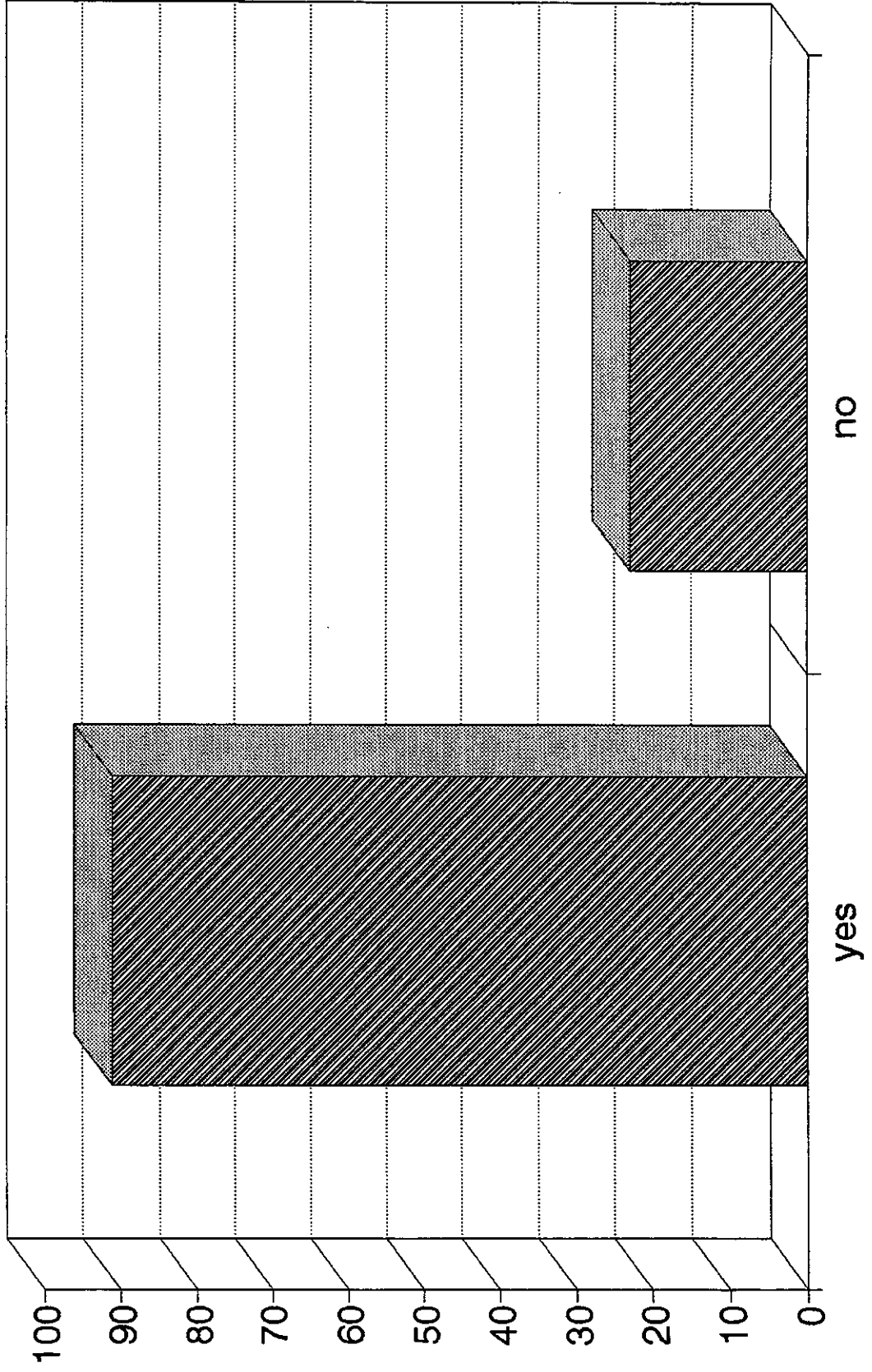
# QUESTION 6.0 (GENERALS)

Are you a member of a trade association



# QUESTION 6.0 (SUBS)

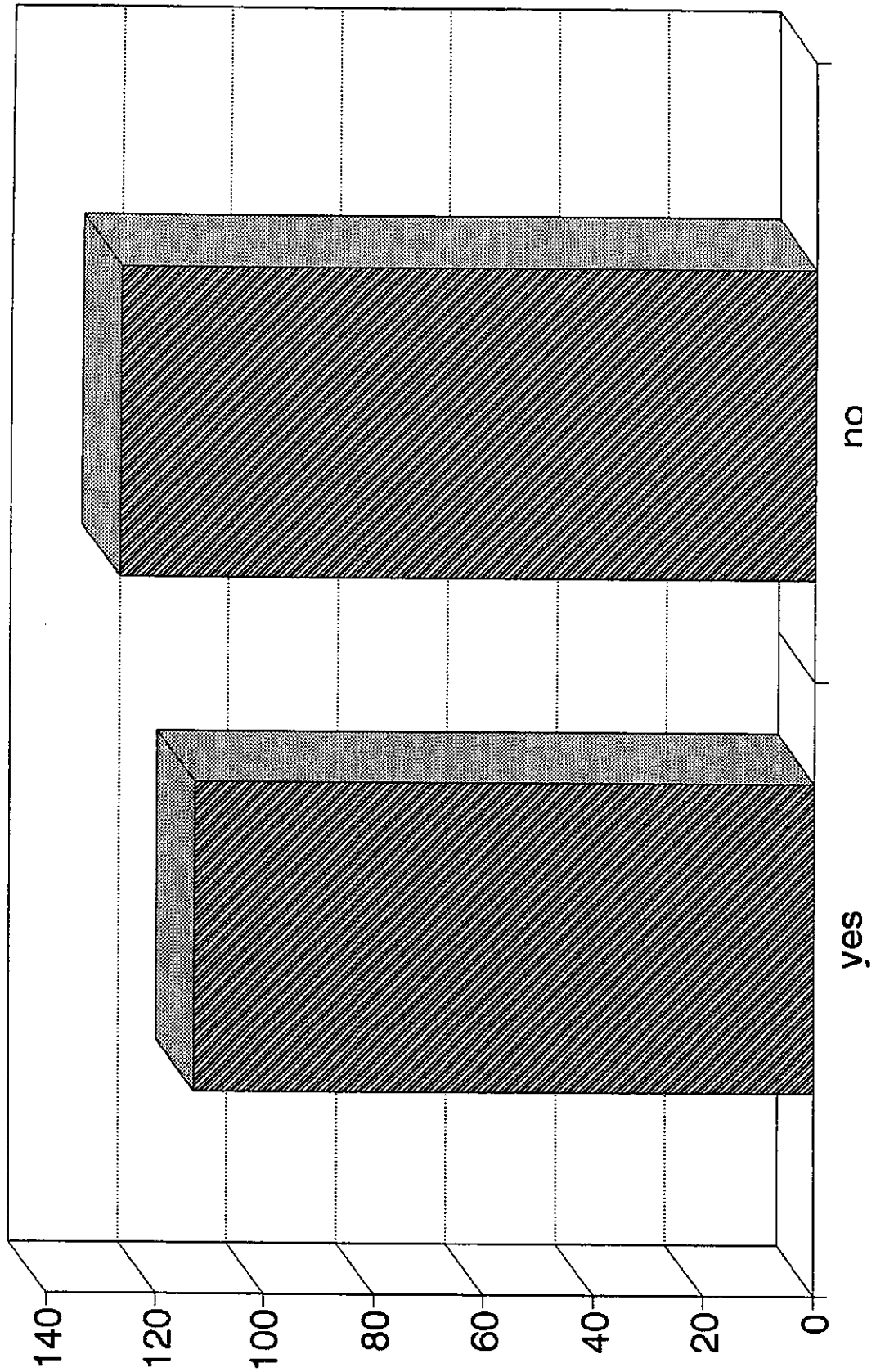
Are you a member of a trade association





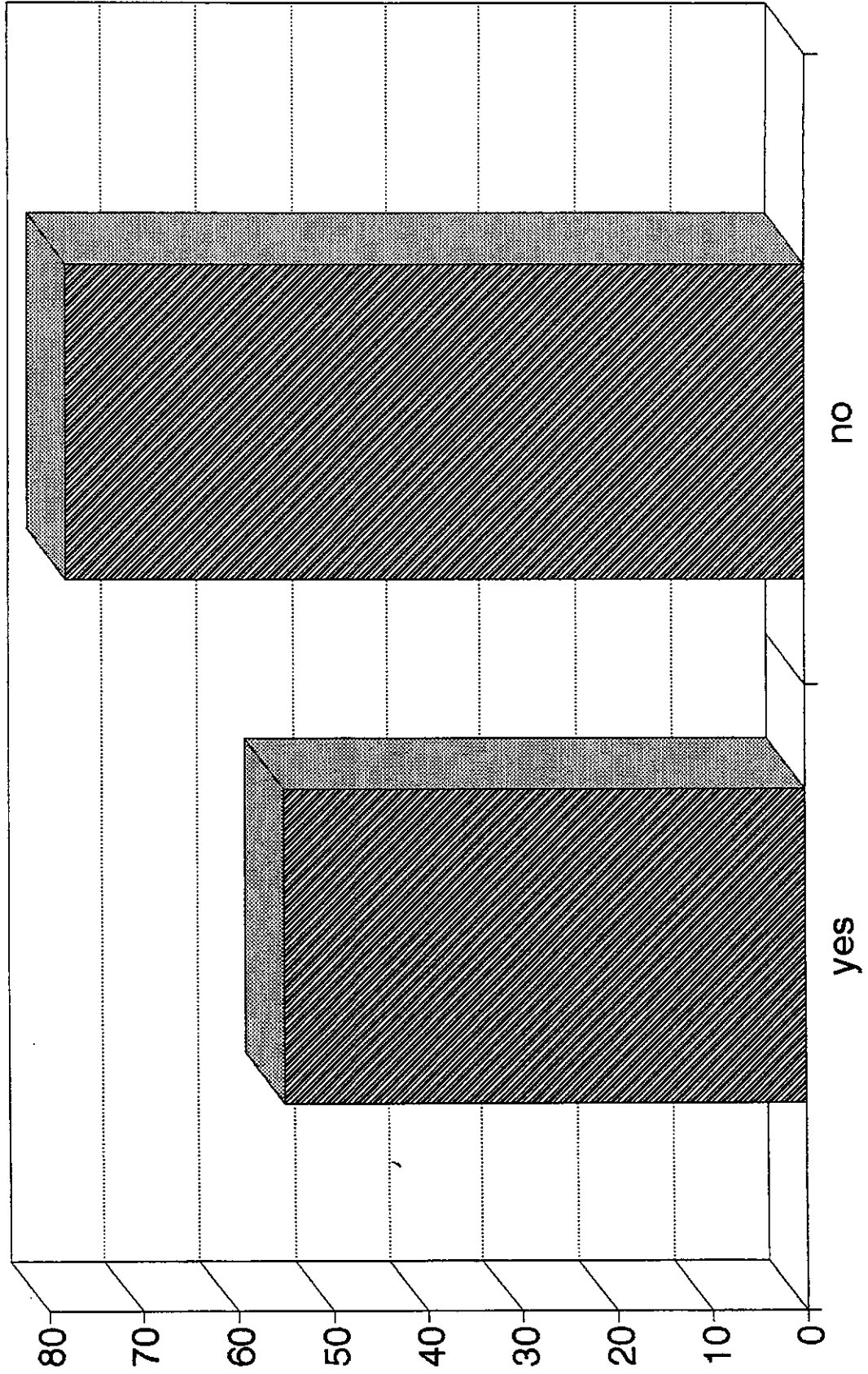
# QUESTION 6.1 (TOTAL)

Do you regularly attend meetings?



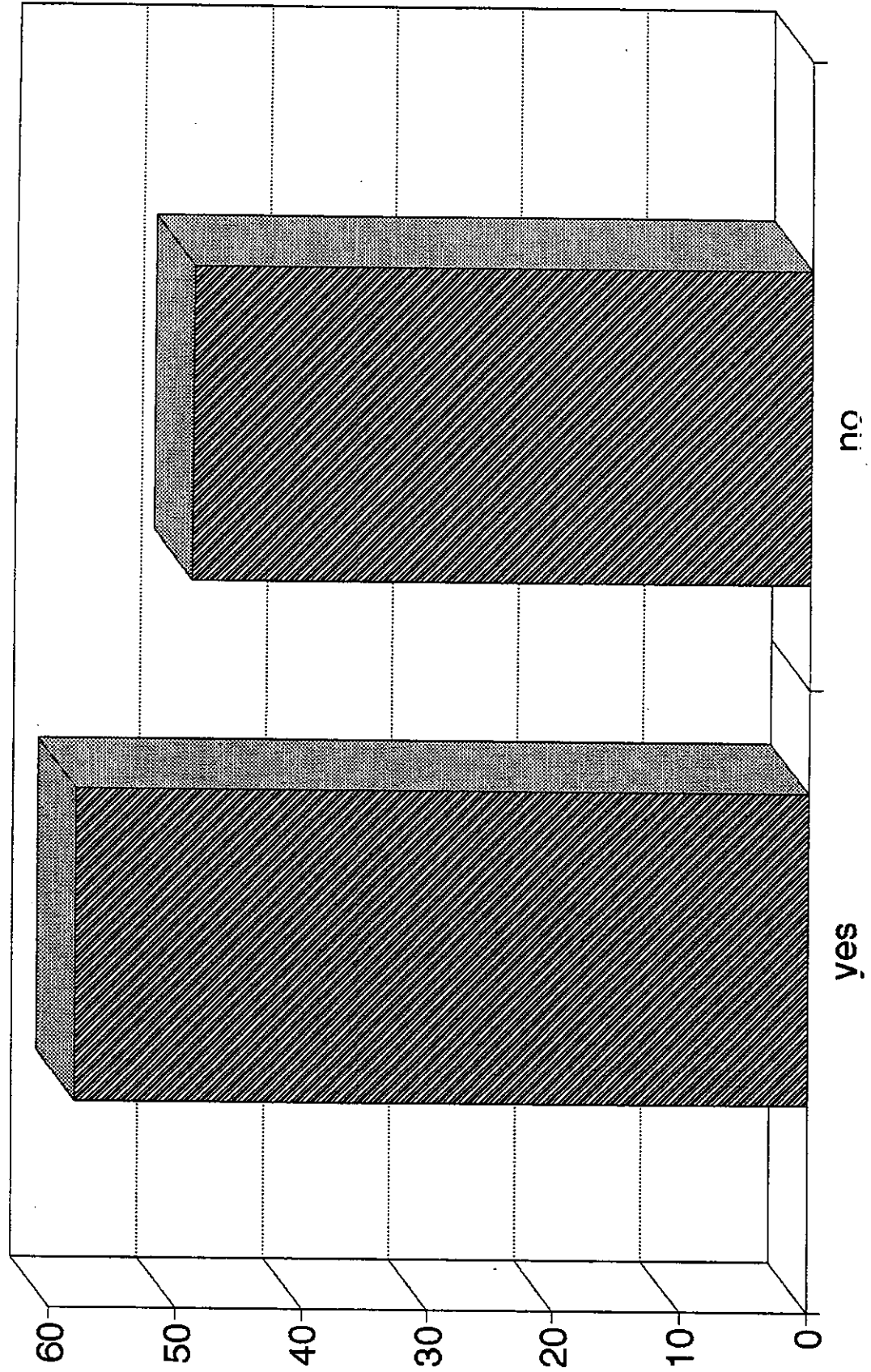
# QUESTION 6.1 (GENERALS)

Do you regularly attend meetings?



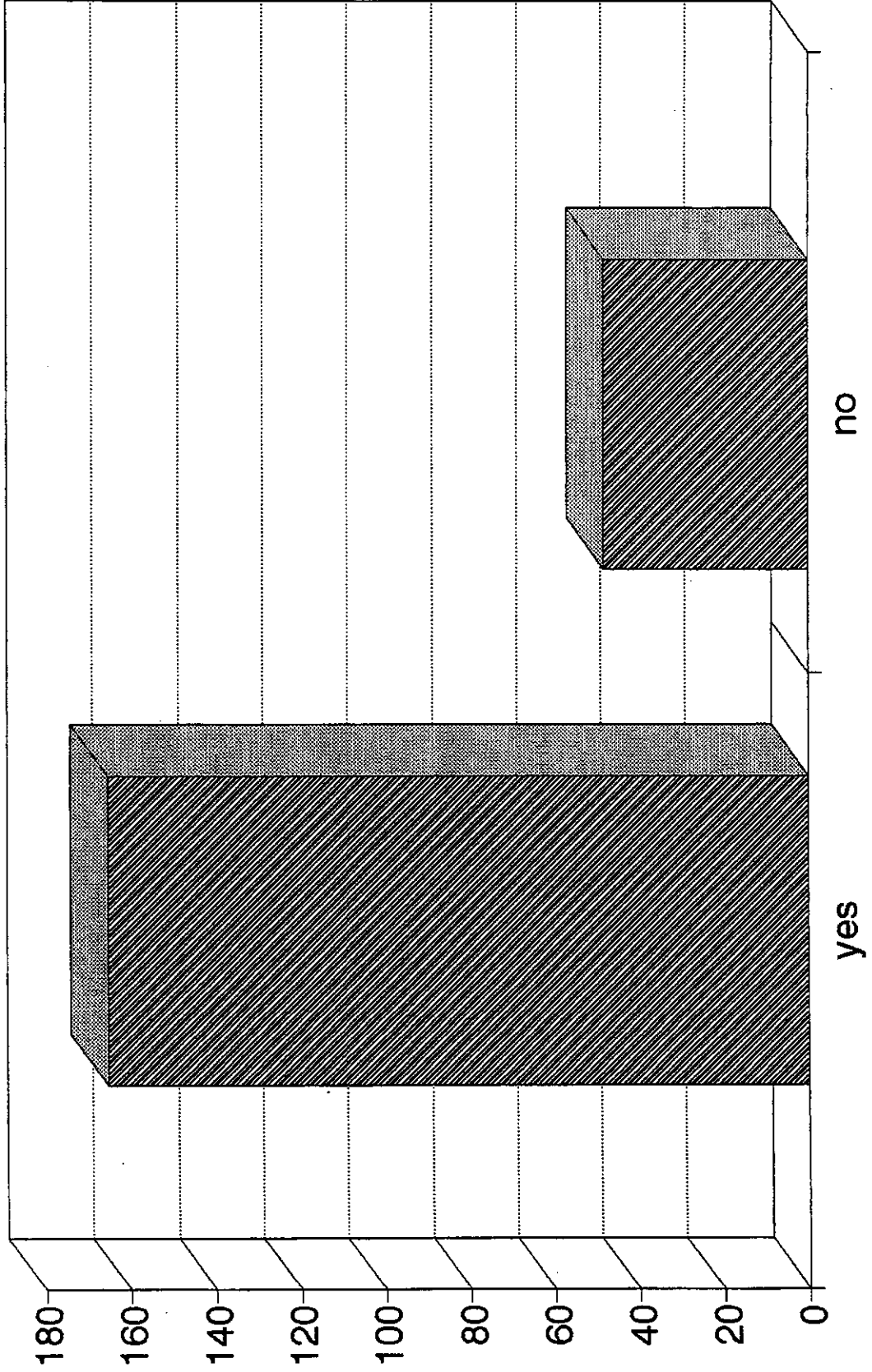
# QUESTION 6.1 (SUBS)

Do you regularly attend meetings?



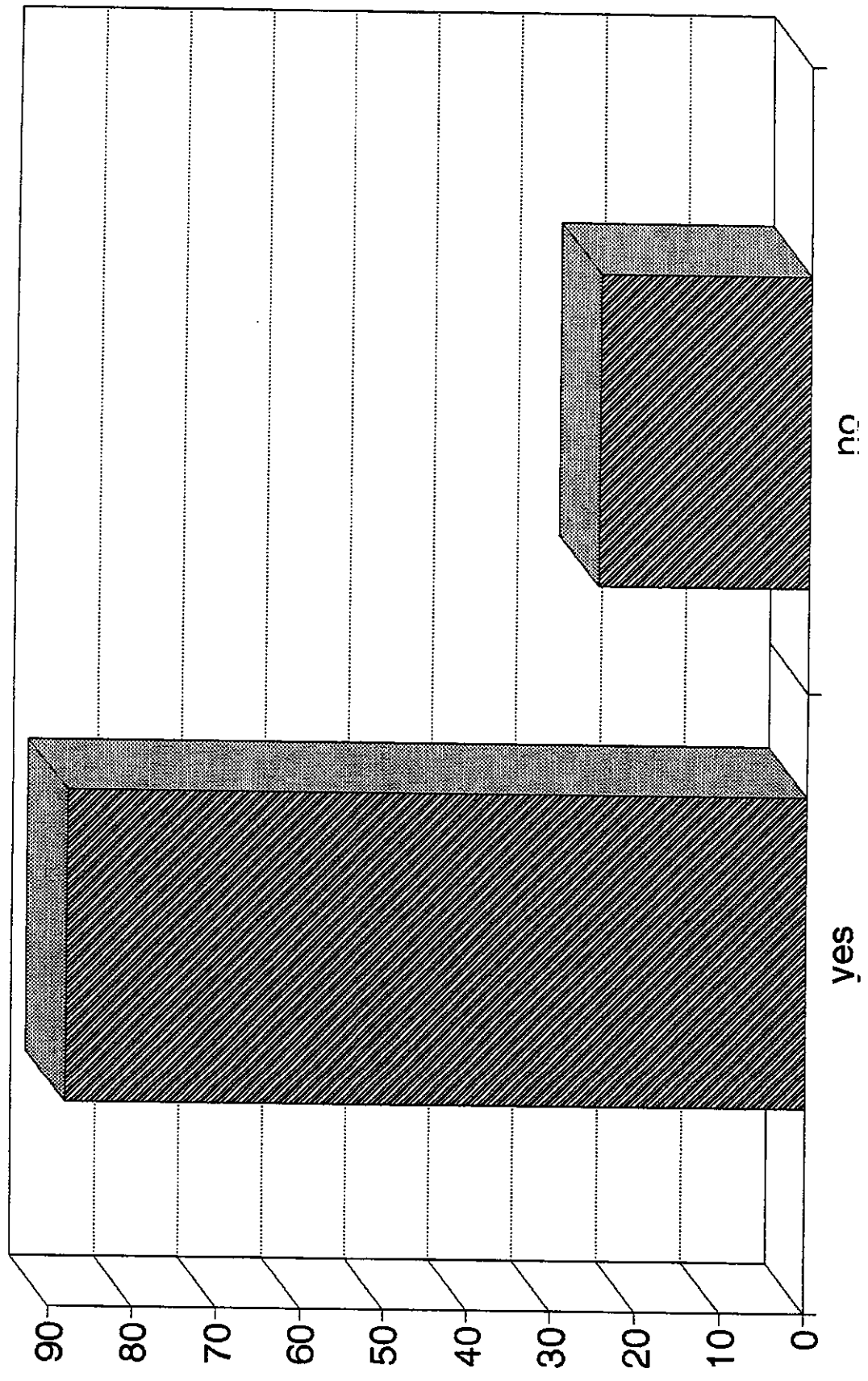
# QUESTION 6.2 (TOTAL)

Group conduct seminars on law changes?



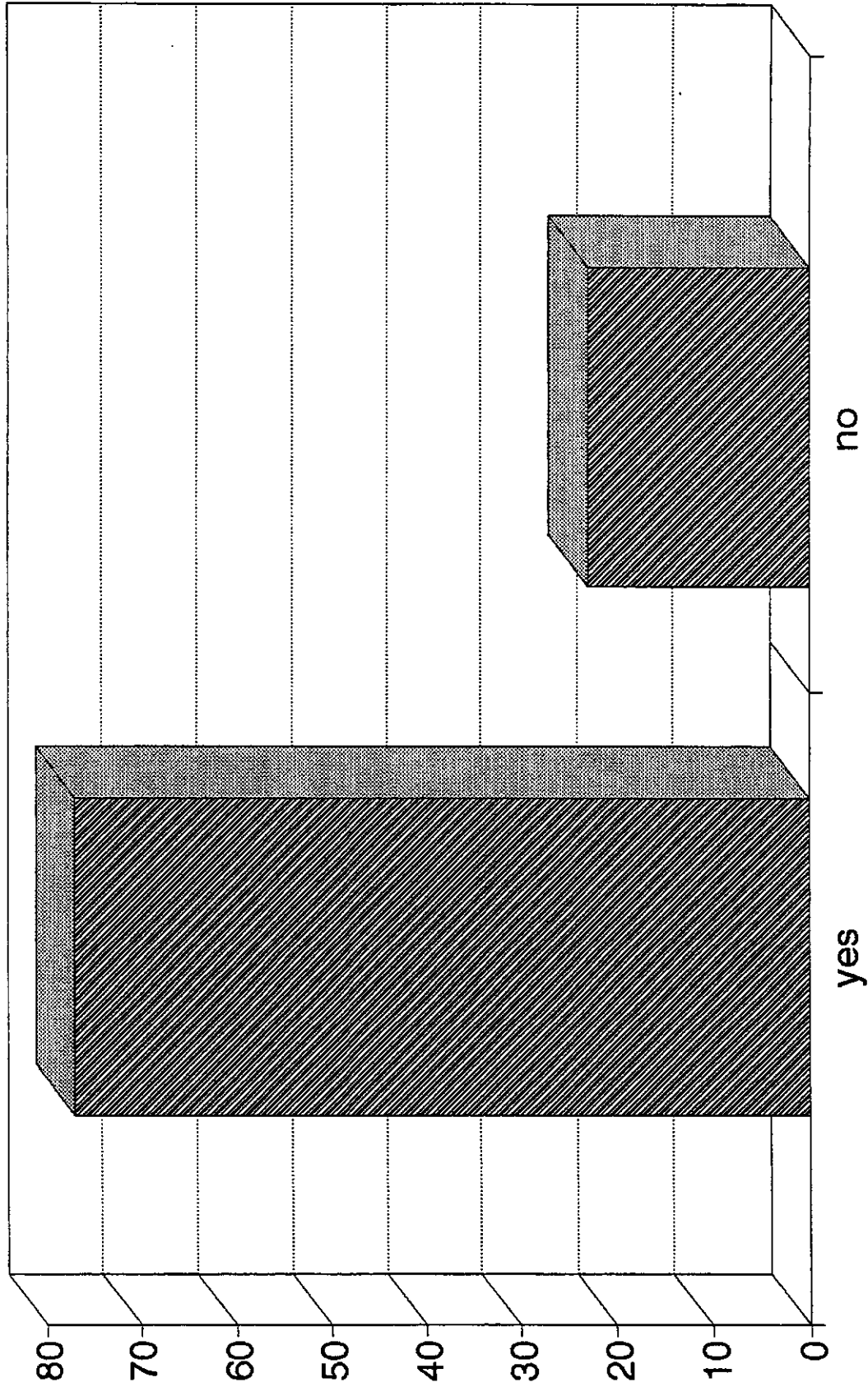
# QUESTION 6.2 (GENERALS)

Group conduct seminars on law changes?



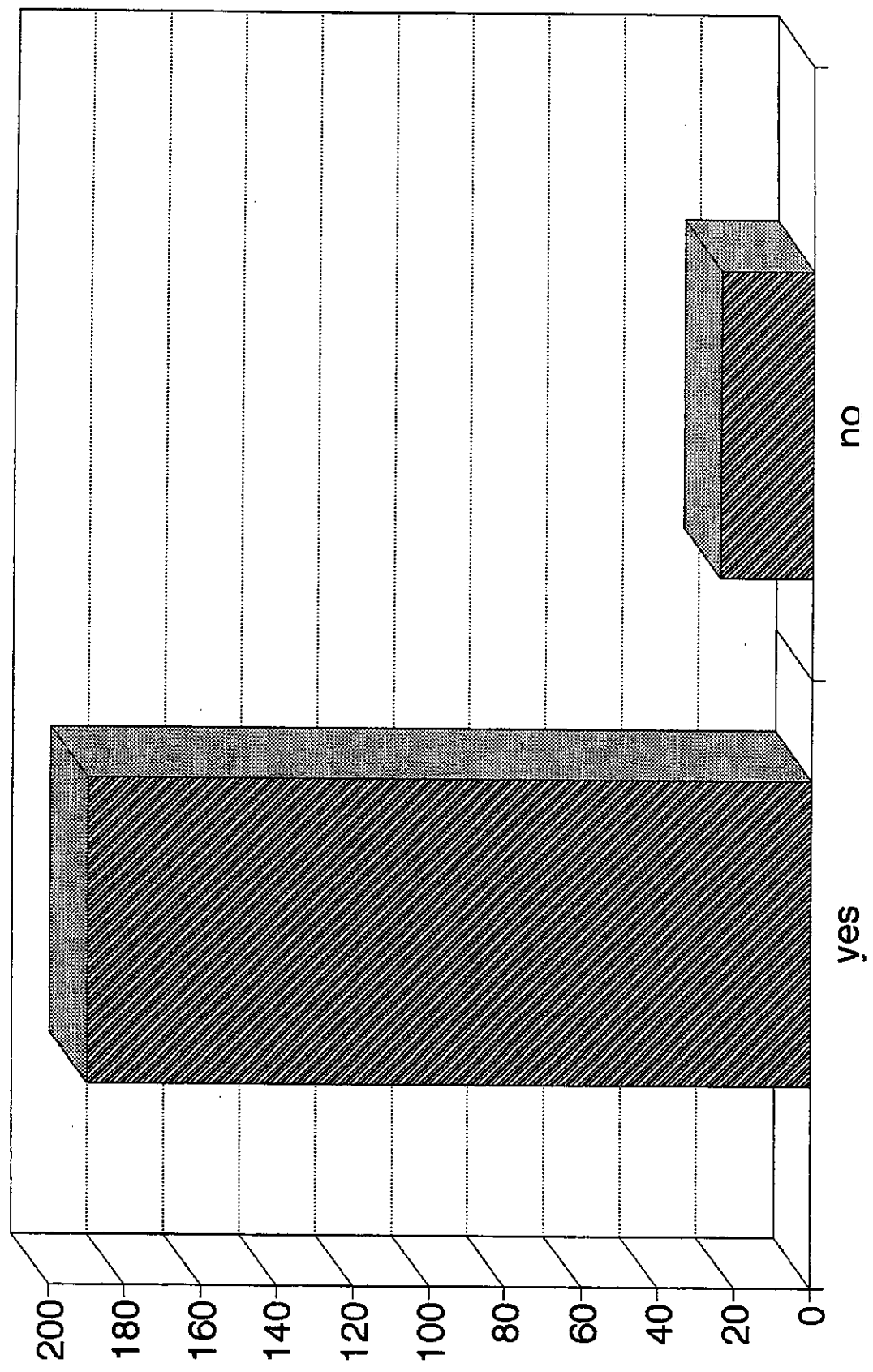
# QUESTION 6.2 (SUBS)

Group conduct seminars on law changes?



# QUESTION 6.3 (TOTAL)

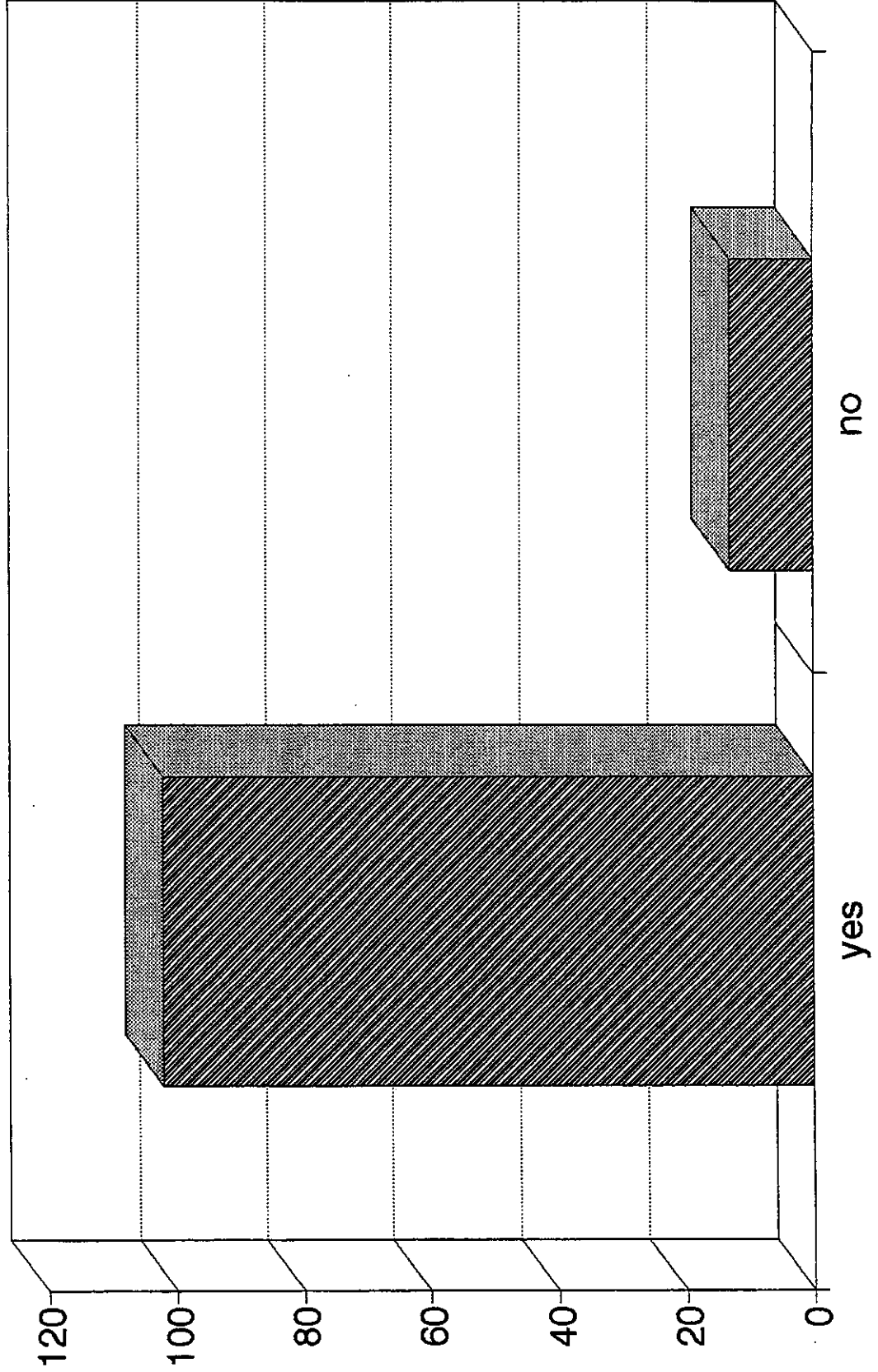
Are seminars on construction law useful





# QUESTION 6.3 (GENERALS)

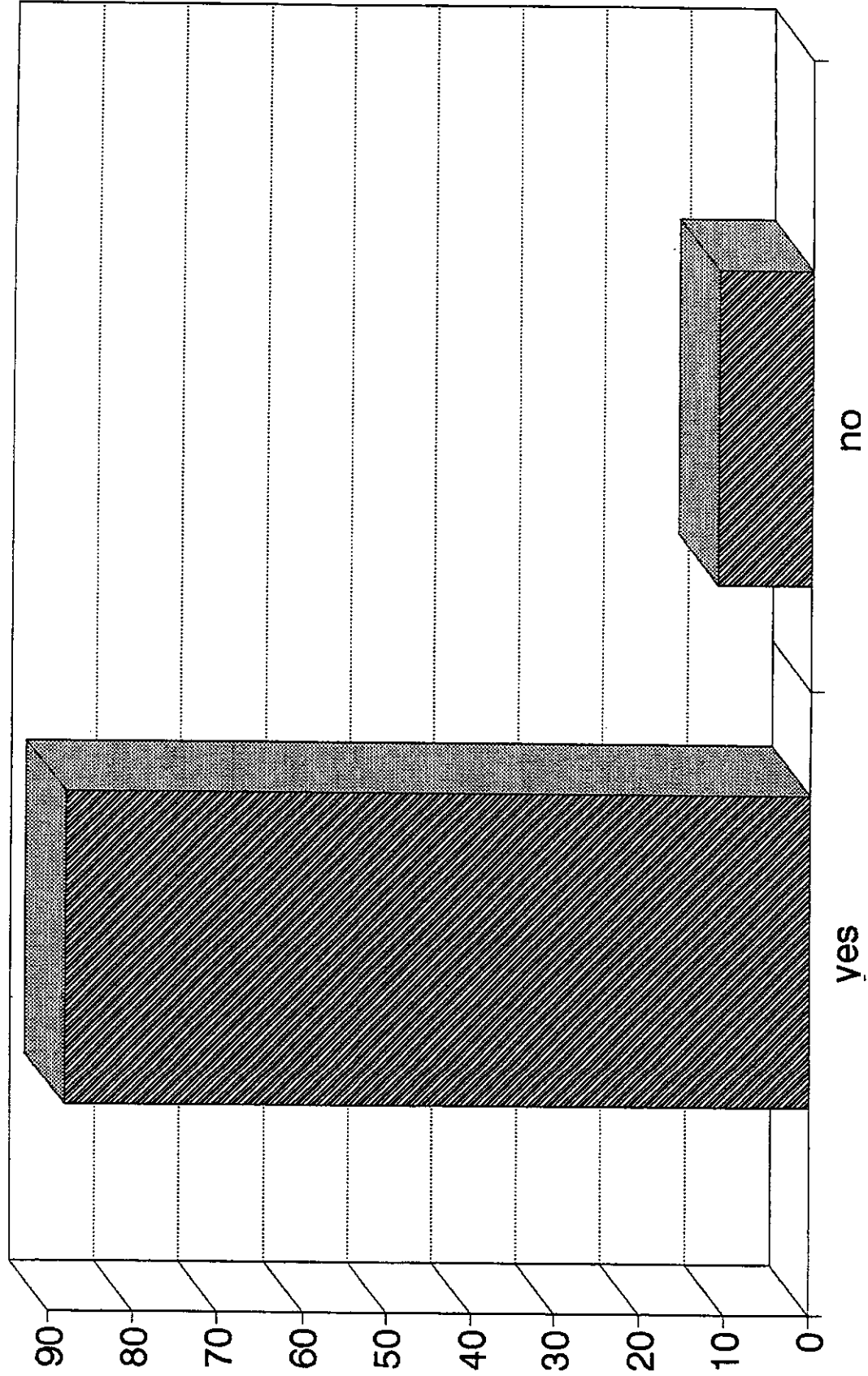
Are seminars on construction law useful





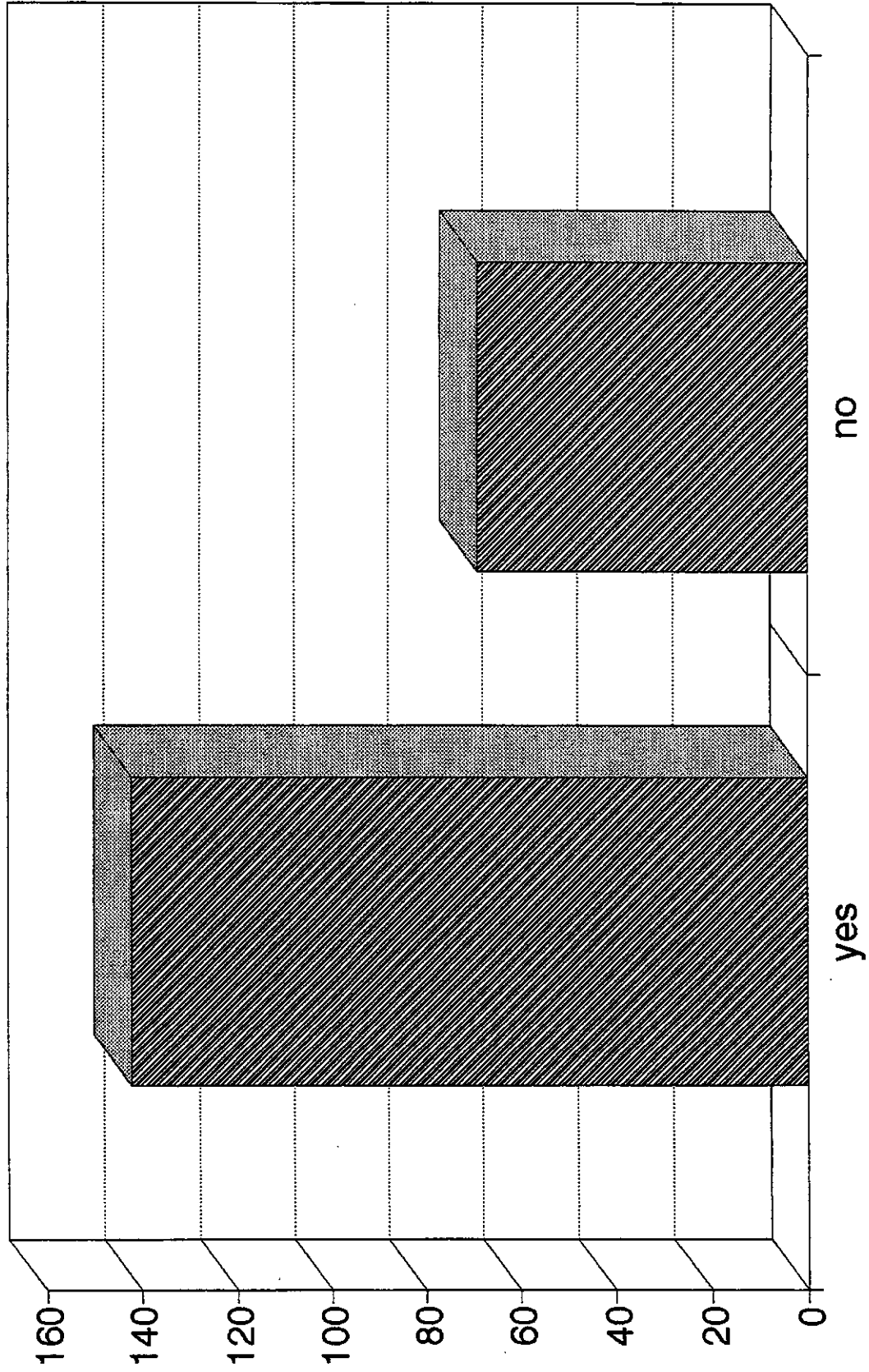
# QUESTION 6.3 (SUBS)

Are seminars on construction law useful



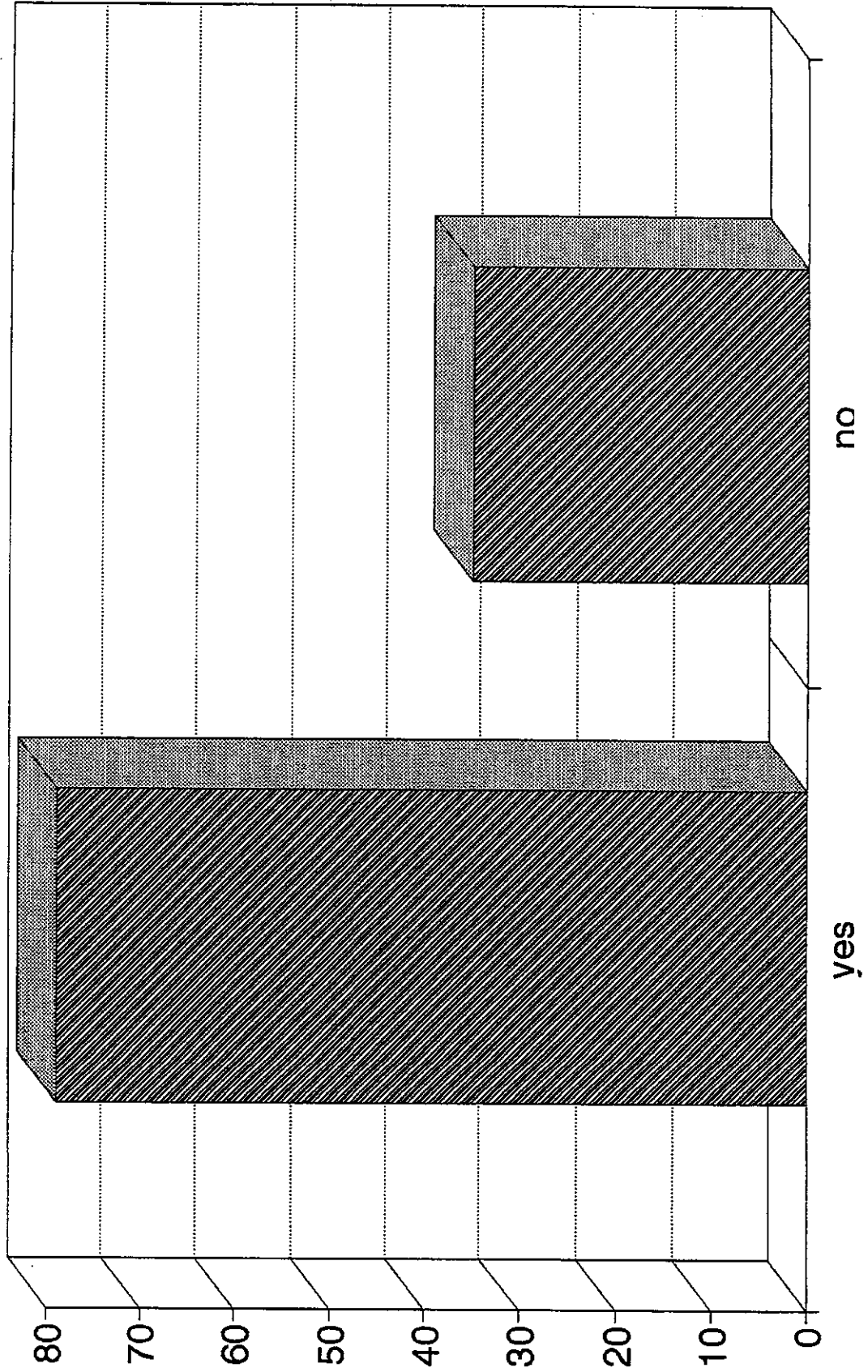
# QUESTION 6.4 (TOTAL)

More construction law seminars needed?



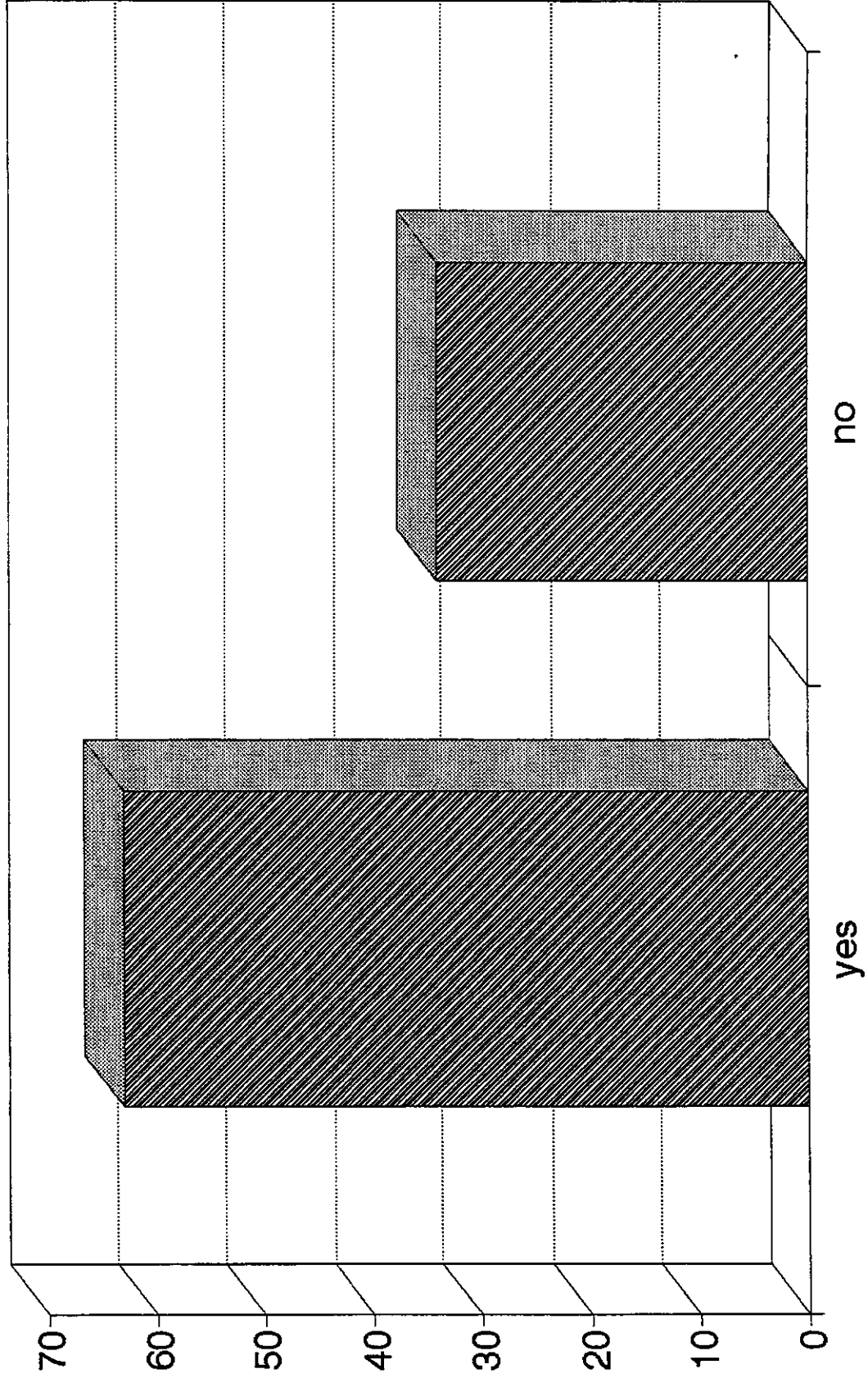
# QUESTION 6.4 (GENERALS)

More construction law seminars needed?



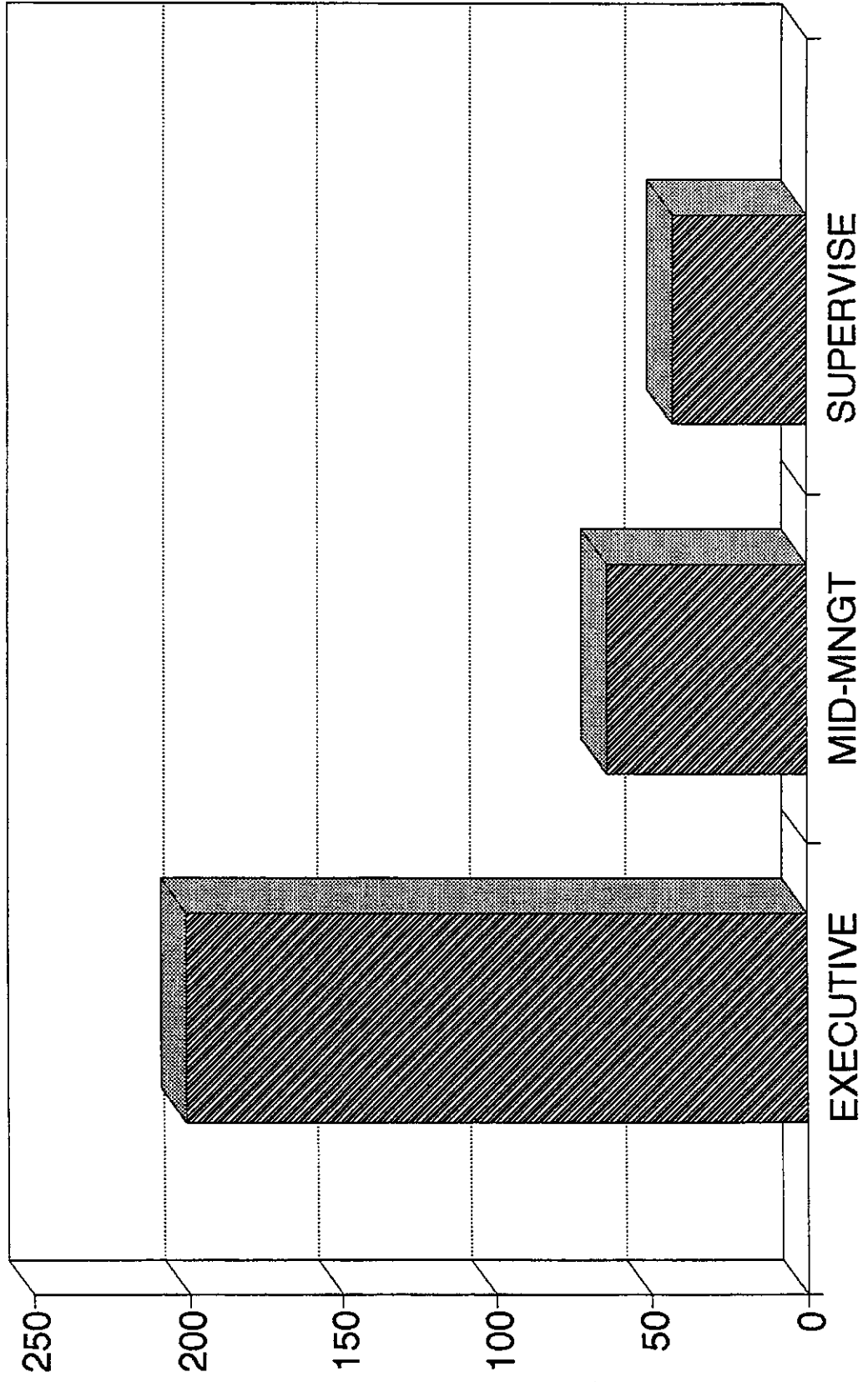
# QUESTION 6.4 (SUBS)

More construction law seminars needed?



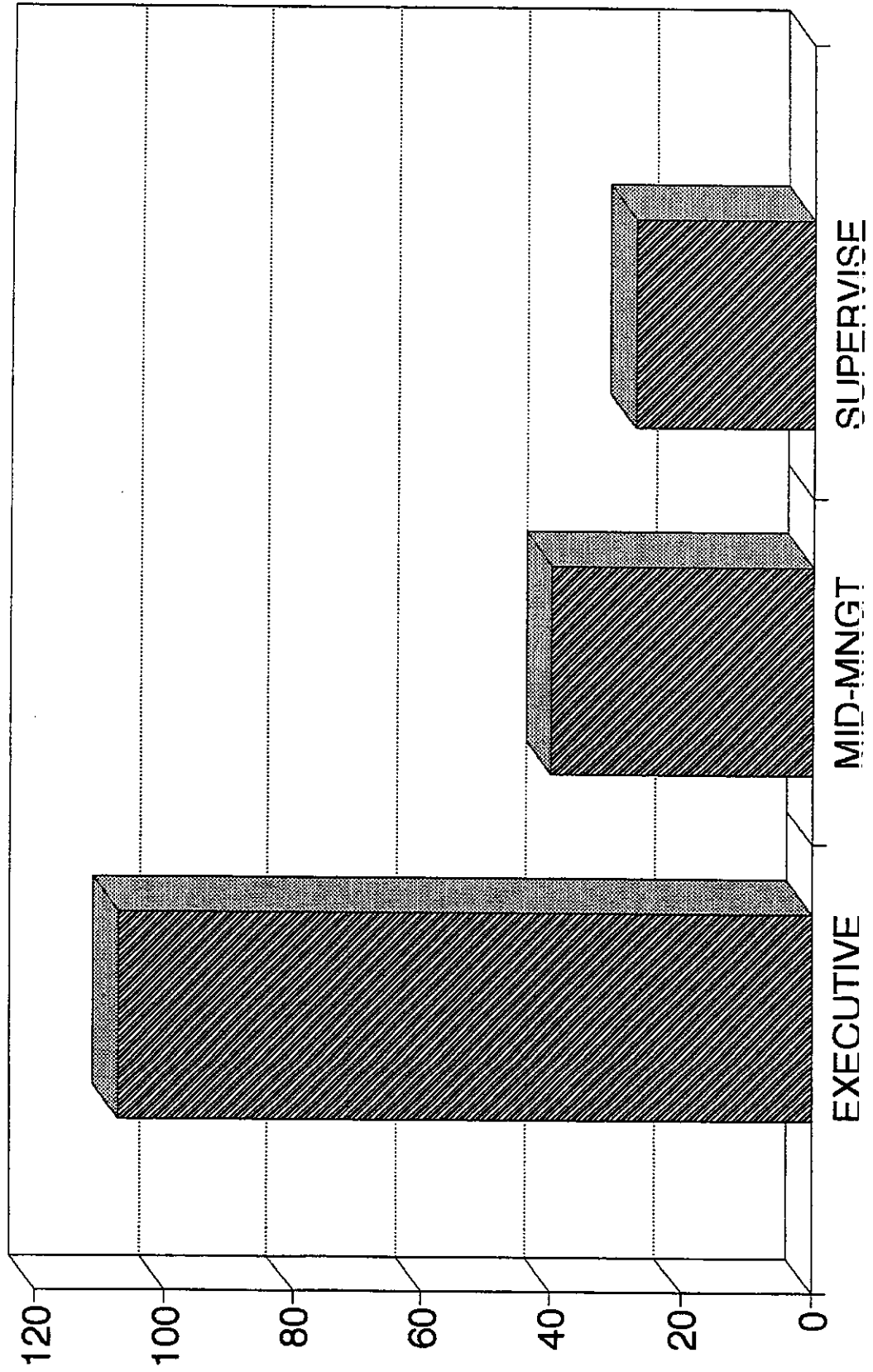
# QUESTION 1 (TOTAL)

What is your function with the company?



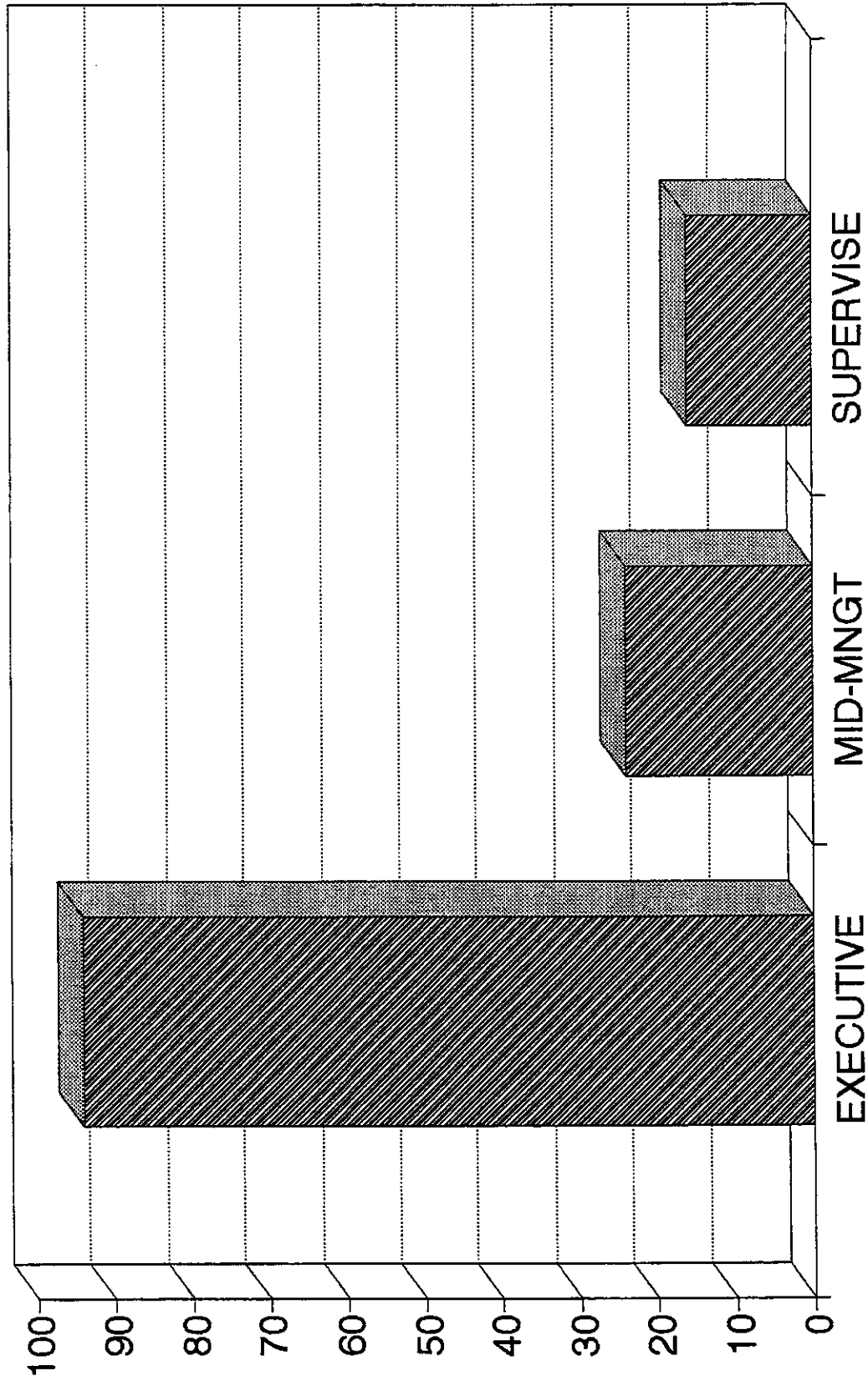
# QUESTION 1 (GENERALS)

What is your function with the company?



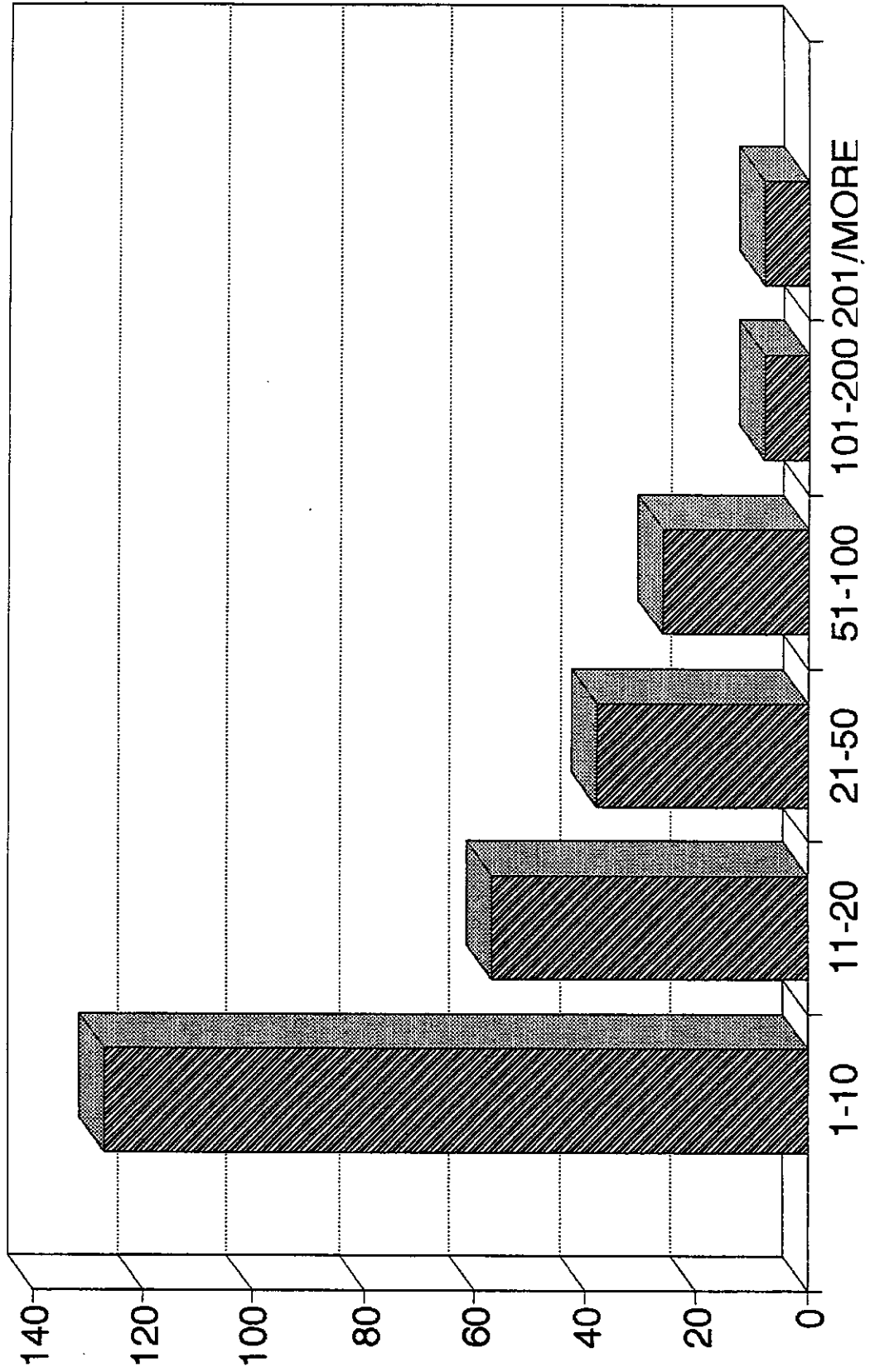
# QUESTION 1 (SUBS)

What is your function with the company?



# QUESTION 2 (TOTALS)

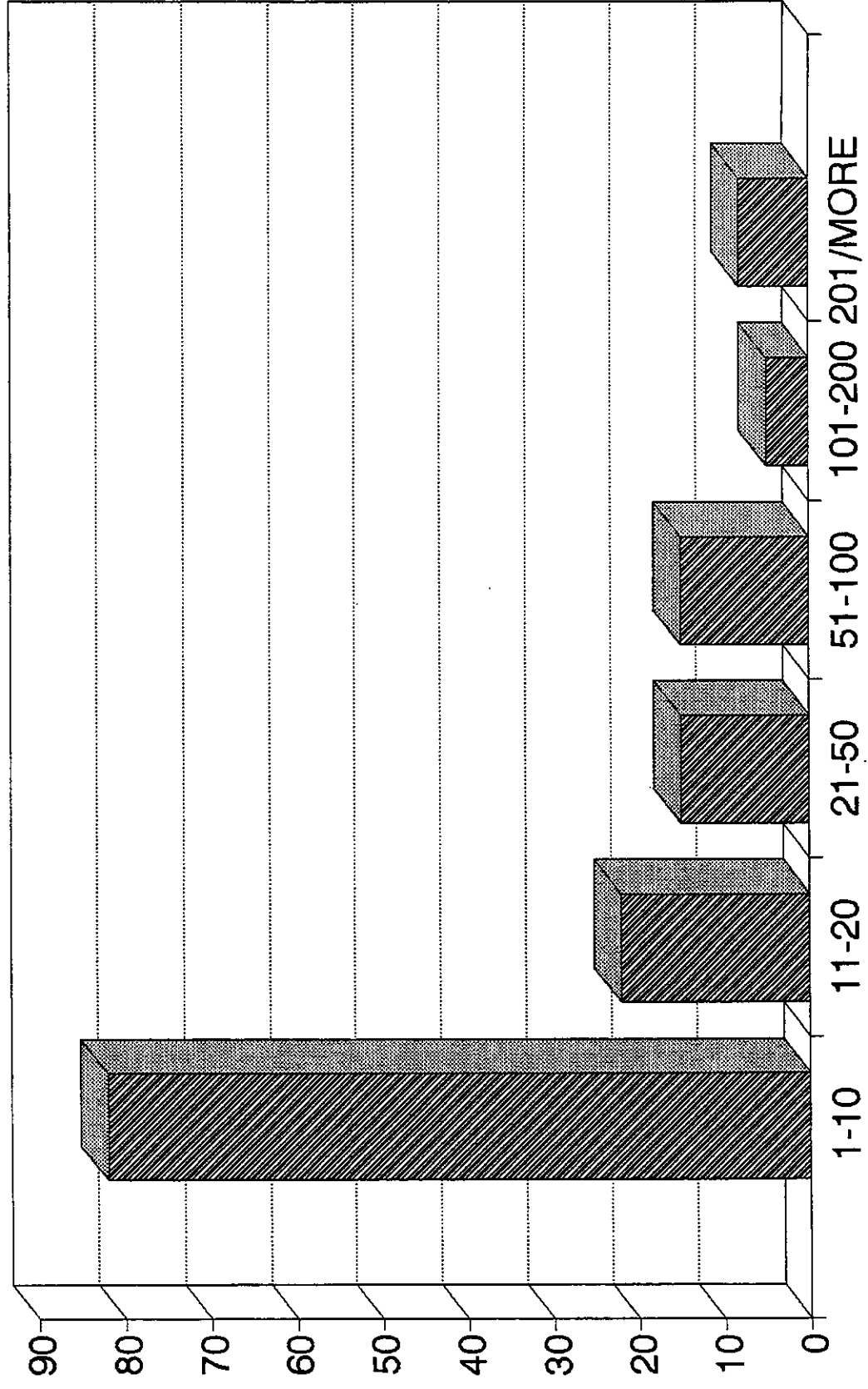
How many employees in your company?





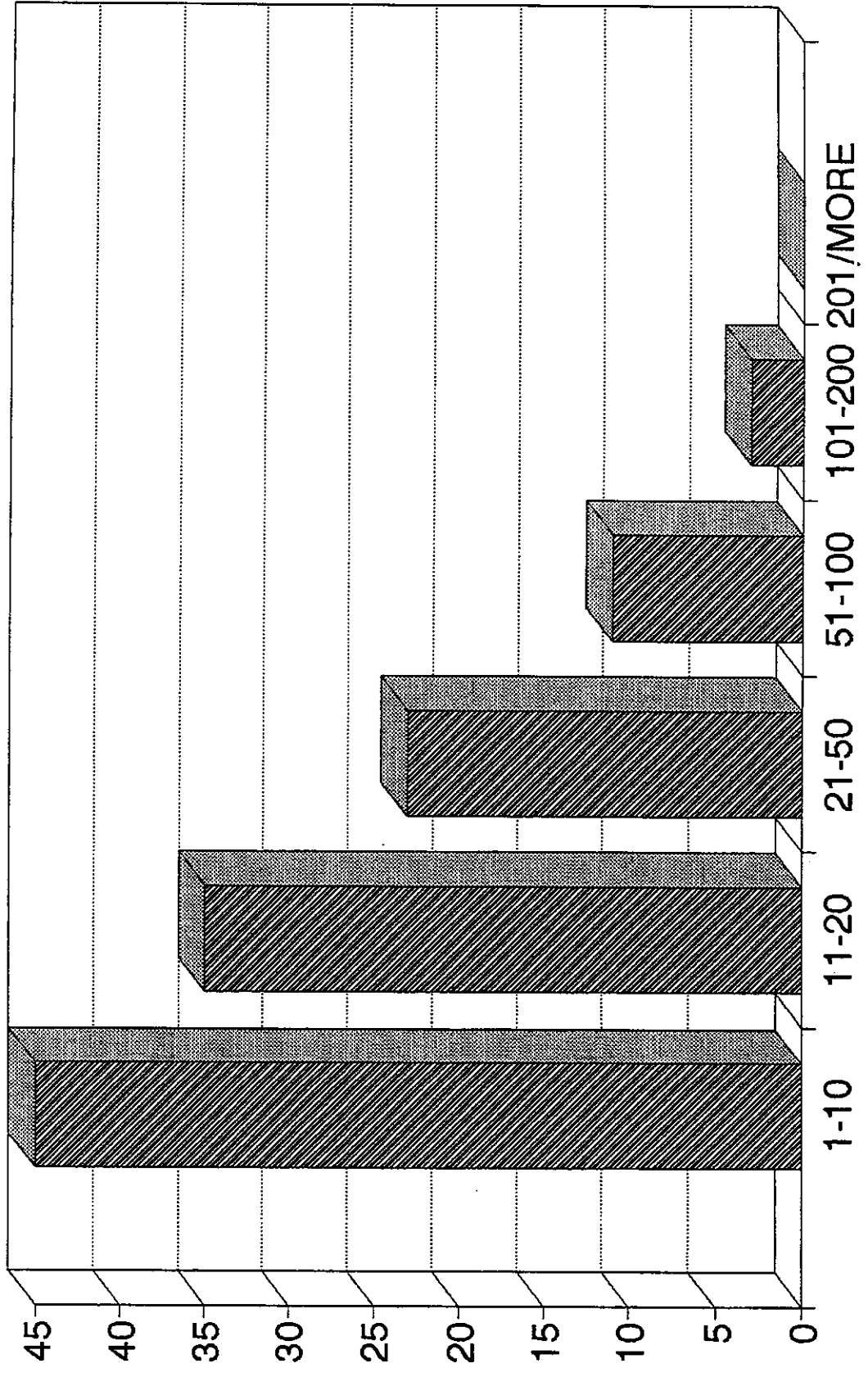
# QUESTION 2 (GENERALS)

How many employees in your company?



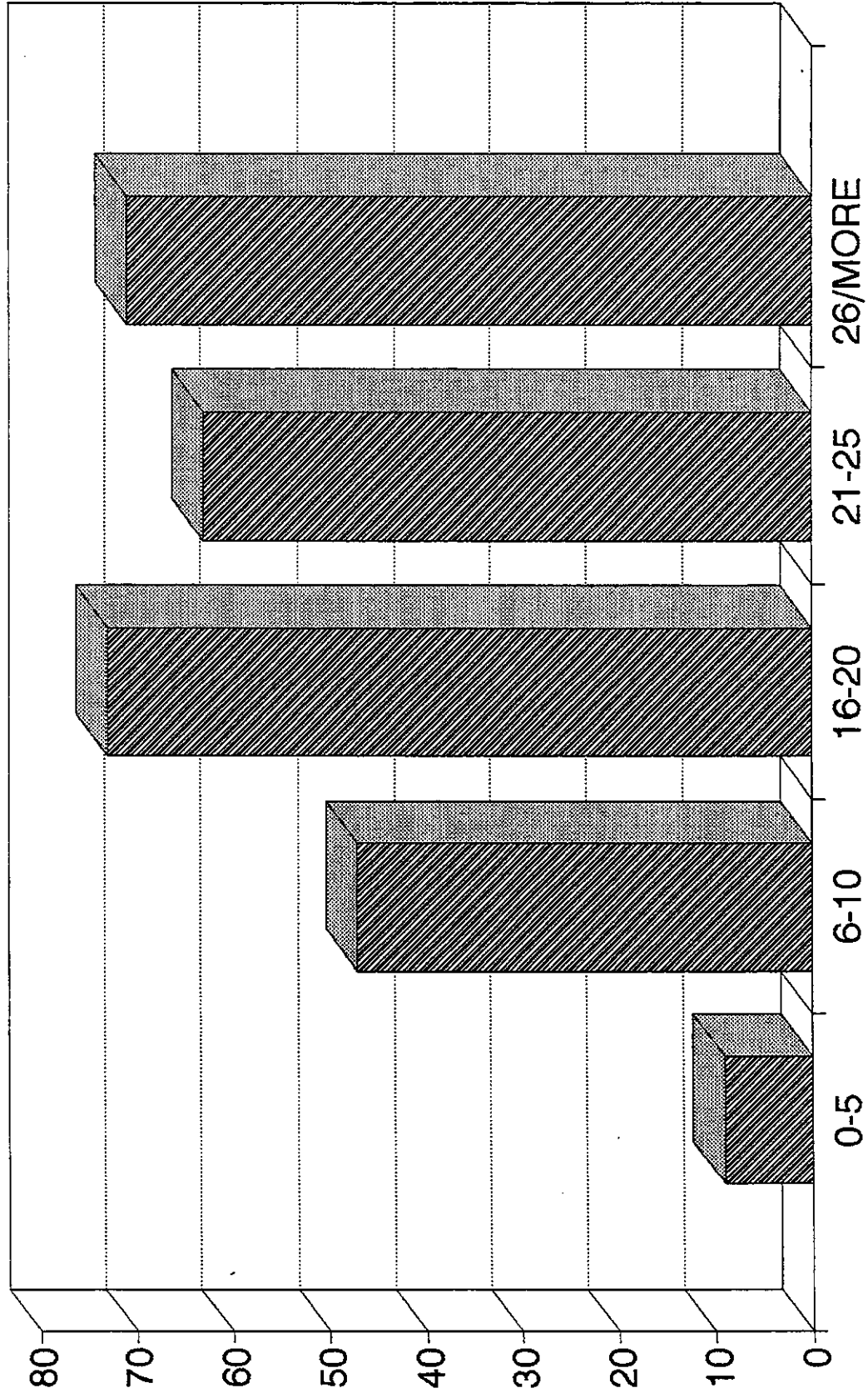
# QUESTION 2 (SUBS)

How many employees in your company?



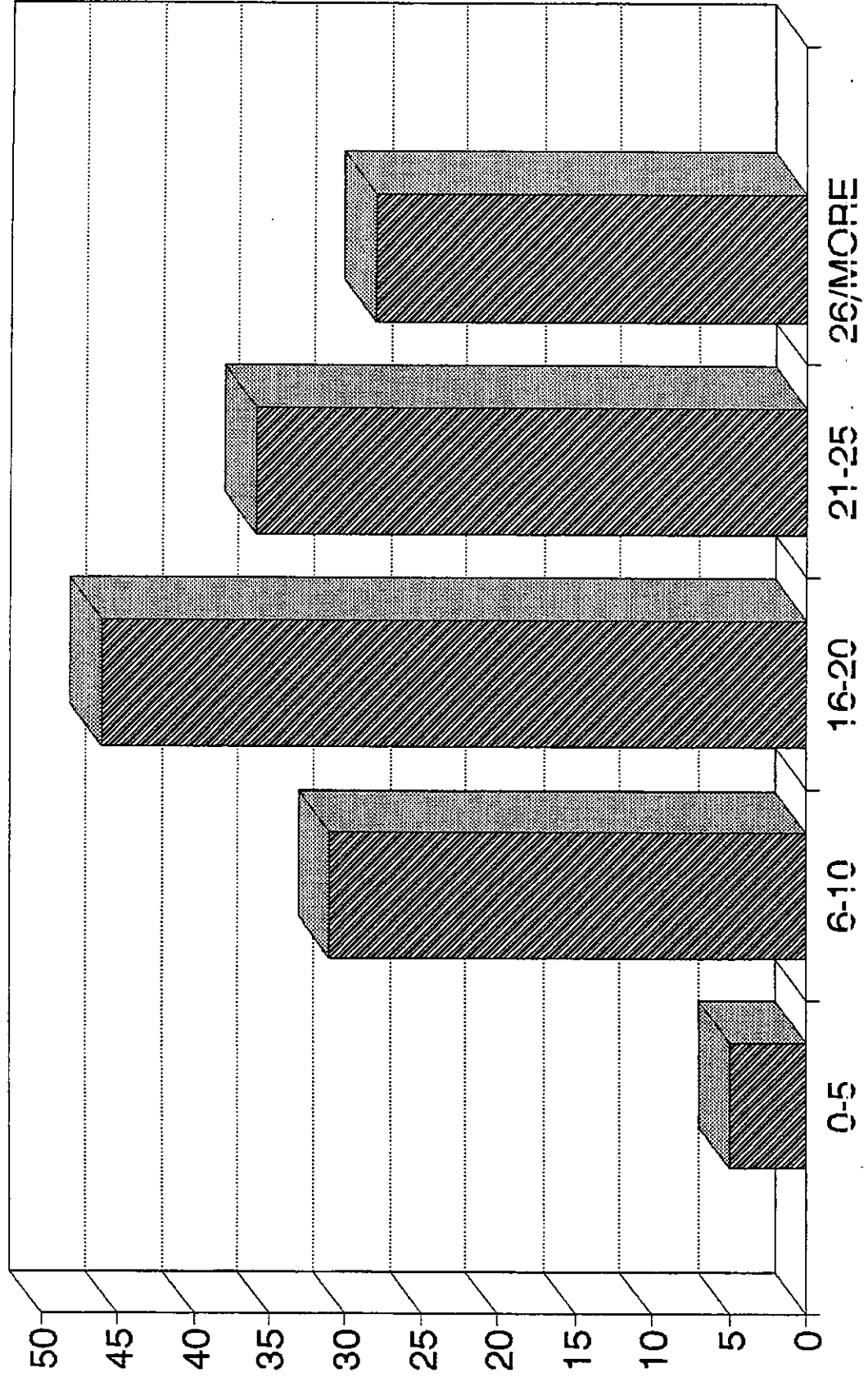
# QUESTION 3 (TOTALS)

How many years experience in constr.



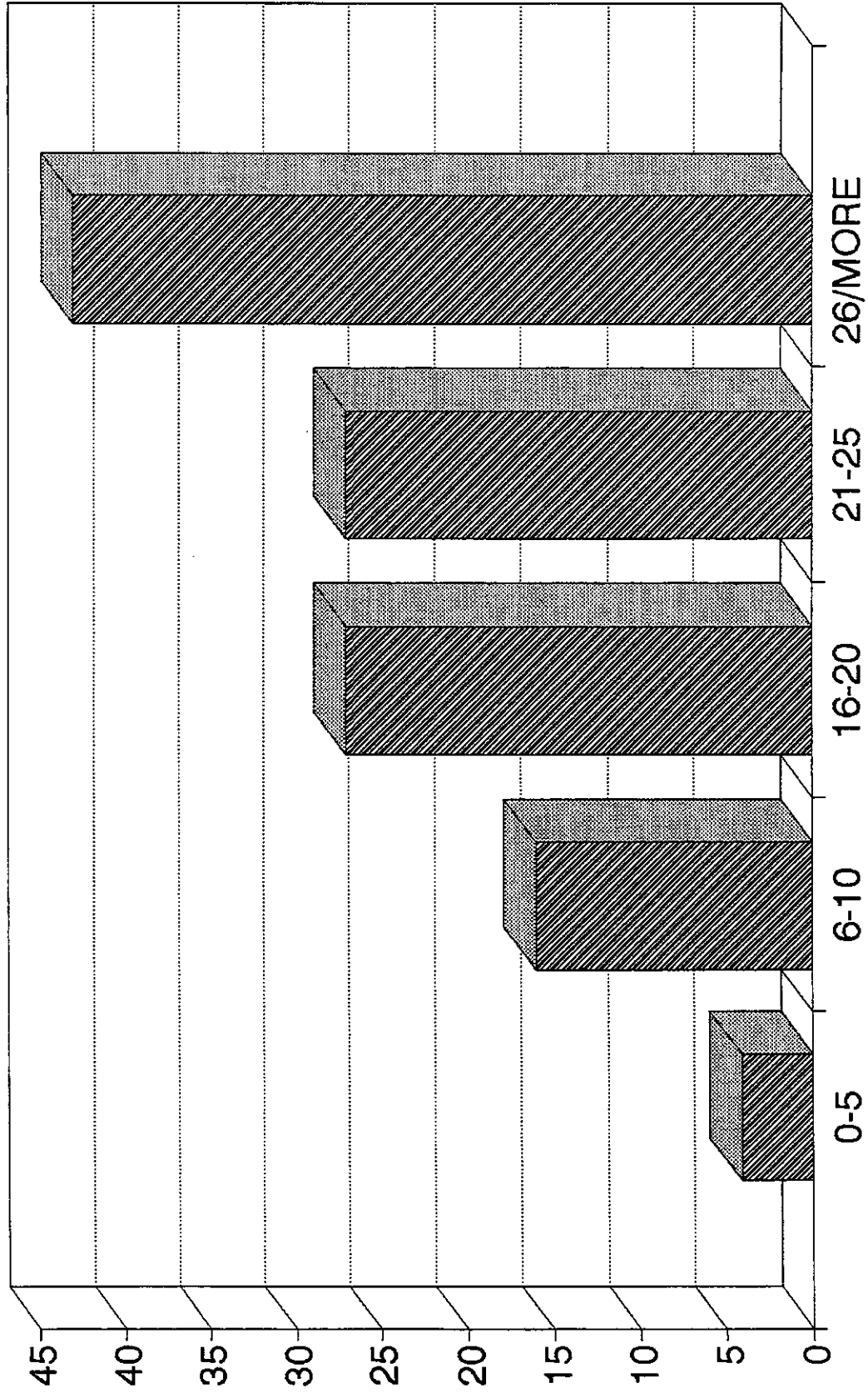
# QUESTION 3 (GENERALS)

How many years experience in constr.



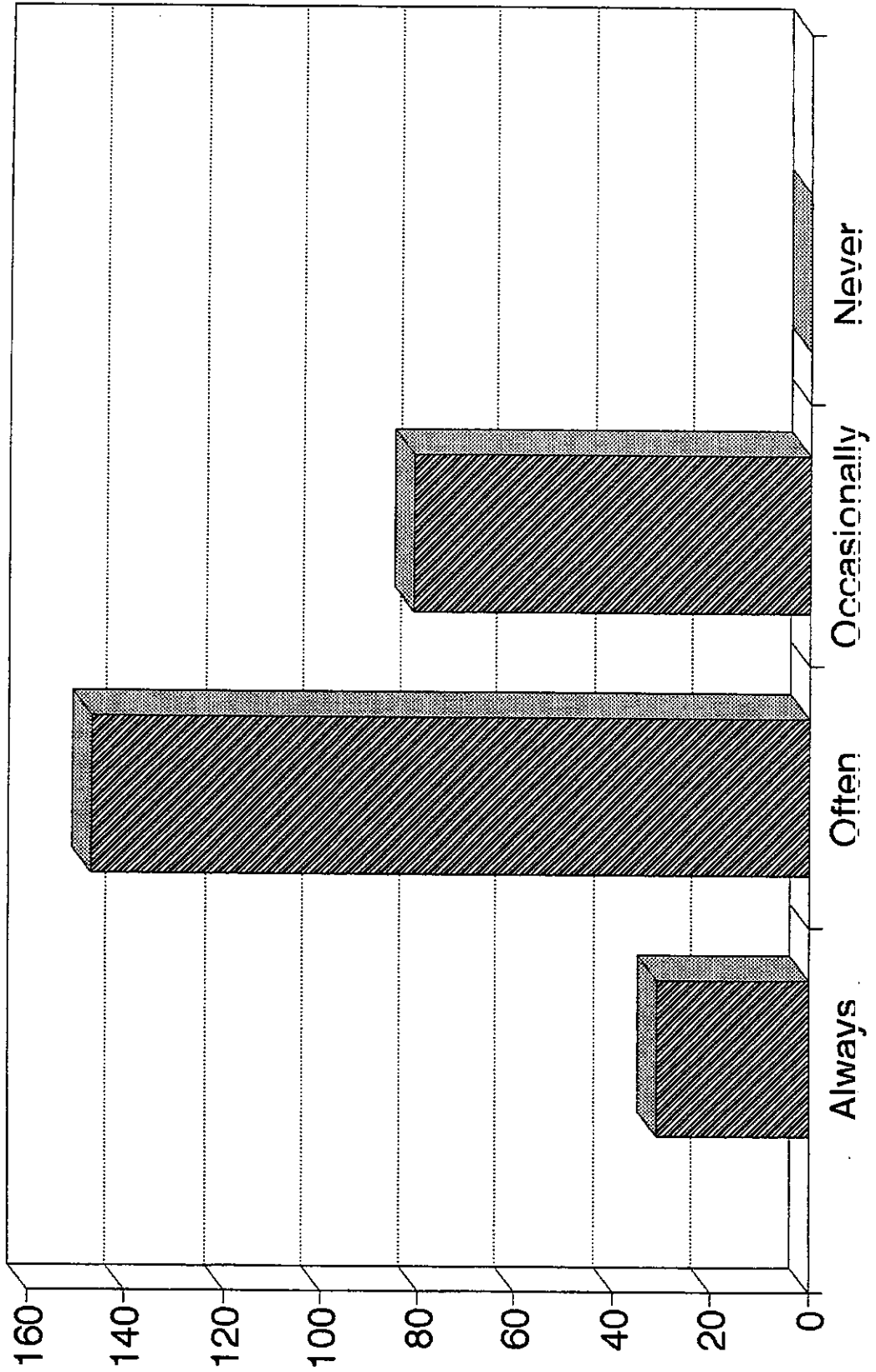
# QUESTION 3 (SUBS)

How many years experience in constr.



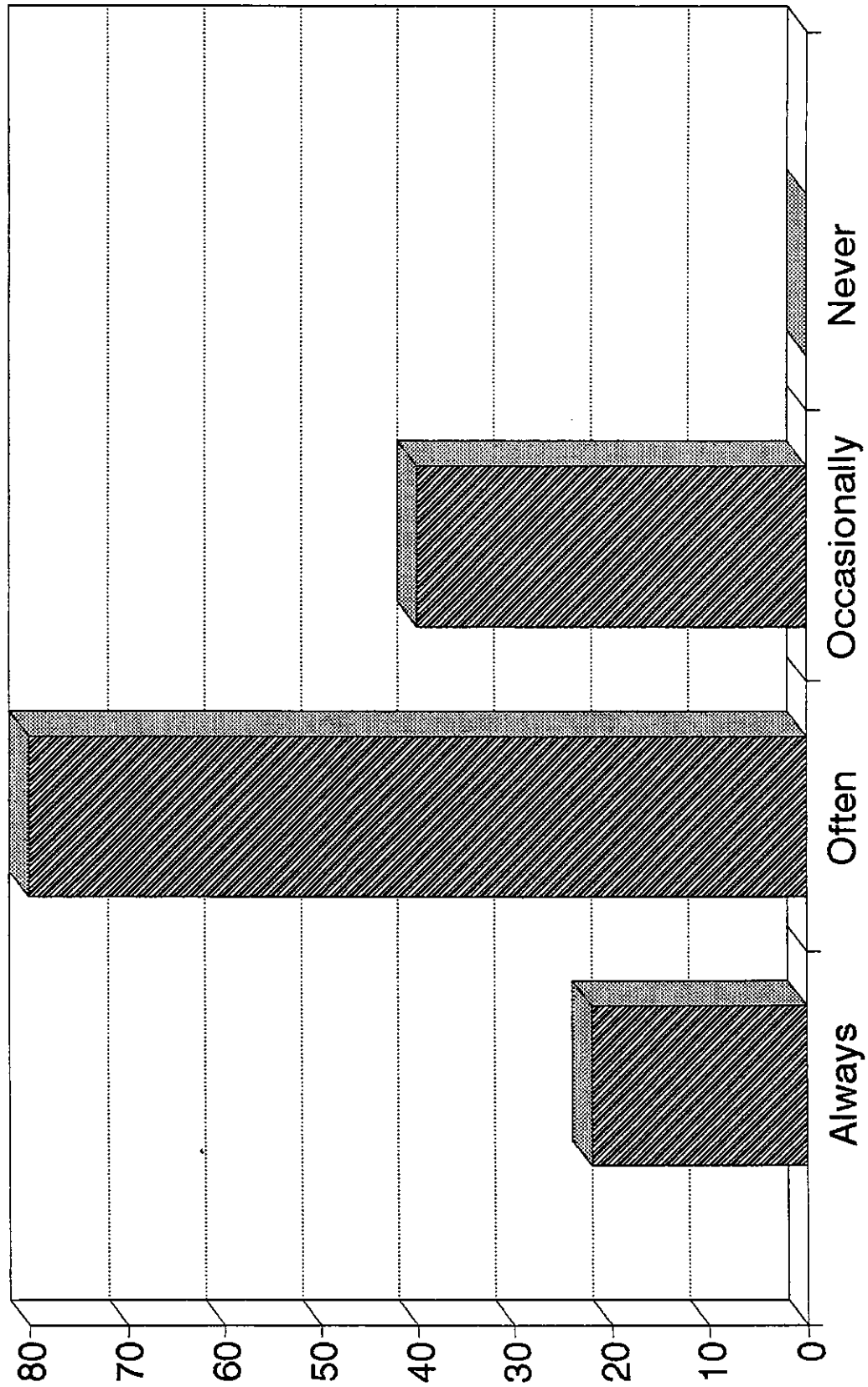
# QUESTION 4 (TOTAL)

Does defective workmanship occur?



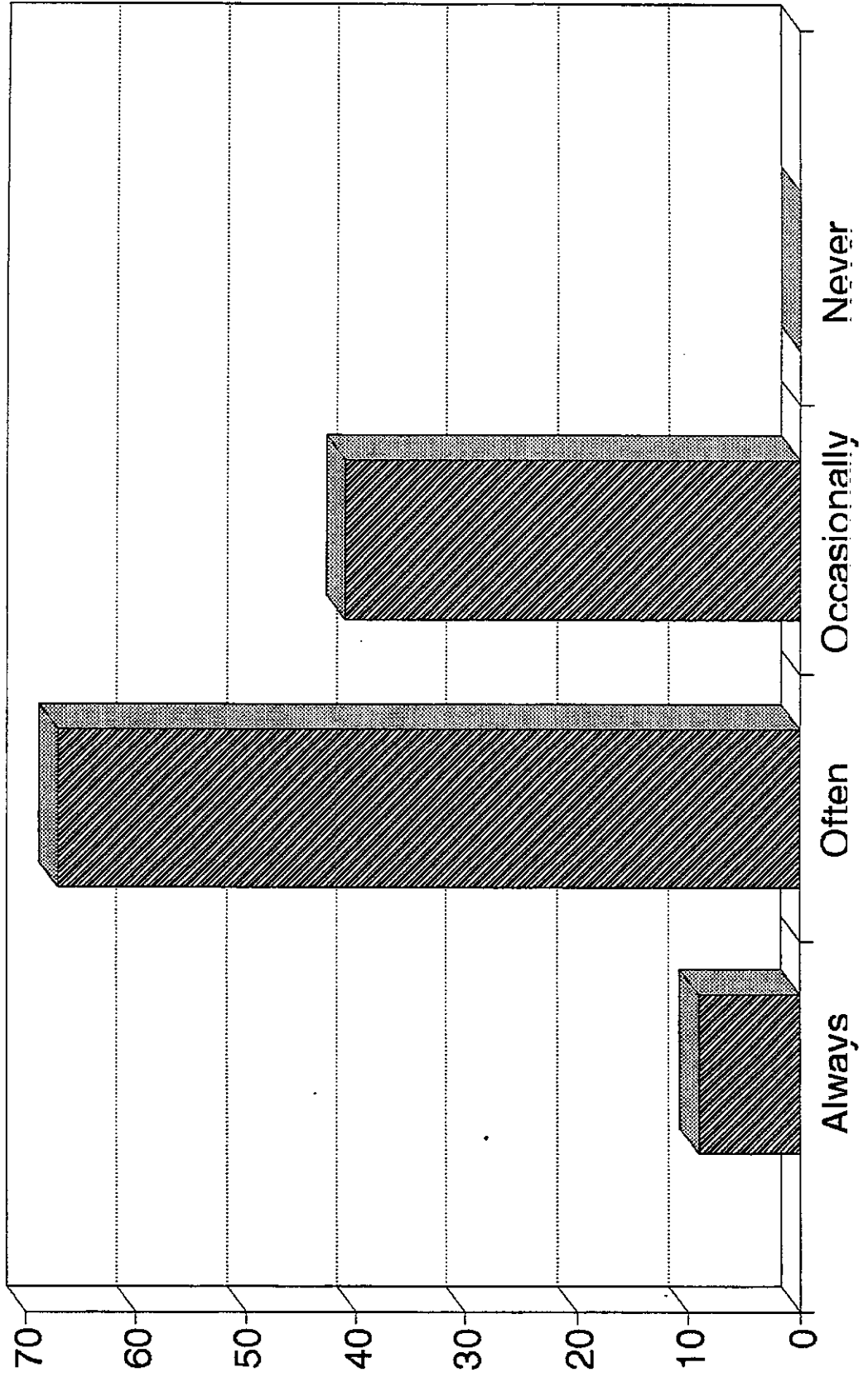
# QUESTION 4 (GENERALS)

Does defective workmanship occur?



# QUESTION 4 (SUBS)

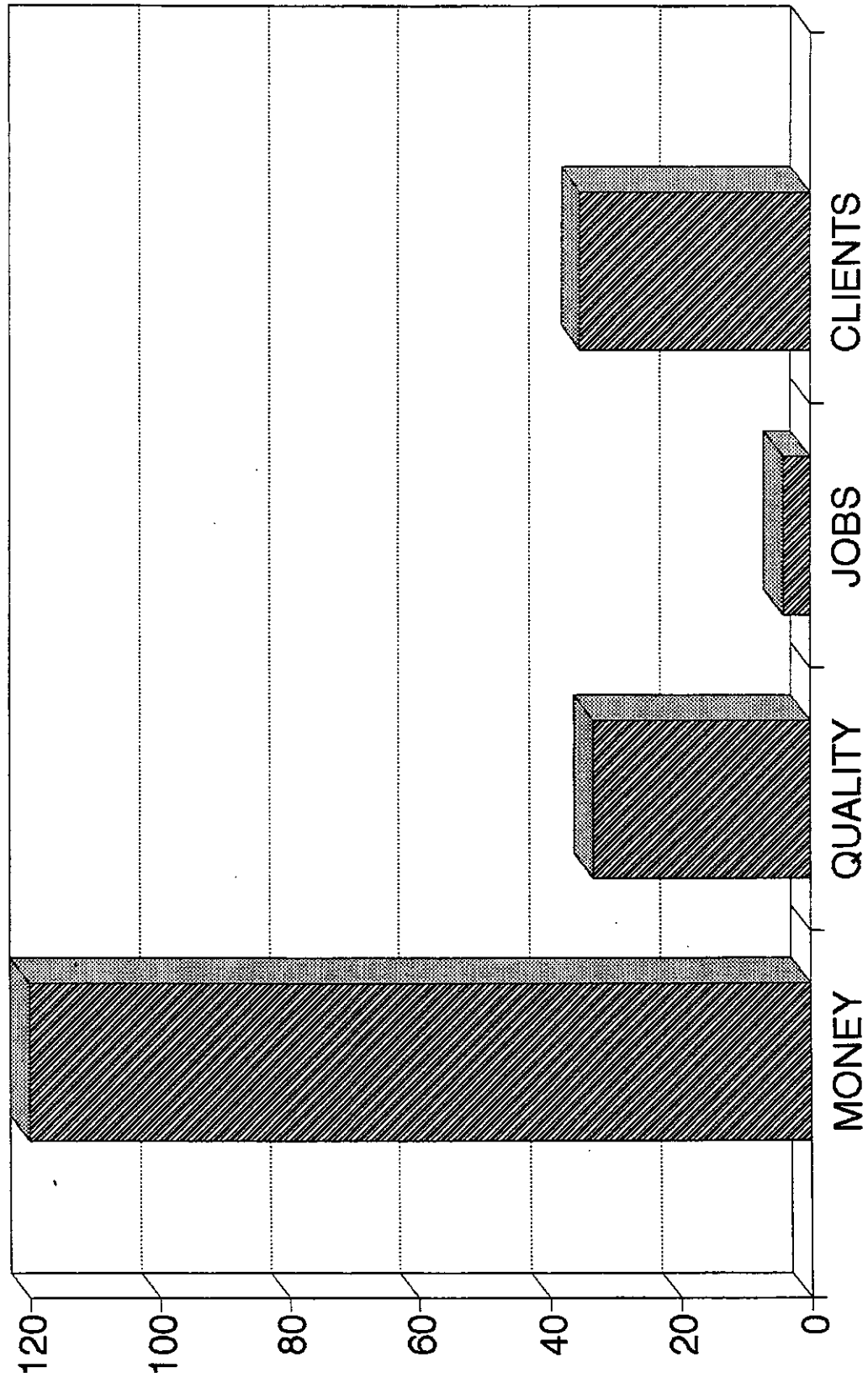
Does defective workmanship occur?





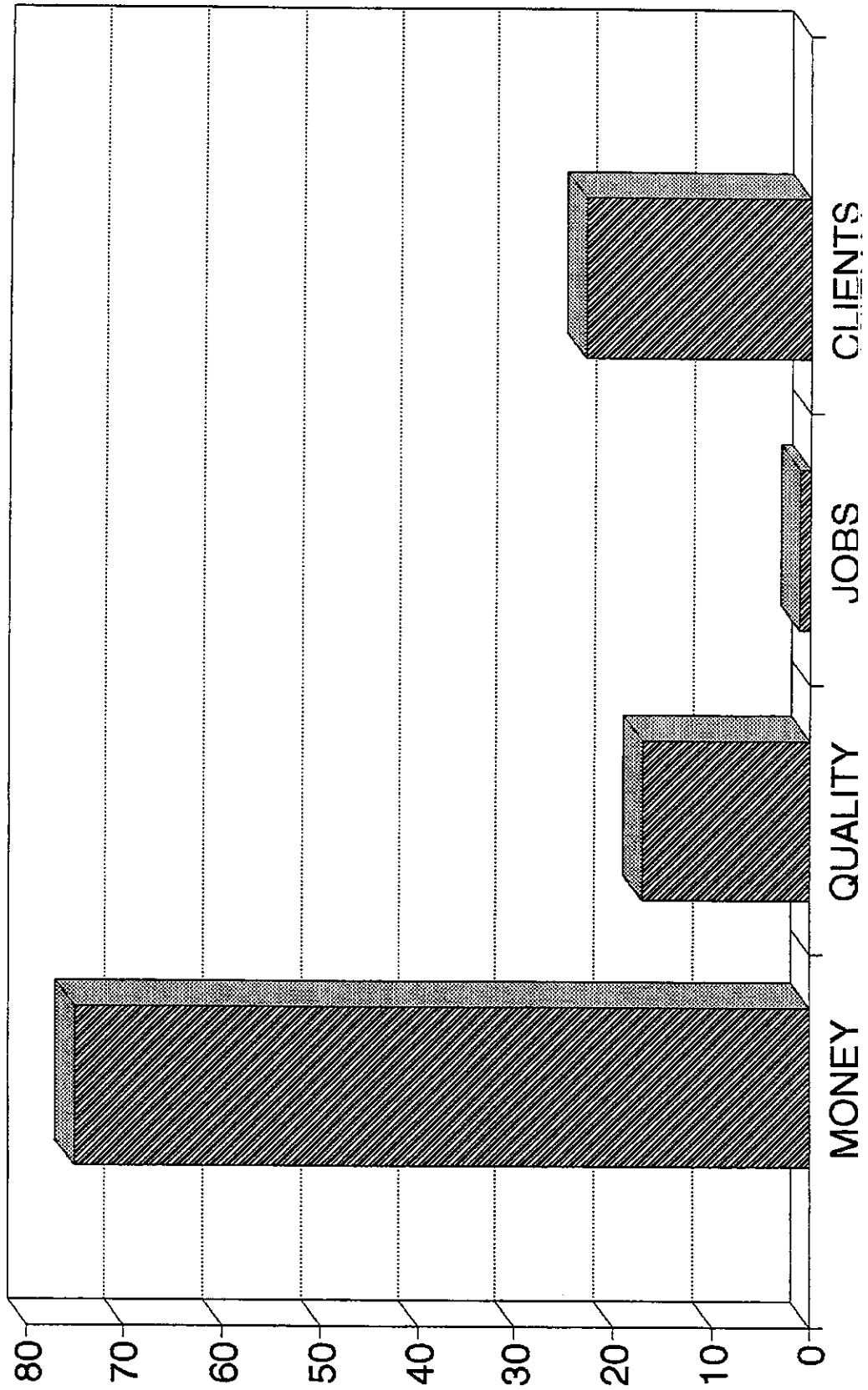
# QUESTION 5 (TOTAL)

Objectives of the constr. industry



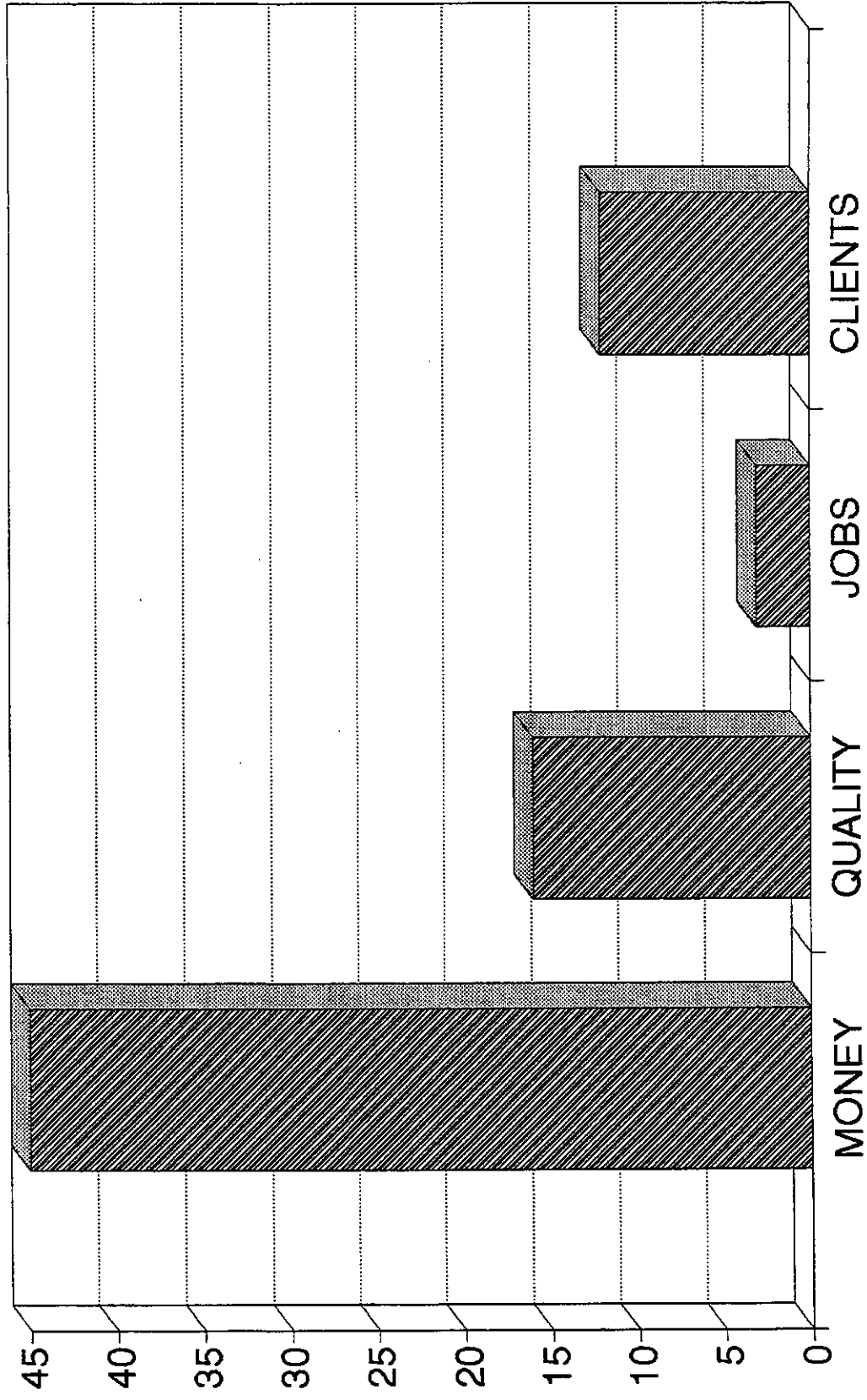
# QUESTION 5 (GENERALS)

Objectives of the constr. industry



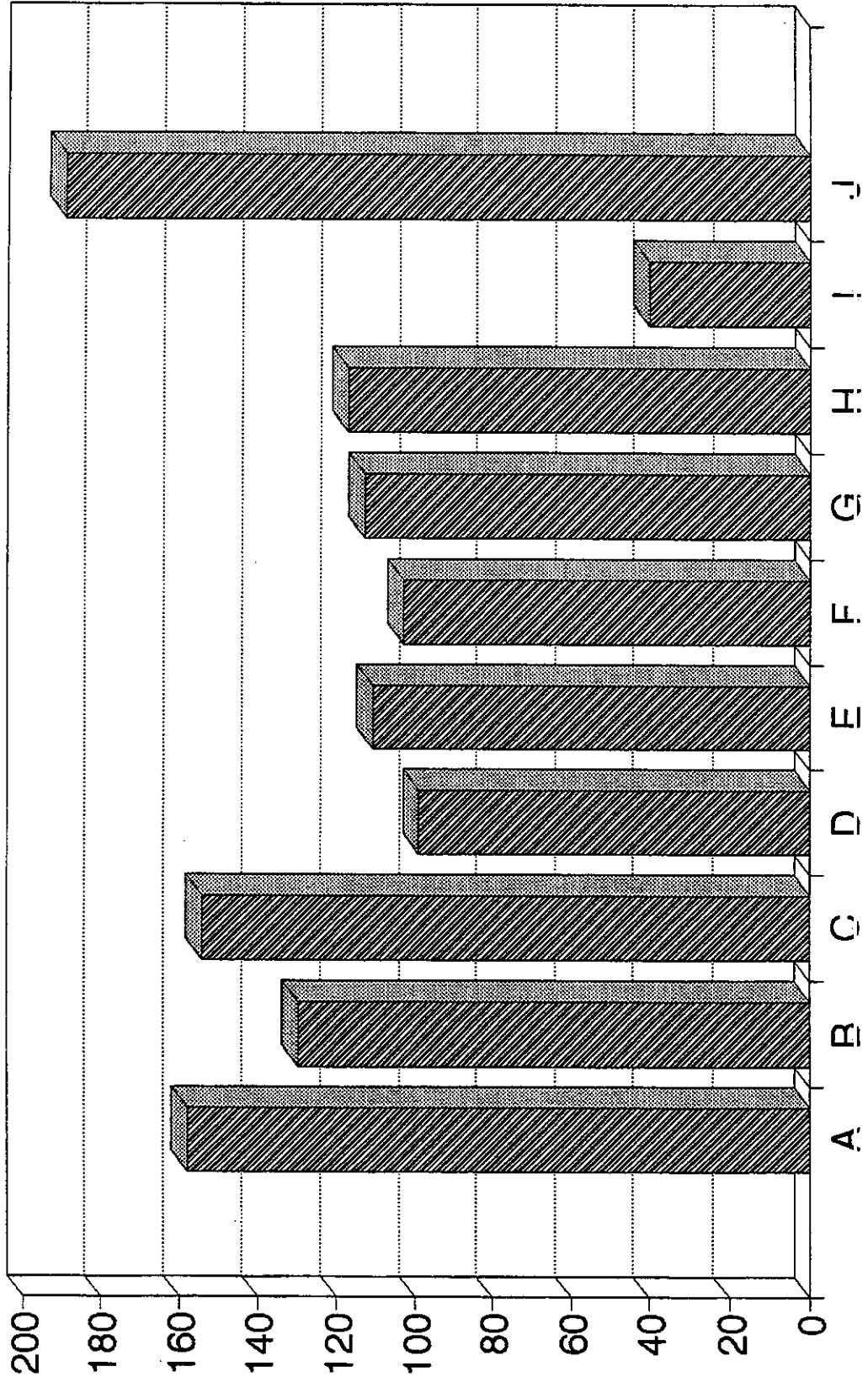
# QUESTION 5 (SUBS)

Objectives of the constr. industry



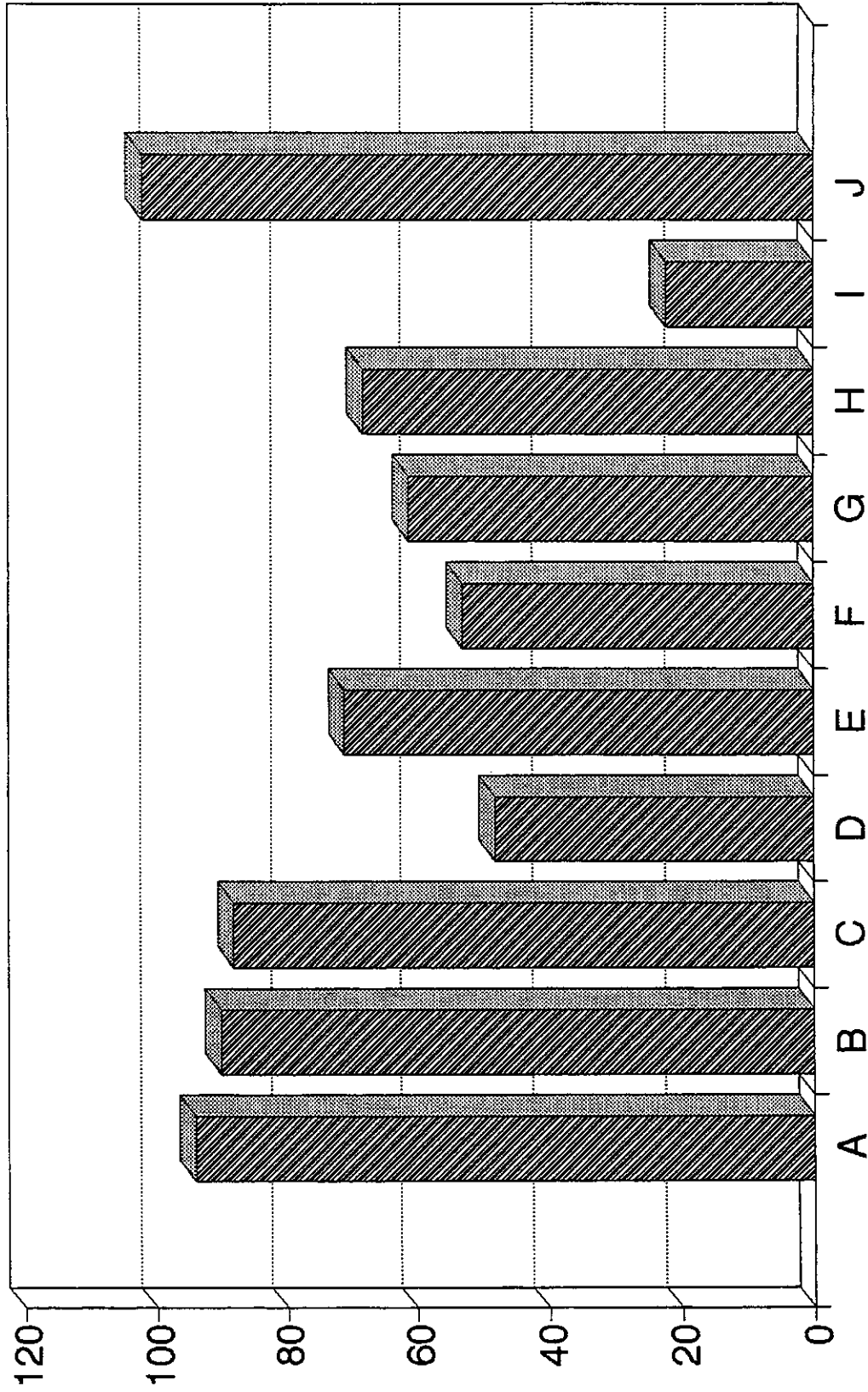
# QUESTION 6 (TOTAL)

Types of Defects Experienced



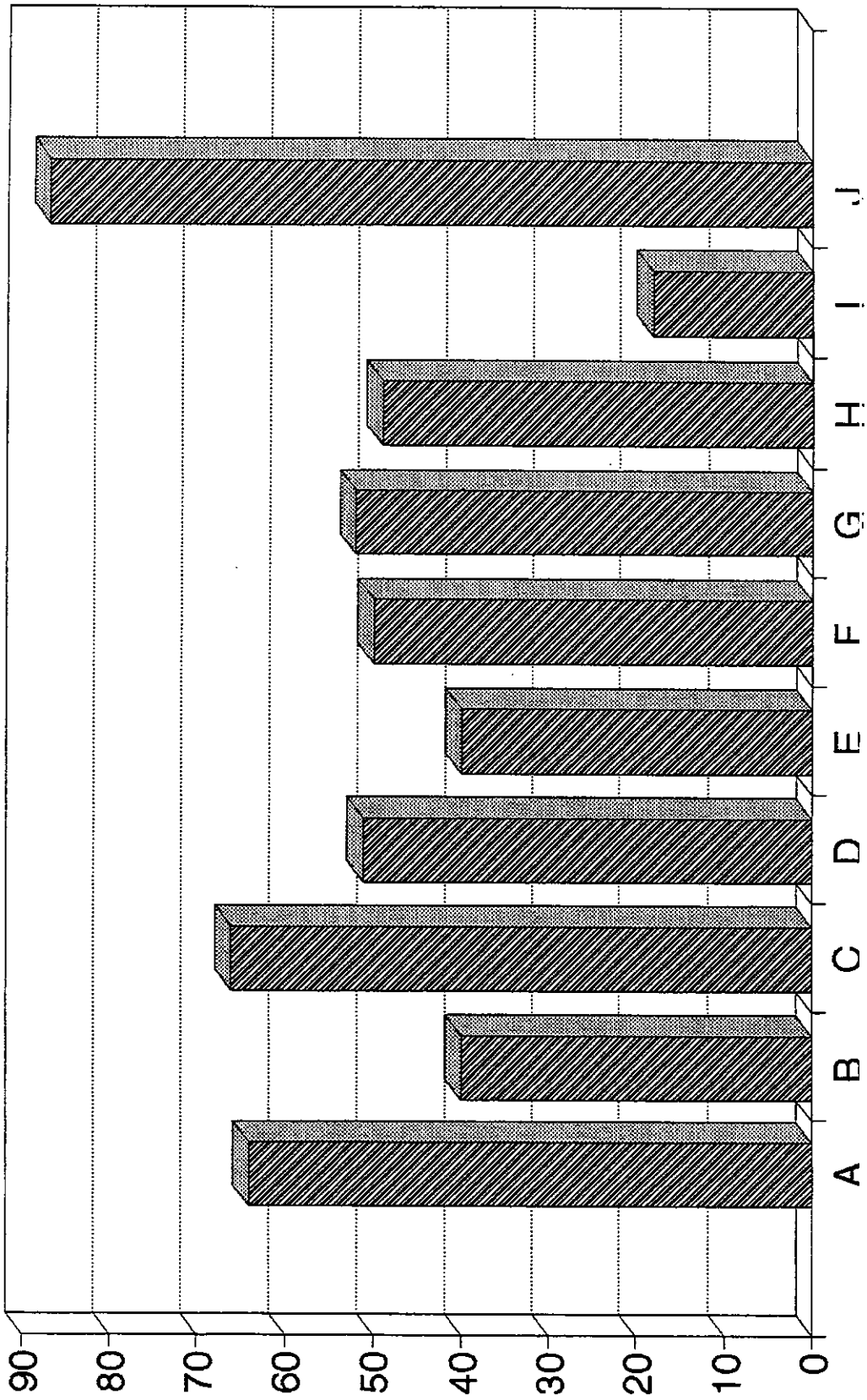
# QUESTION 6 (GENERALS)

Types of Defects Experienced



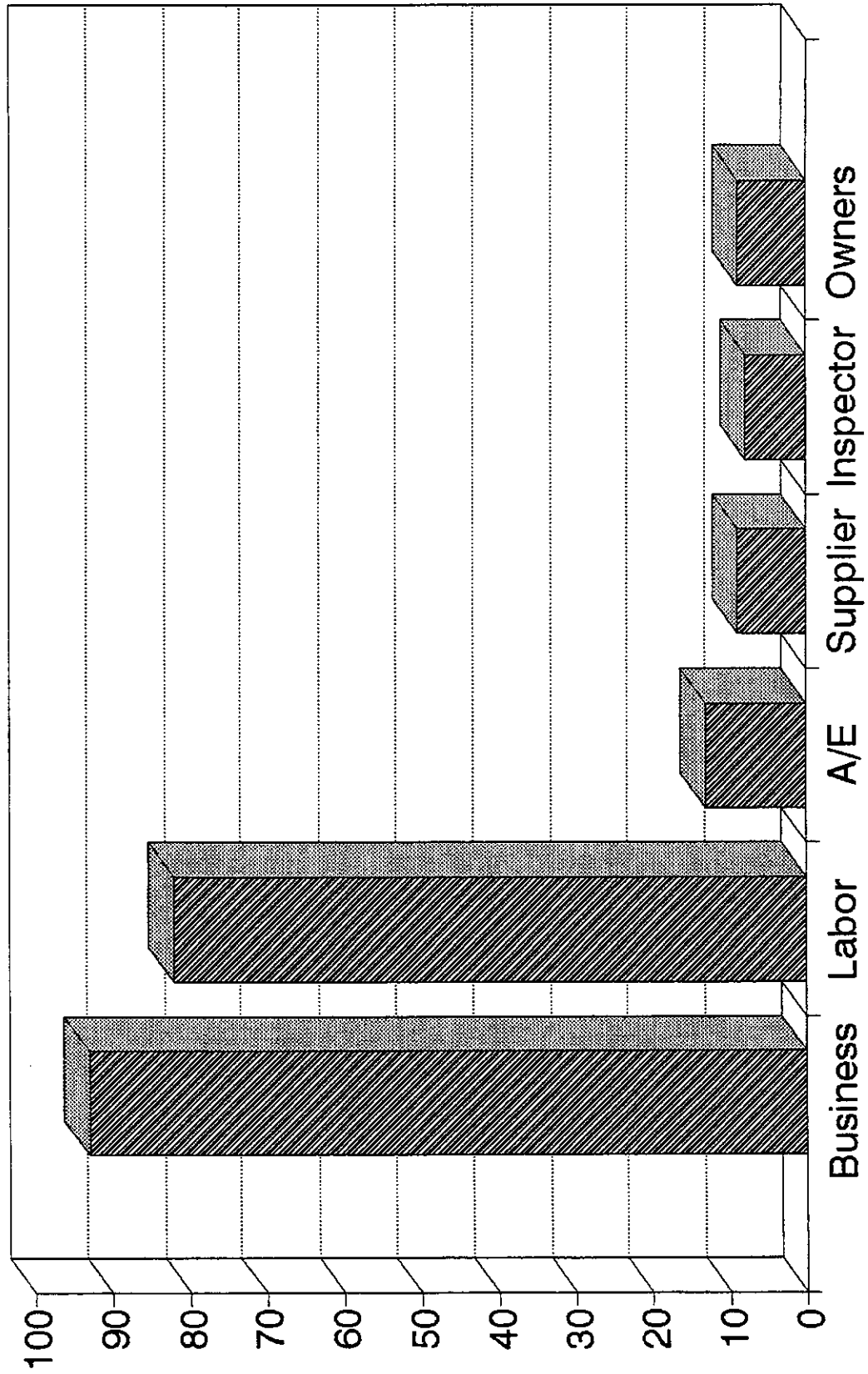
# QUESTION 6 (SUBS)

Types of Defects Experienced



# QUESTION 7 (TOTAL)

Responsibility for defective work



# QUESTION 7 (GENERALS)

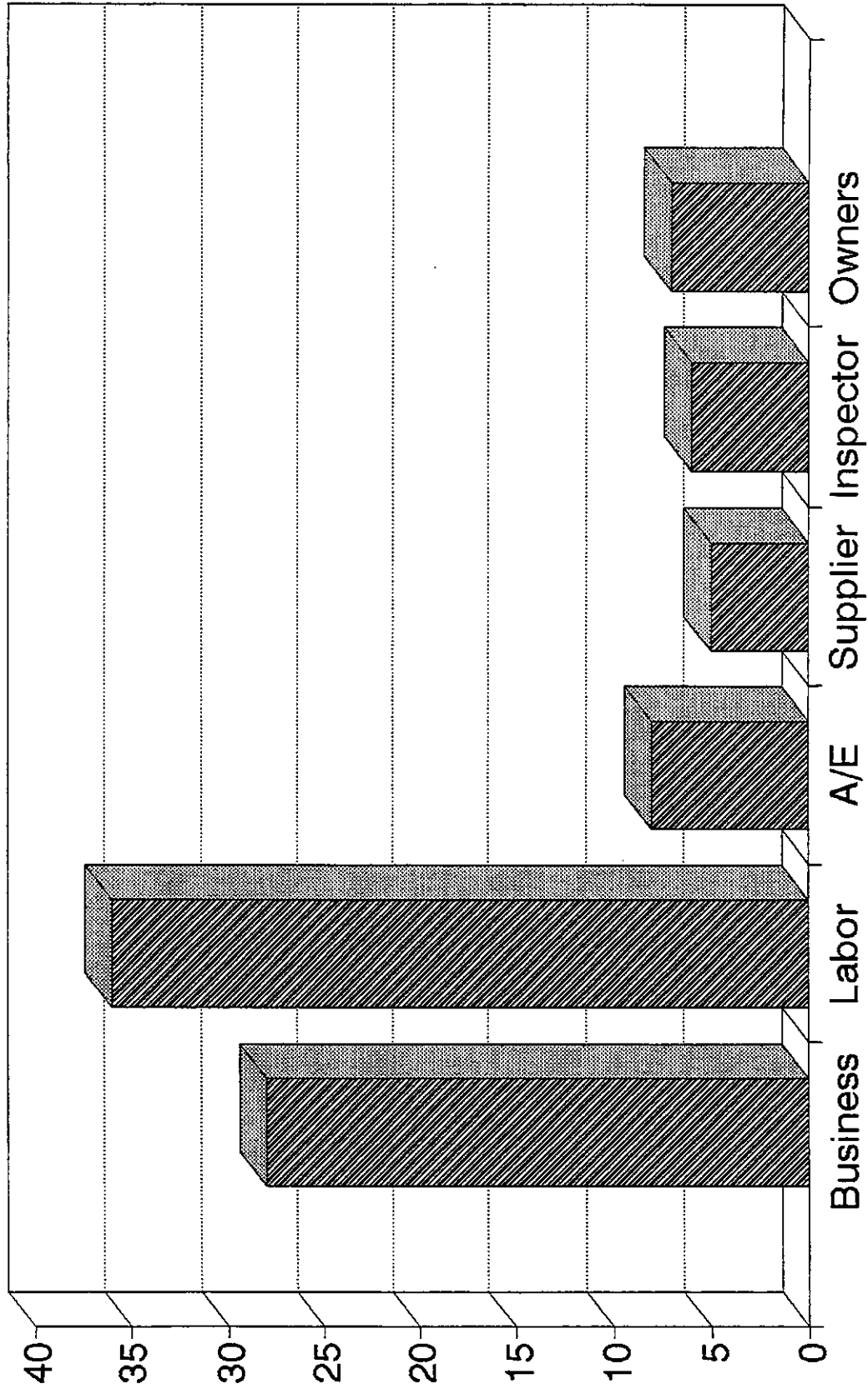
Responsibility for defective work





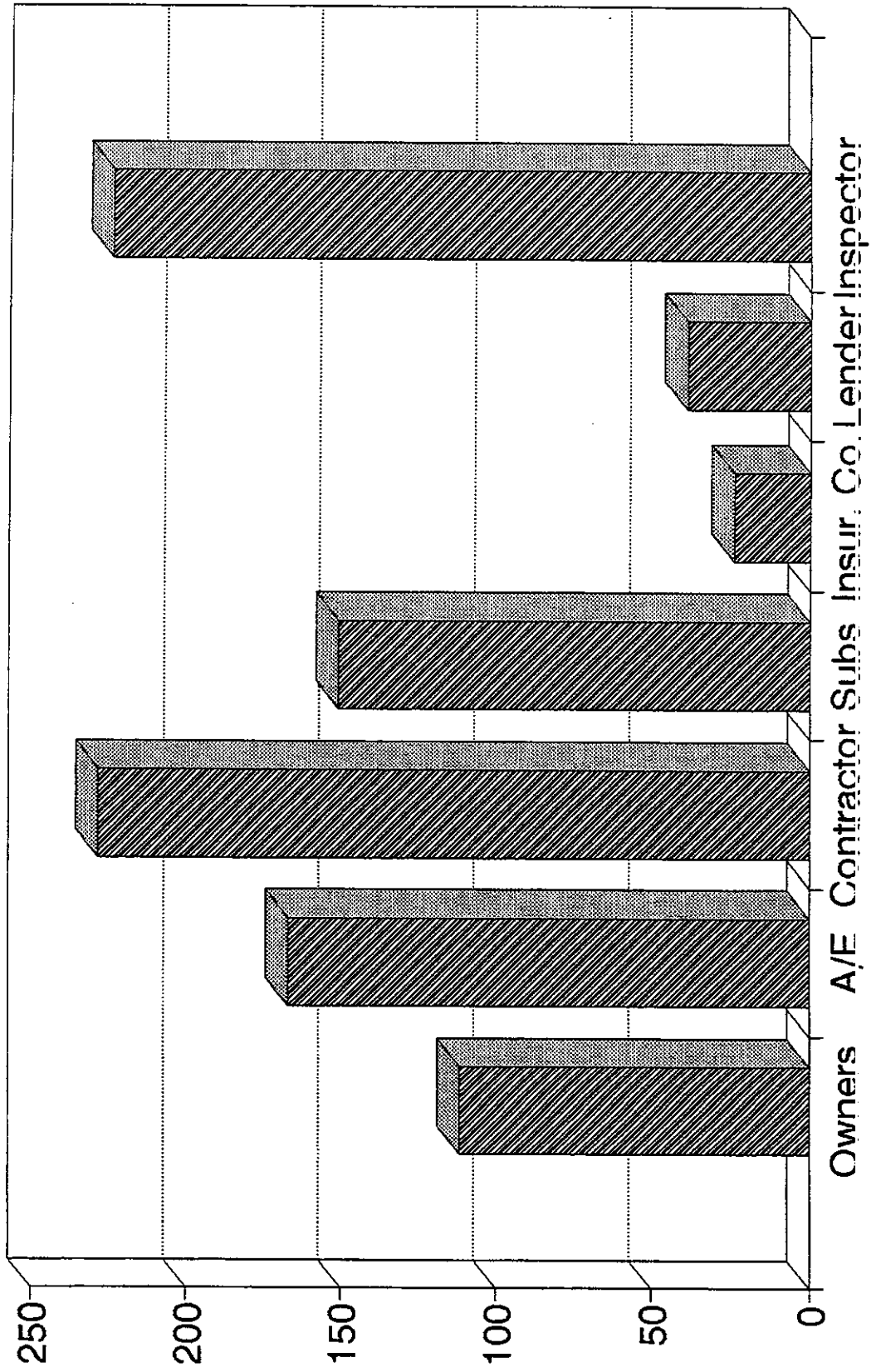
# QUESTION 7 (SUBS)

Responsibility for defective work



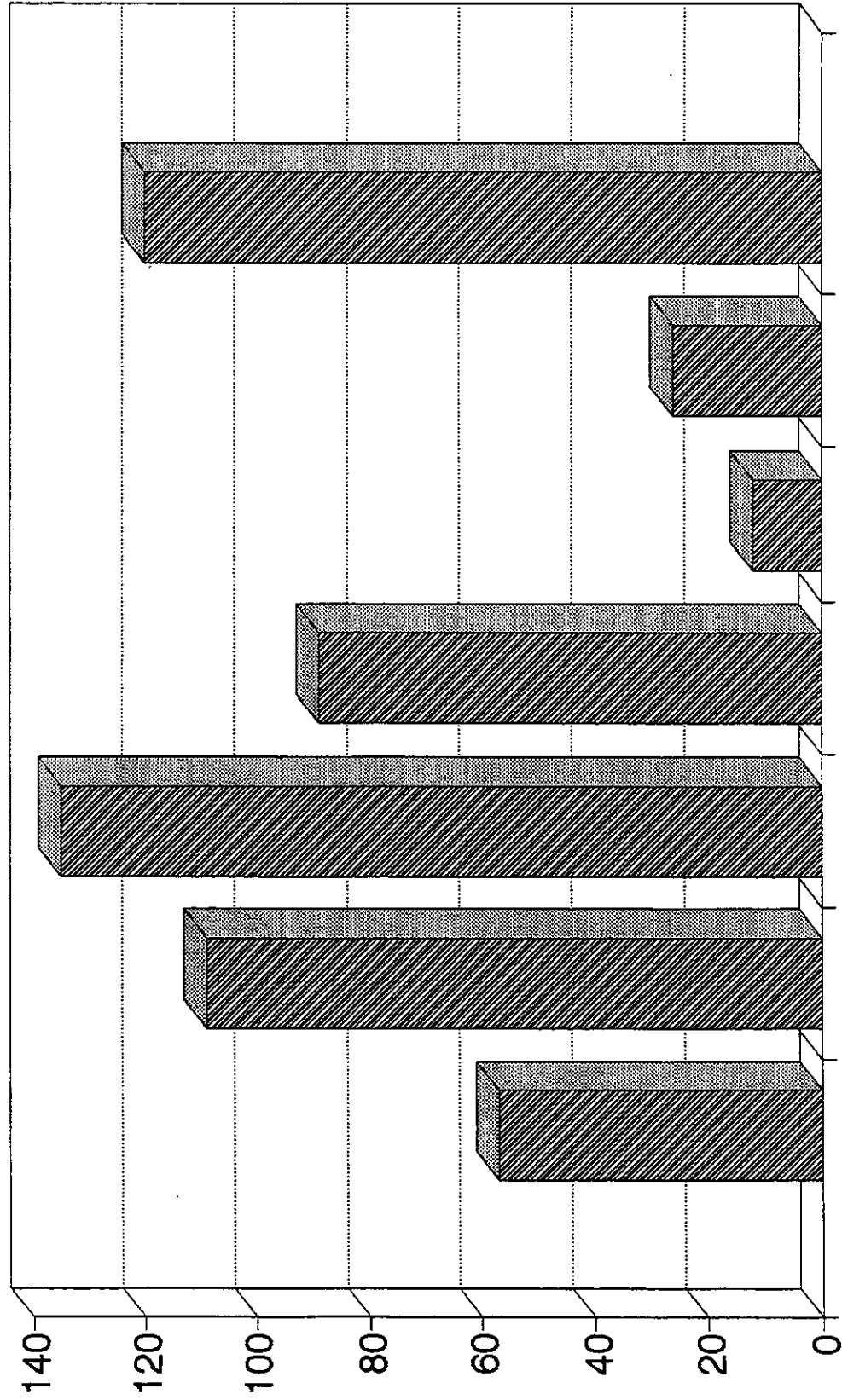
# QUESTION 8 (TOTAL)

Who should be involved with inspections



# QUESTION 8 (GENERALS)

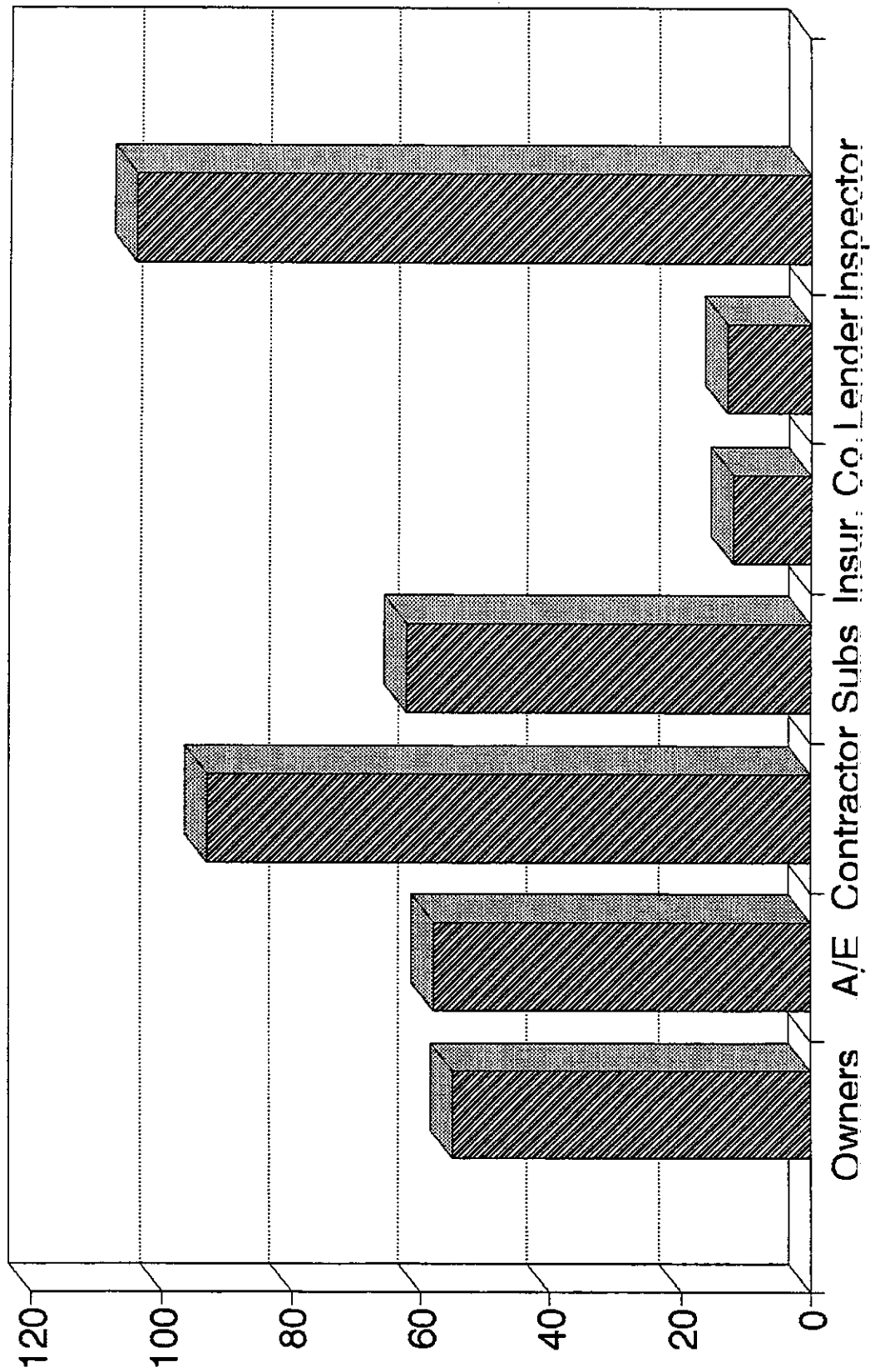
Who should be involved with inspections



Owners A/E Contractor Subs Insur. Co. Lender/Inspector

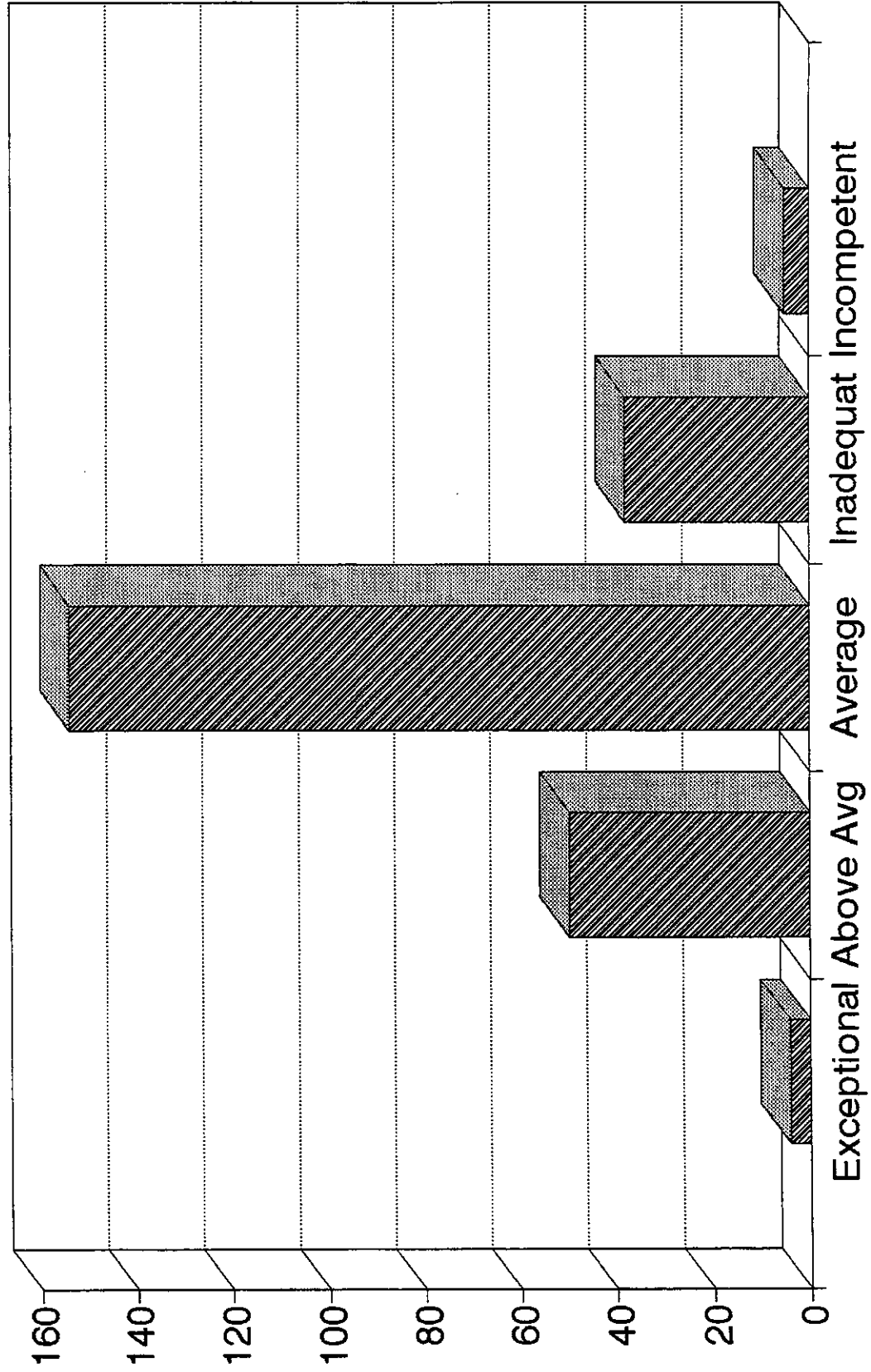
# QUESTION 8 (SUBS)

Who should be involved with inspections



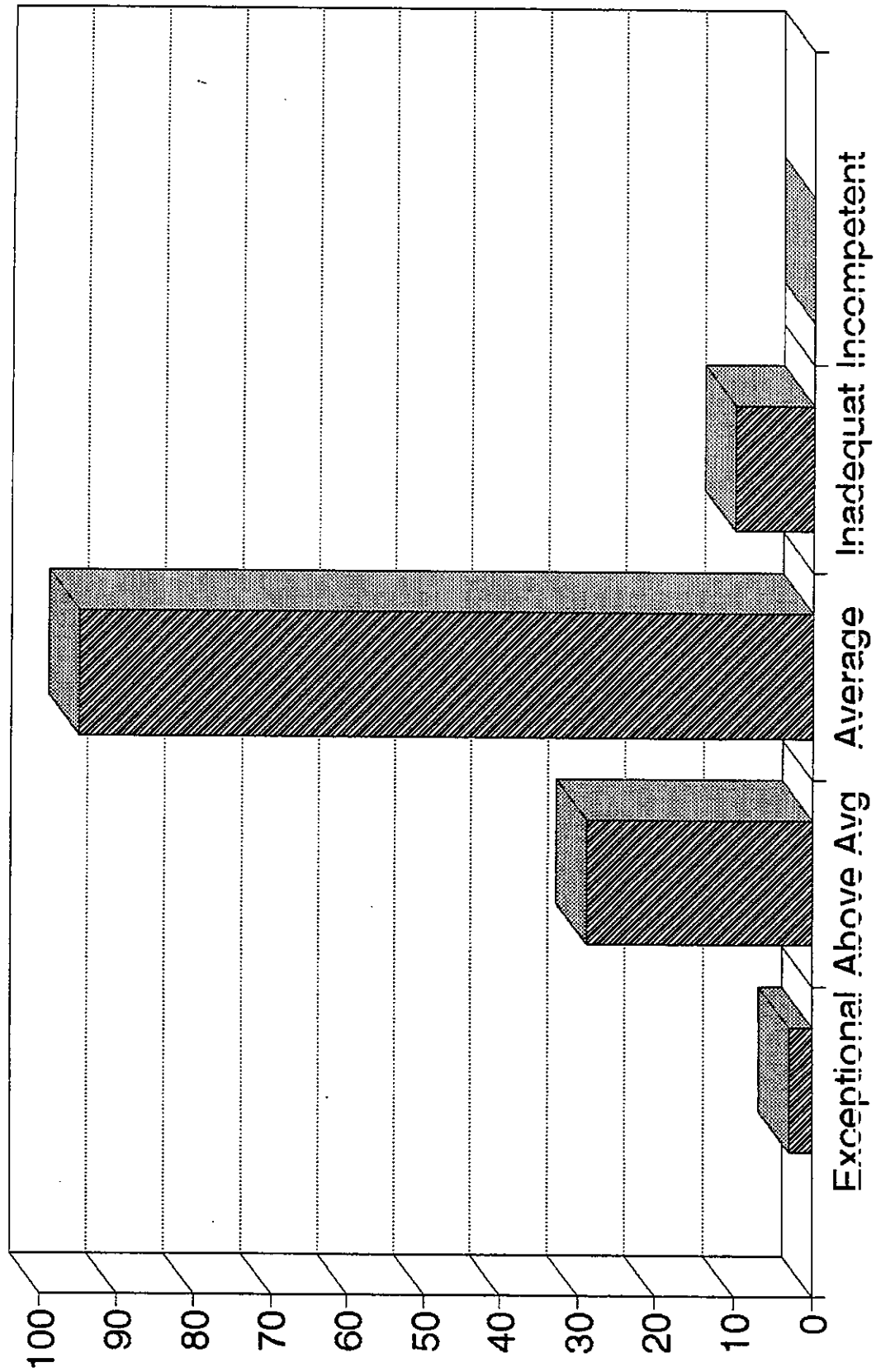
# QUESTION 9 (TOTAL)

Are first line supervisors qualified?



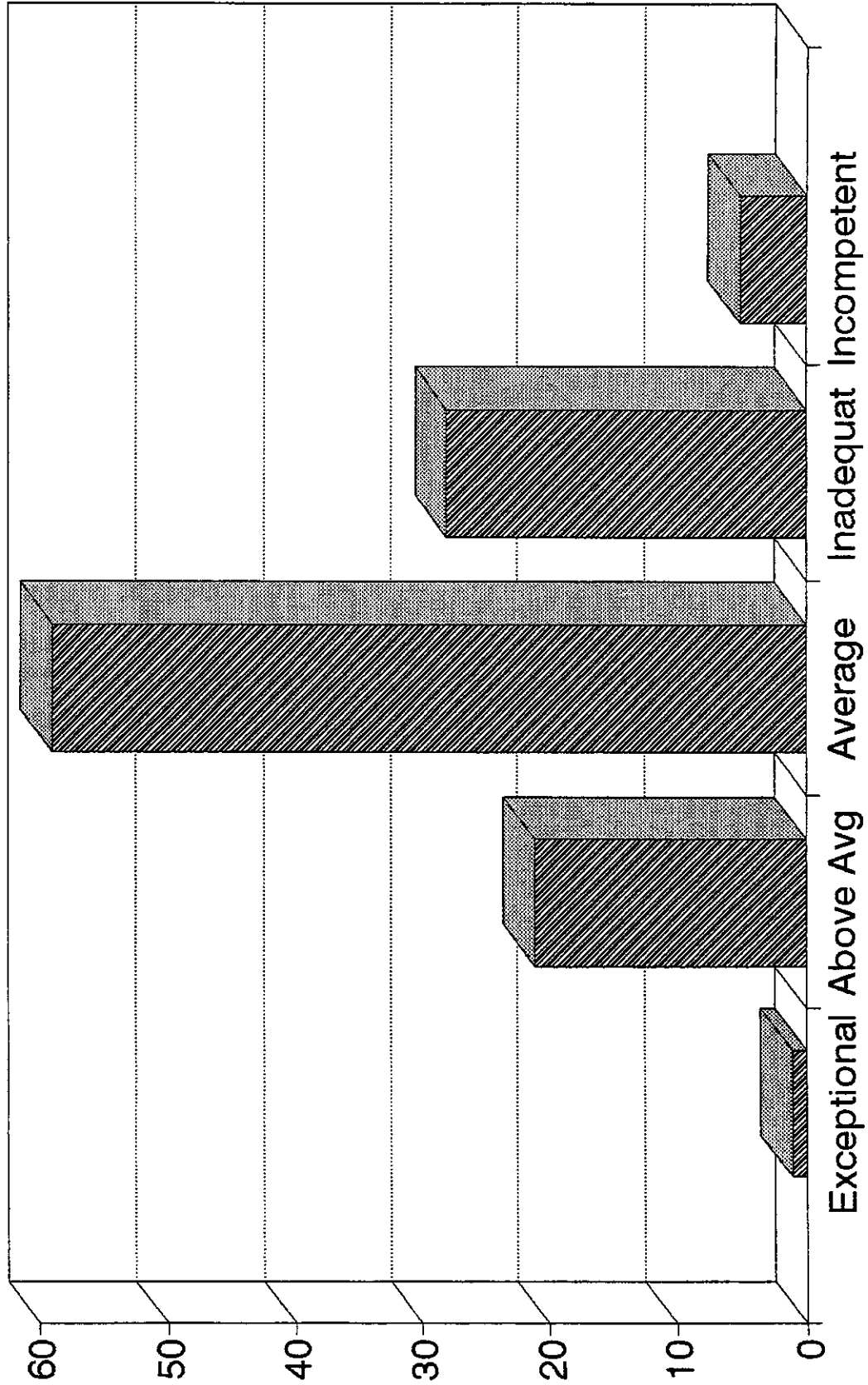
# QUESTION 9 (GENERALS)

Are first line supervisors qualified?



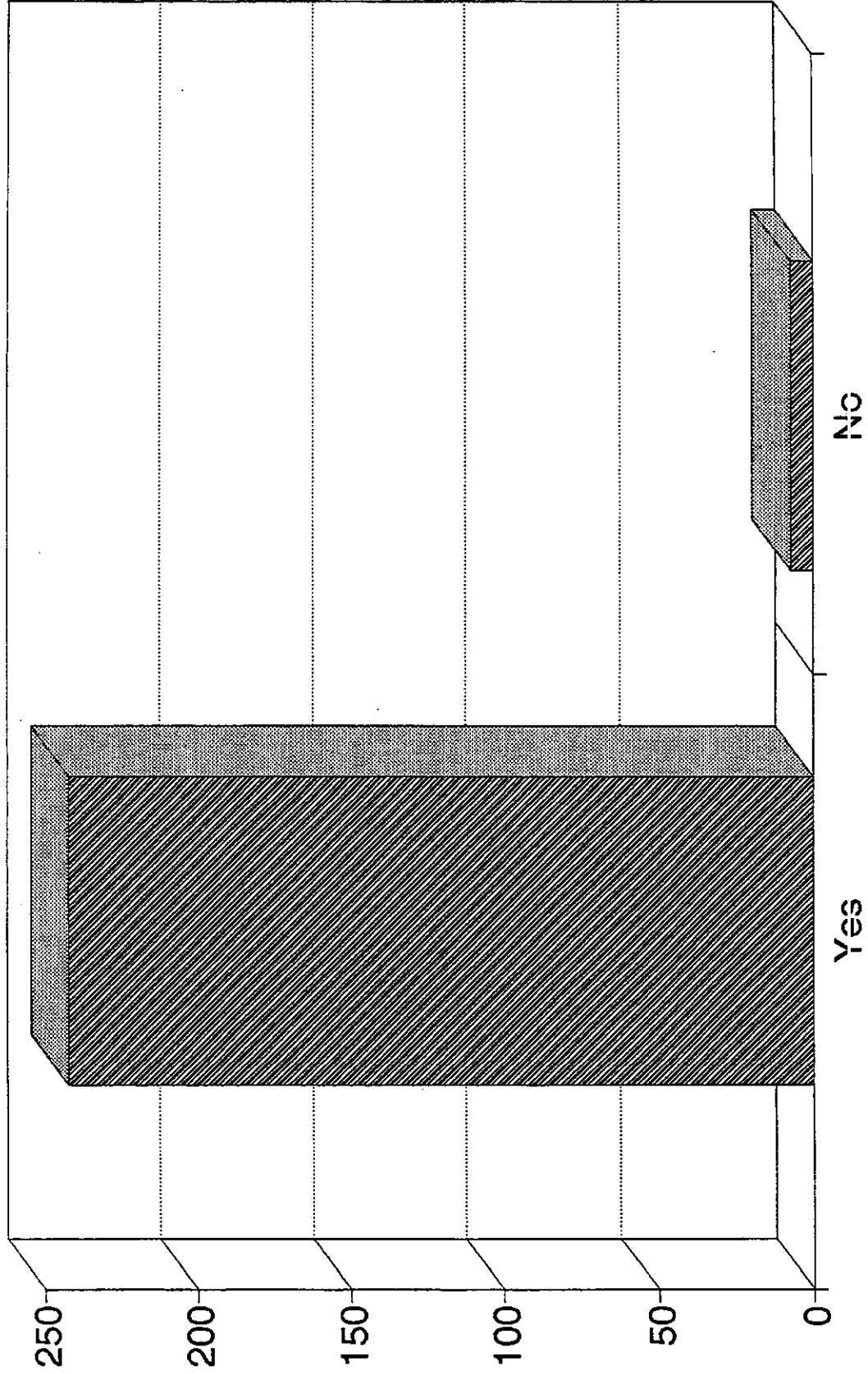
# QUESTION 9 (SUBS)

Are first line supervisors qualified?



# QUESTION 10 (TOTAL)

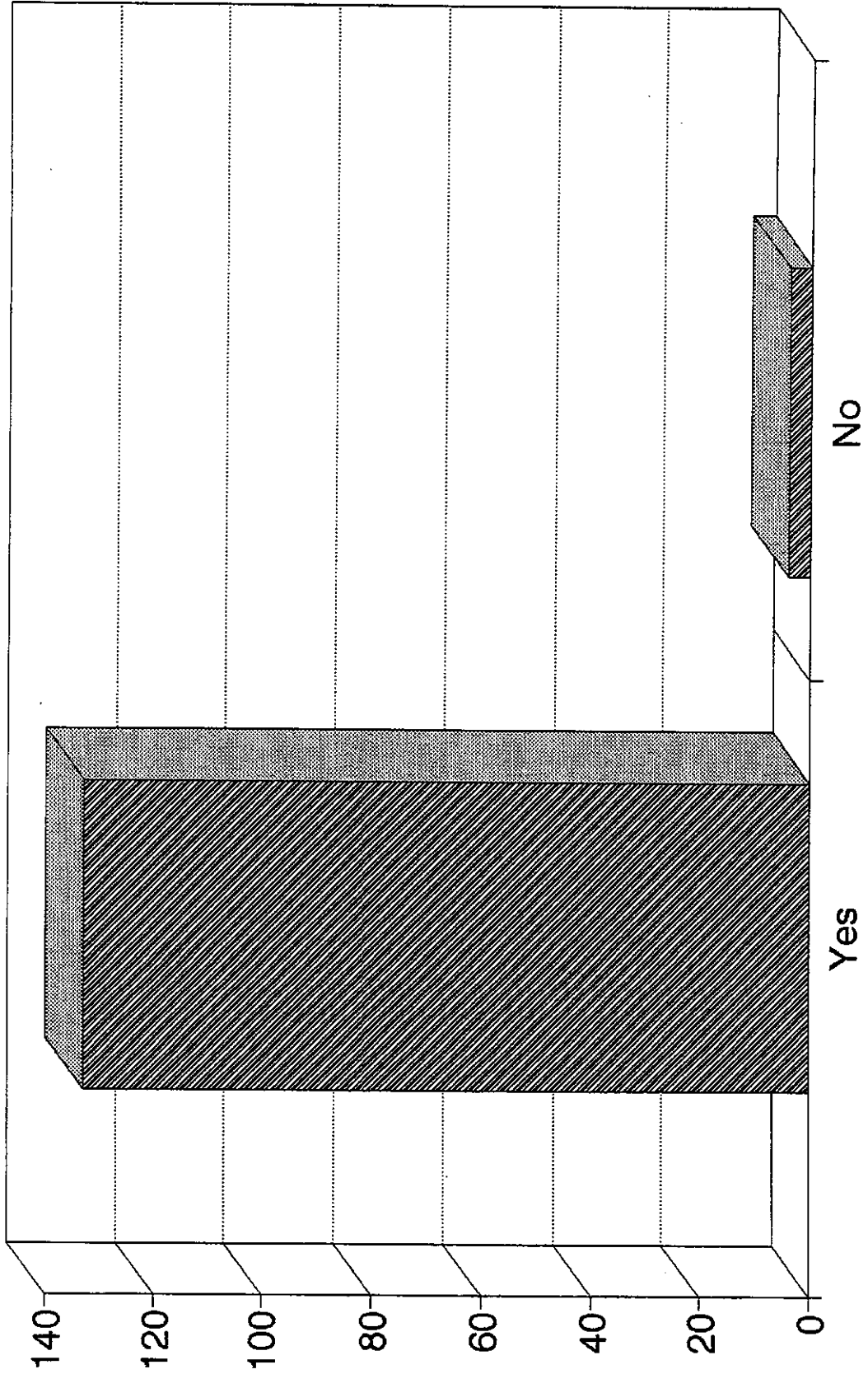
Do we need a better trained labor force





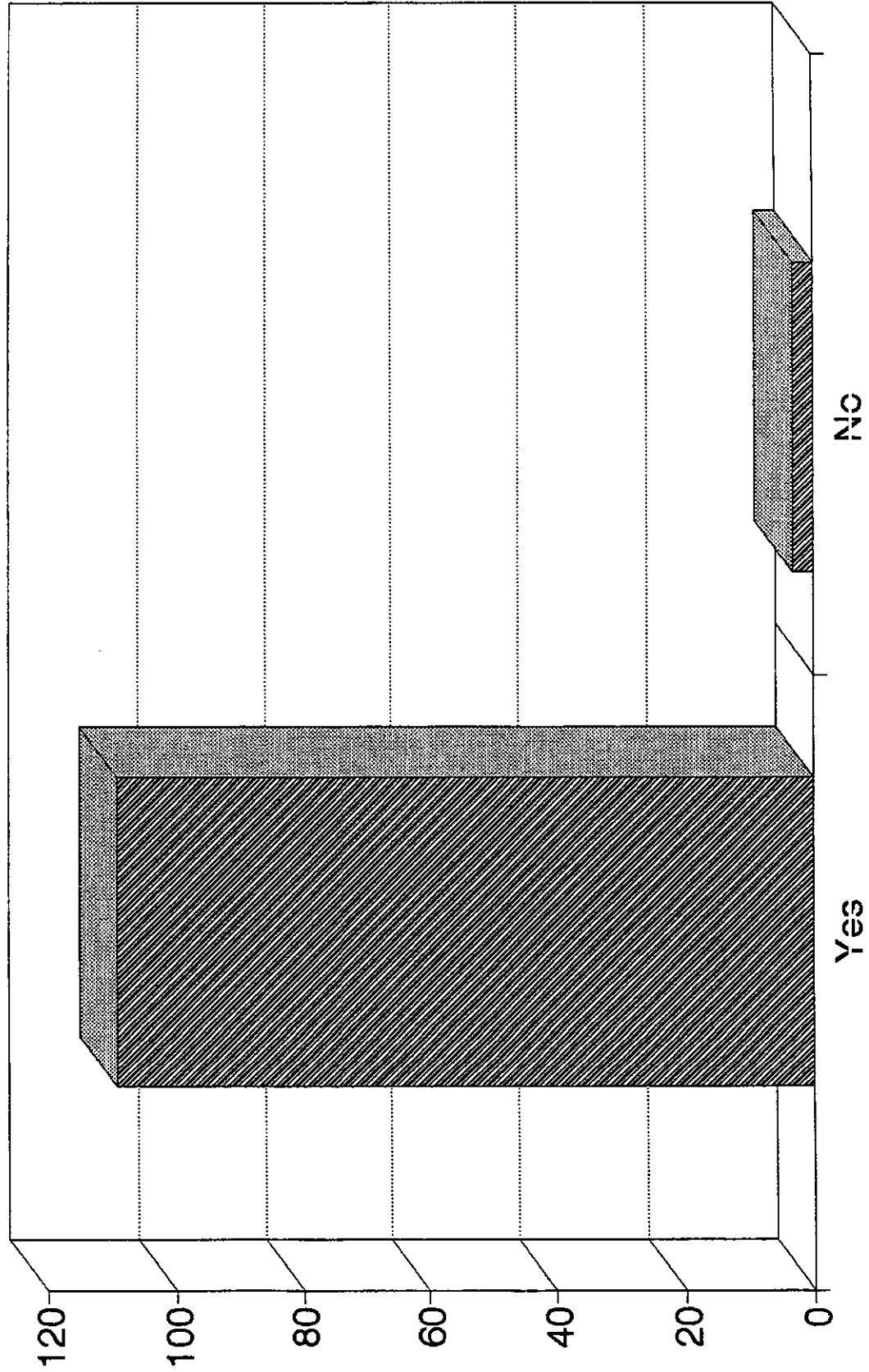
# QUESTION 10 (GENERALS)

Do we need a better trained labor force



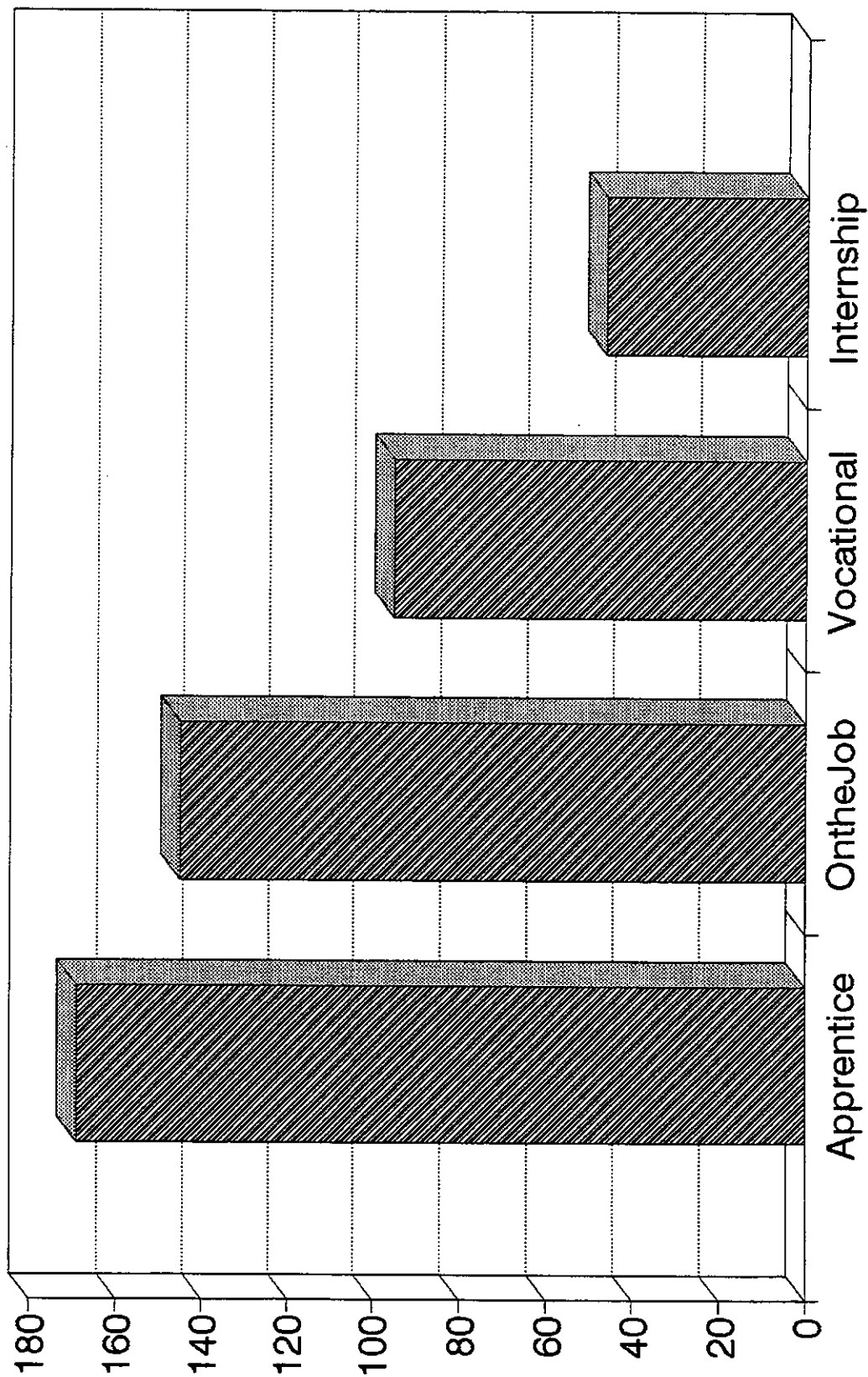
# QUESTION 10 (SUBS)

Do we need a better trained labor force



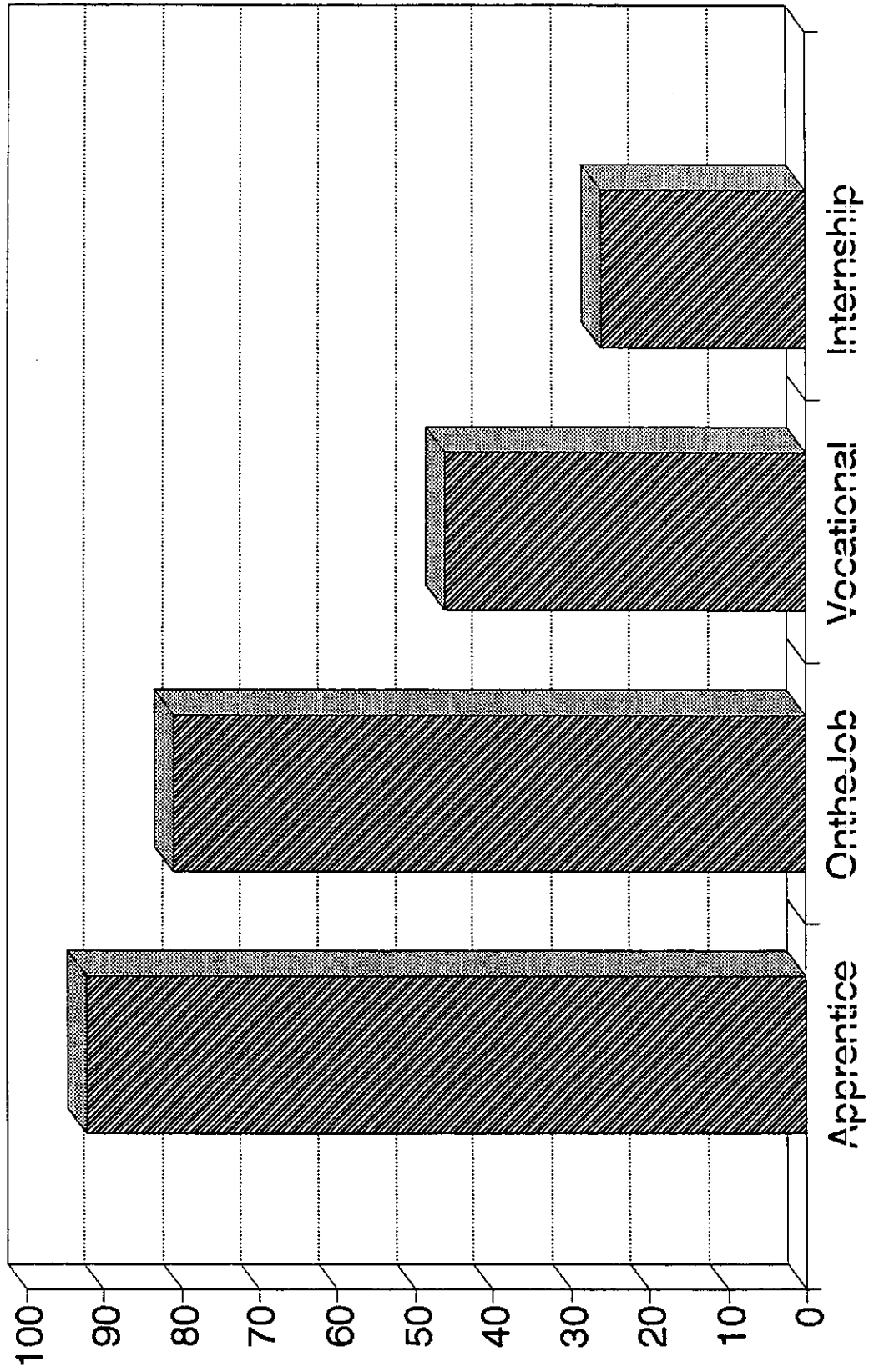
# QUESTION 10a (TOTALS)

If yes, how should we accomplish this?



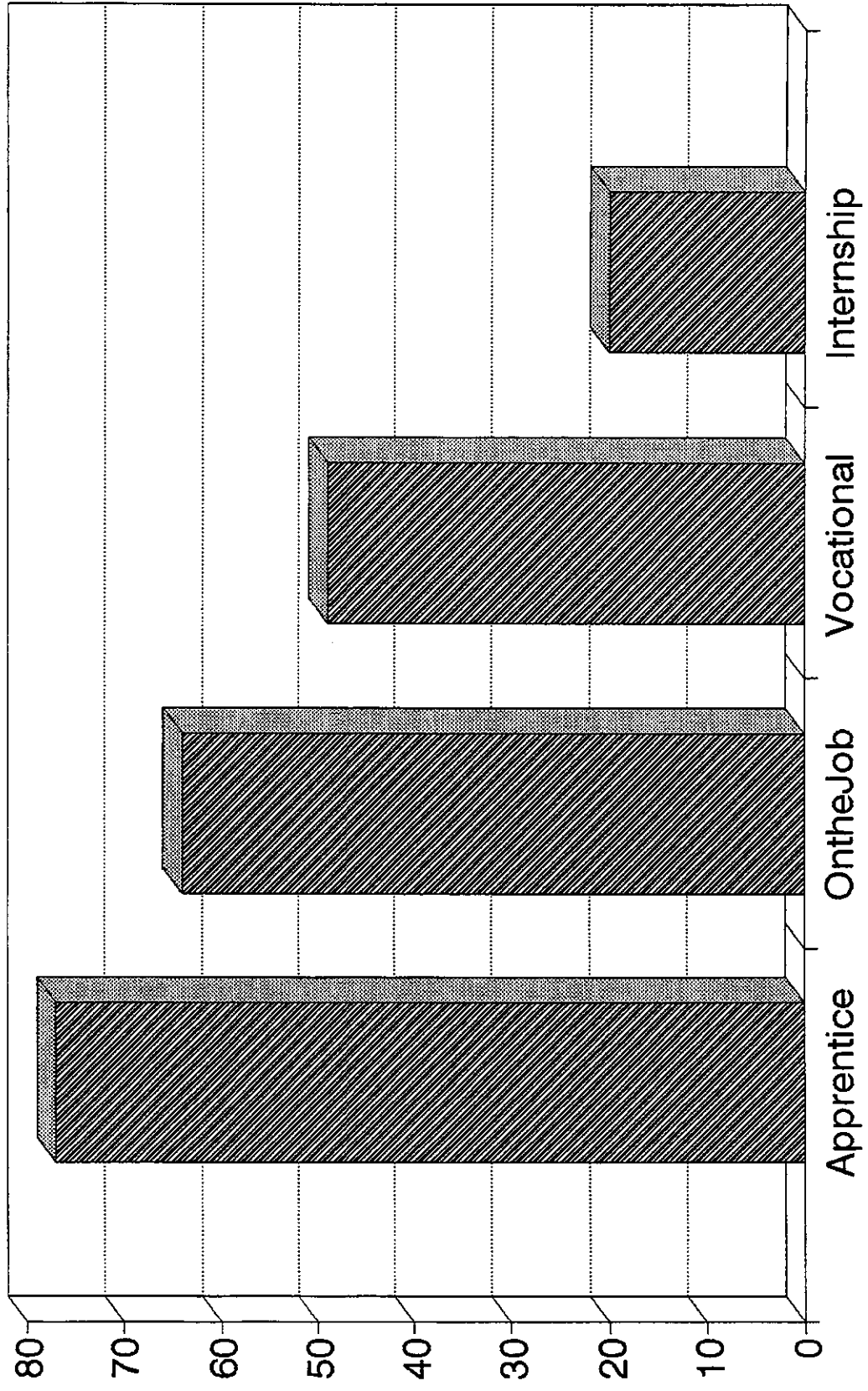
# QUESTION 10a (GENERALS)

If yes, how should we accomplish this?



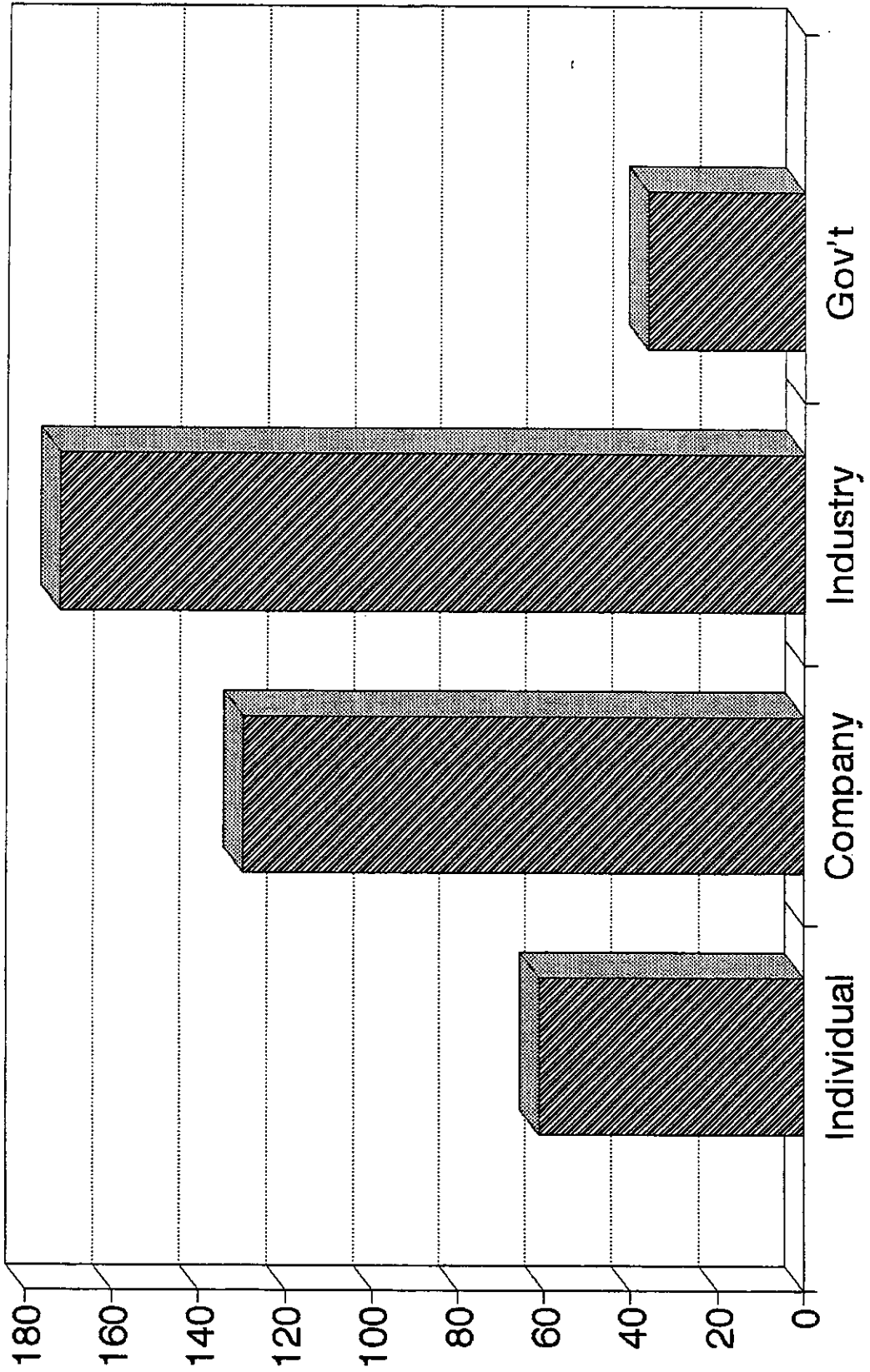
# QUESTION 10a (SUBS)

If yes, how should we accomplish this?



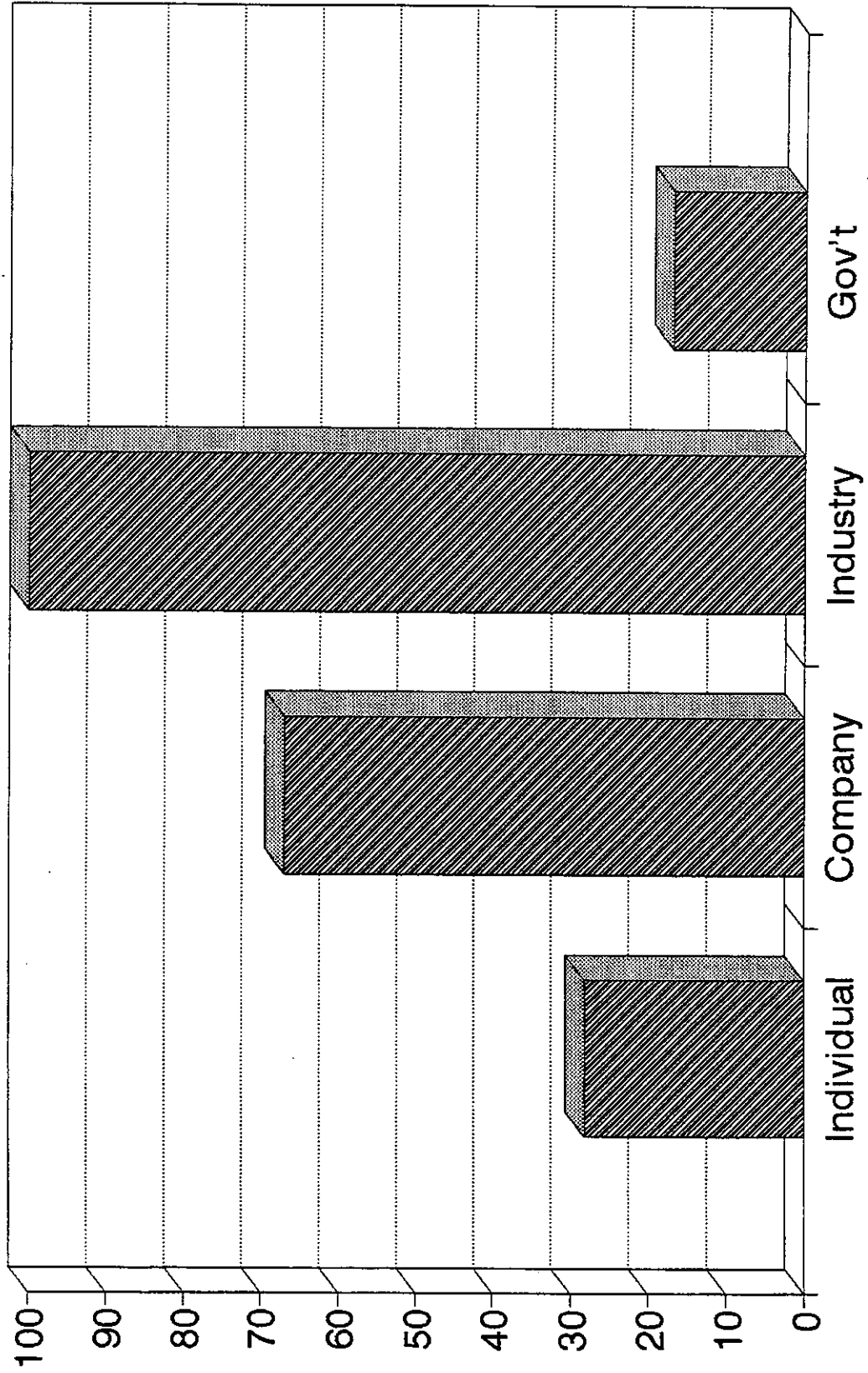
# QUESTION 11 (TOTAL)

Who should implement training?



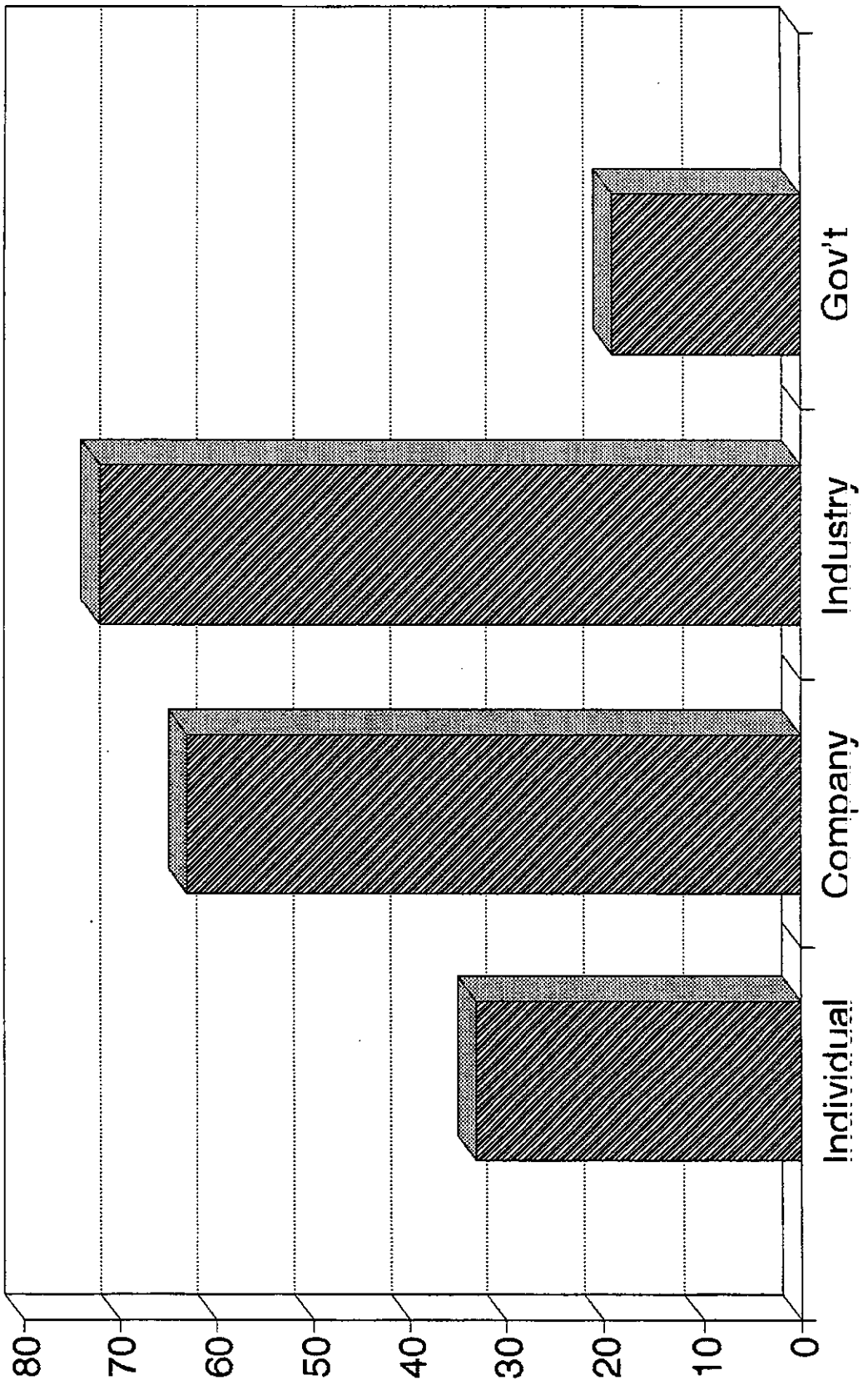
# QUESTION 11 (GENERALS)

Who should implement training?



# QUESTION 11 (SUBS)

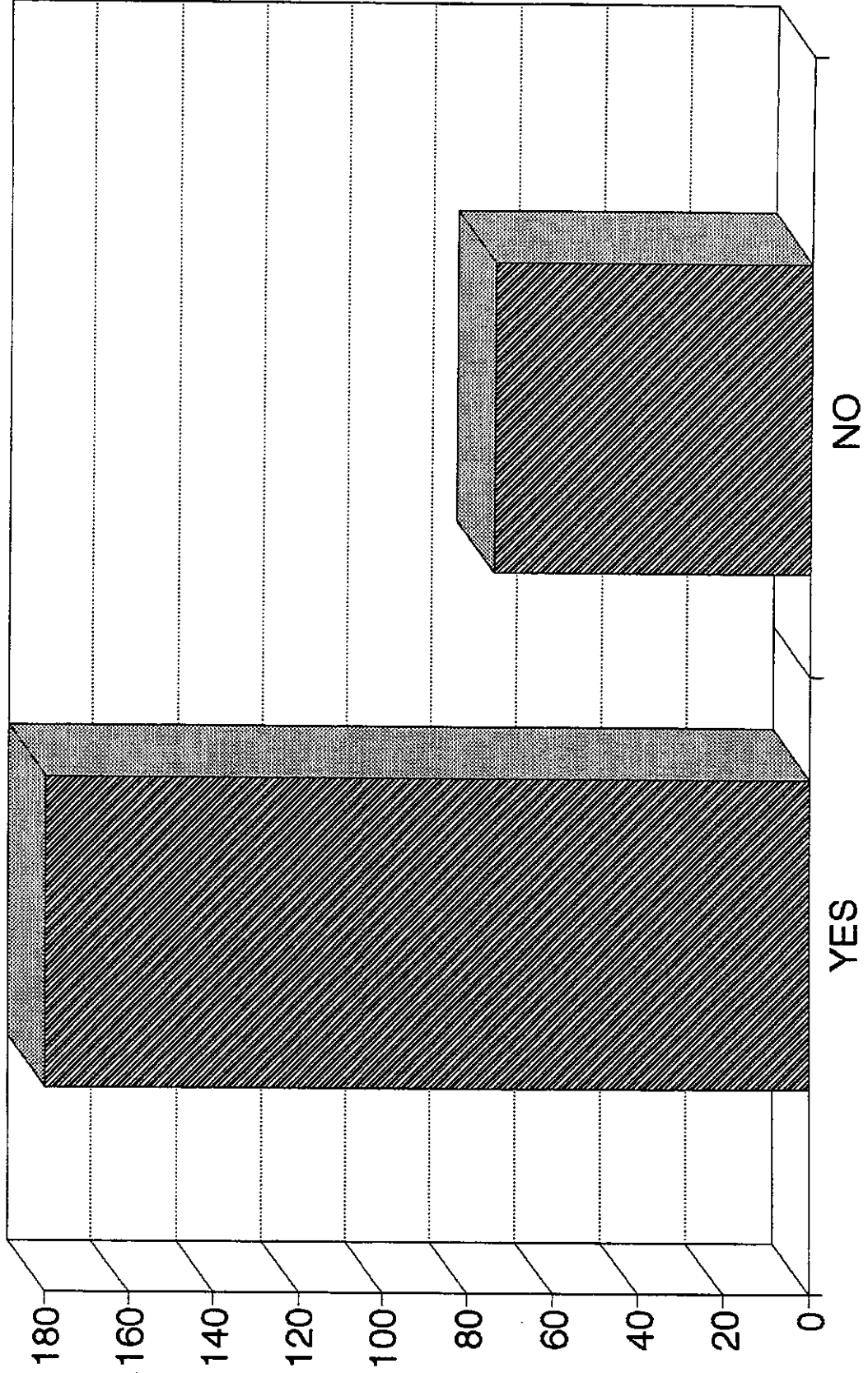
Who should implement training?





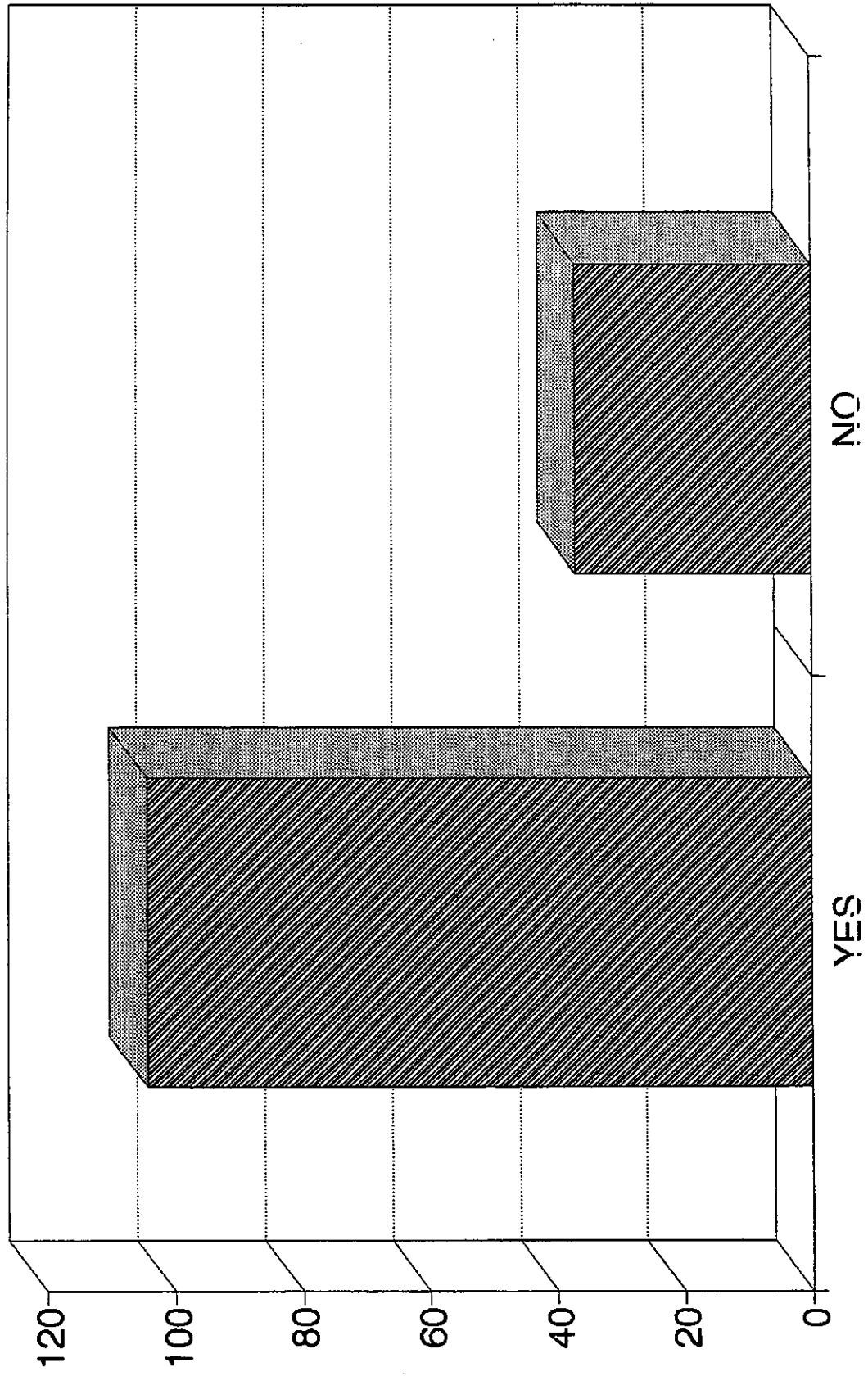
# QUESTION 12 (TOTAL)

Does your company have Quality Program



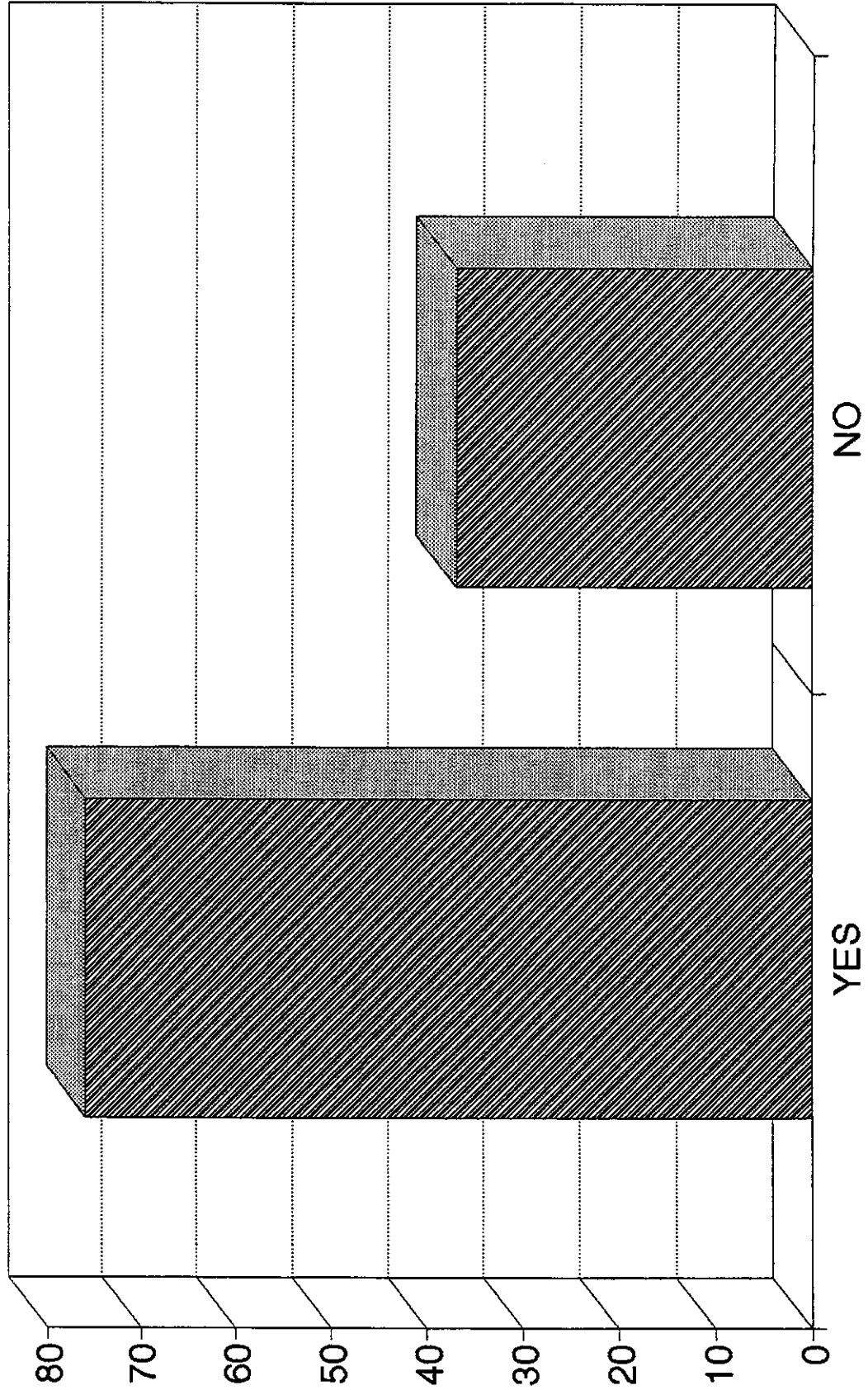
# QUESTION 12 (GENERALS)

Does your company have Quality Program



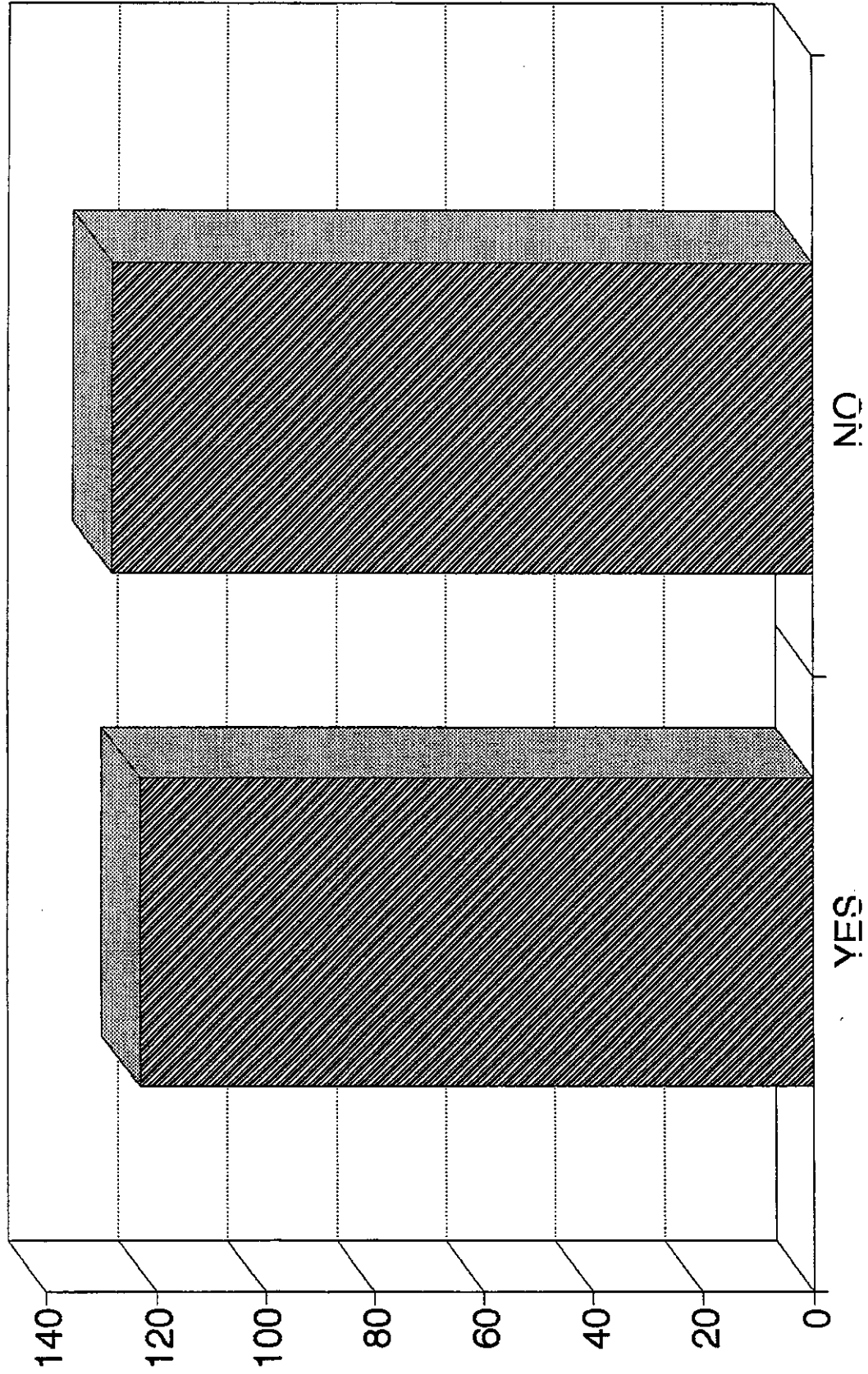
# QUESTION 12 (SUBS)

Does your company have Quality Program



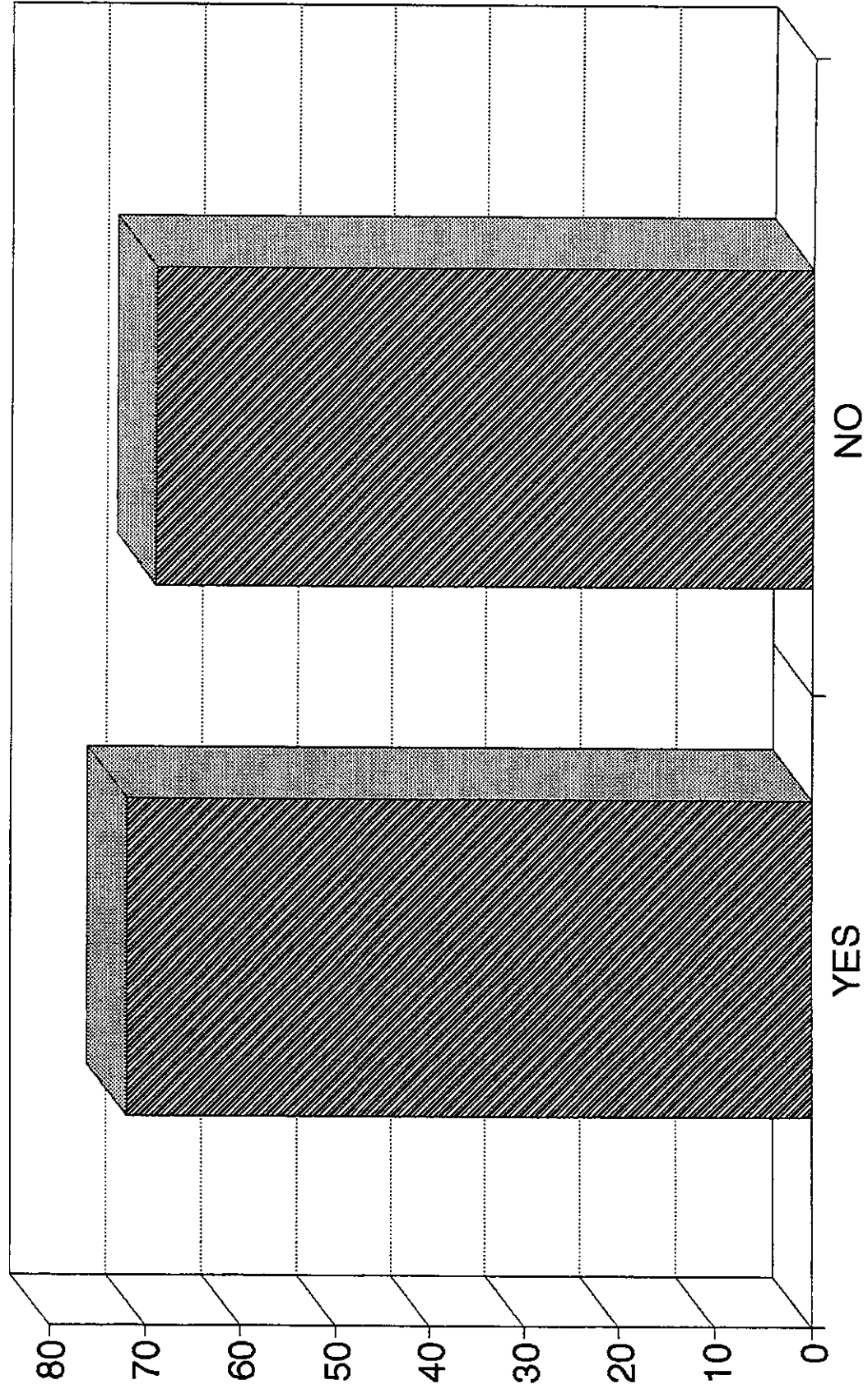
# QUESTION 13 (TOTAL)

Personally satisfied with industry work



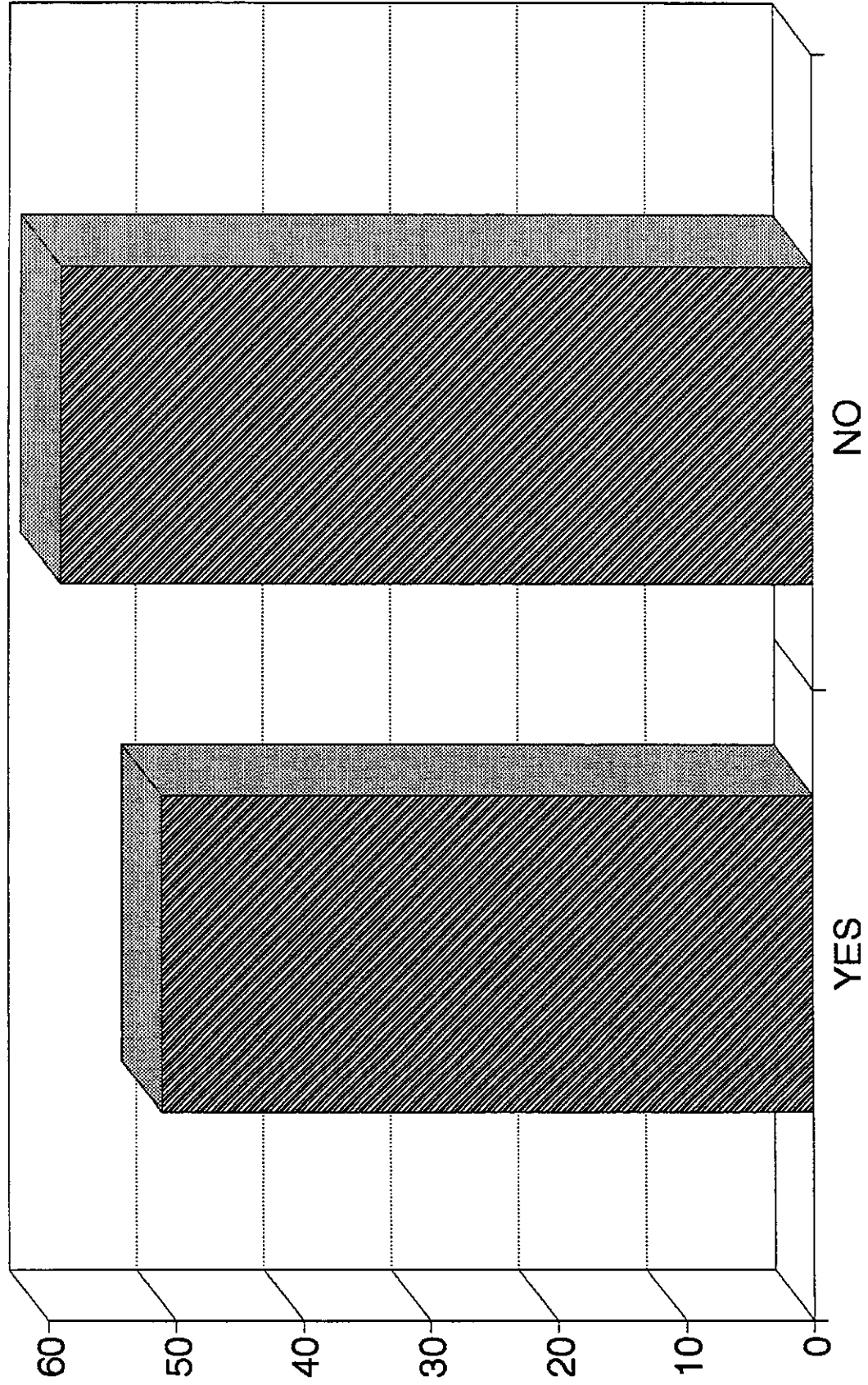
# QUESTION 13 (GENERALS)

Personally satisfied with industry work



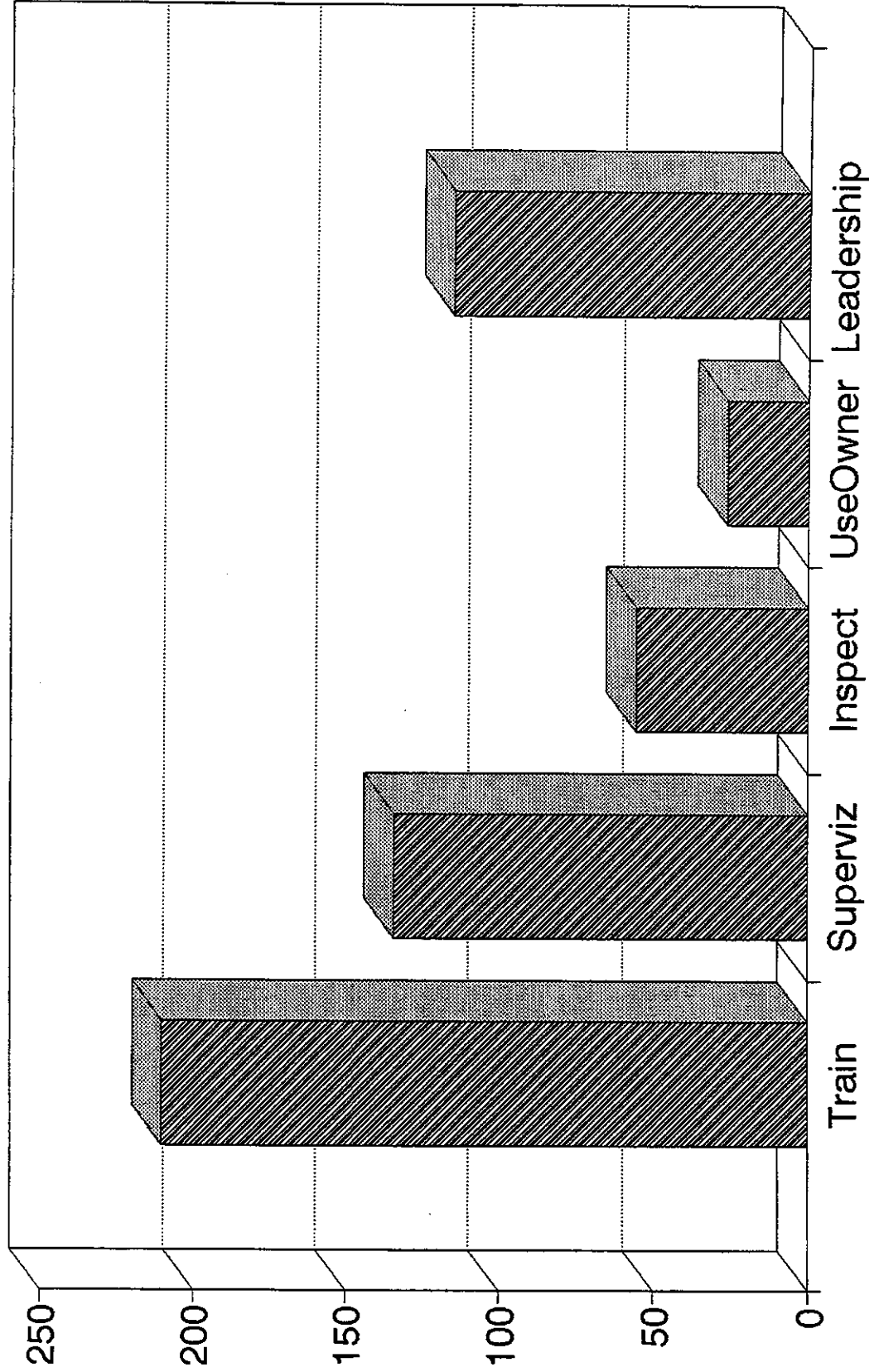
# QUESTION 13 (SUBS)

Personally satisfied with industry work



# QUESTION 14 (TOTALS)

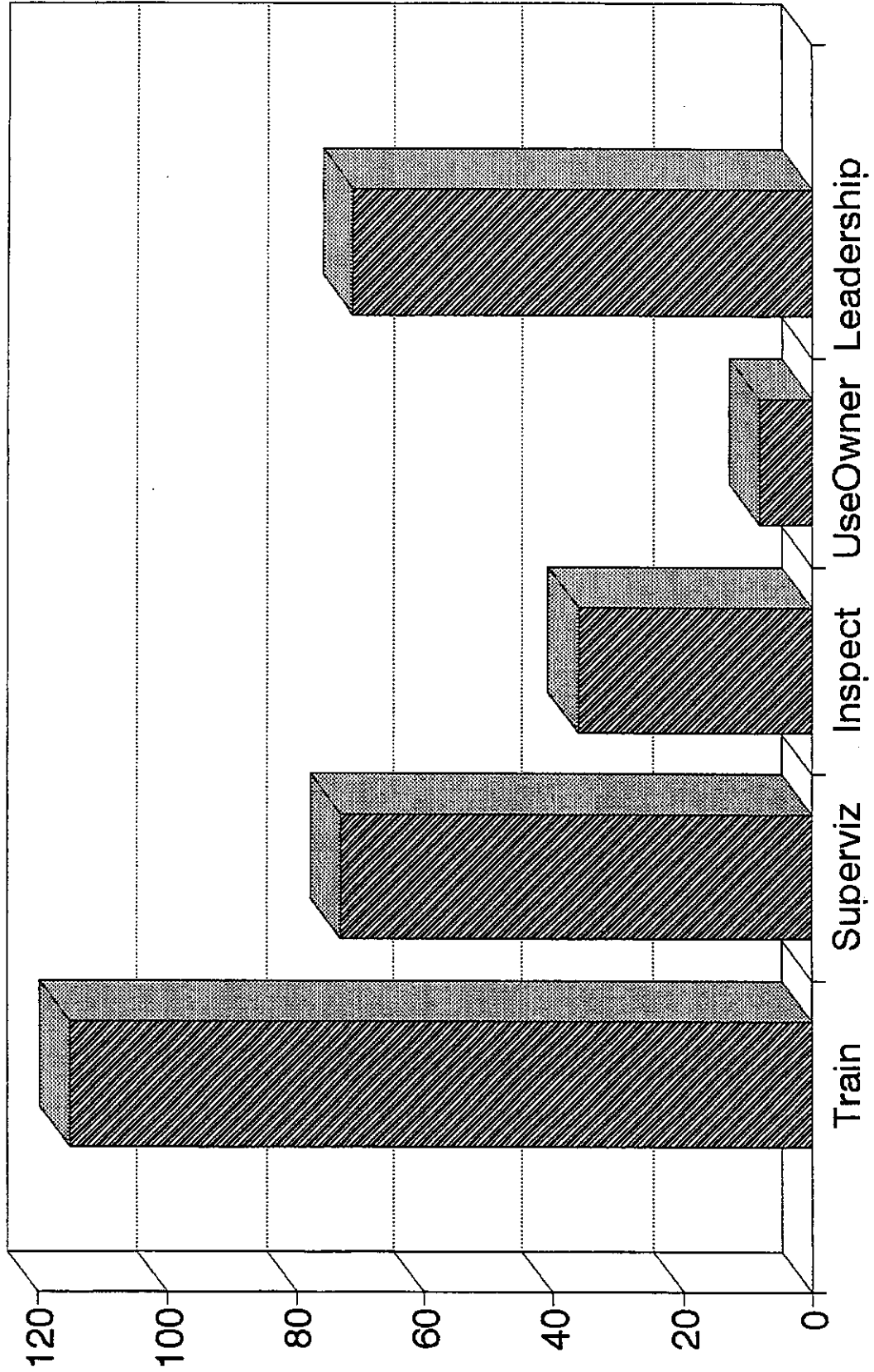
Suggested corrective measures





# QUESTION 14 (GENERALS)

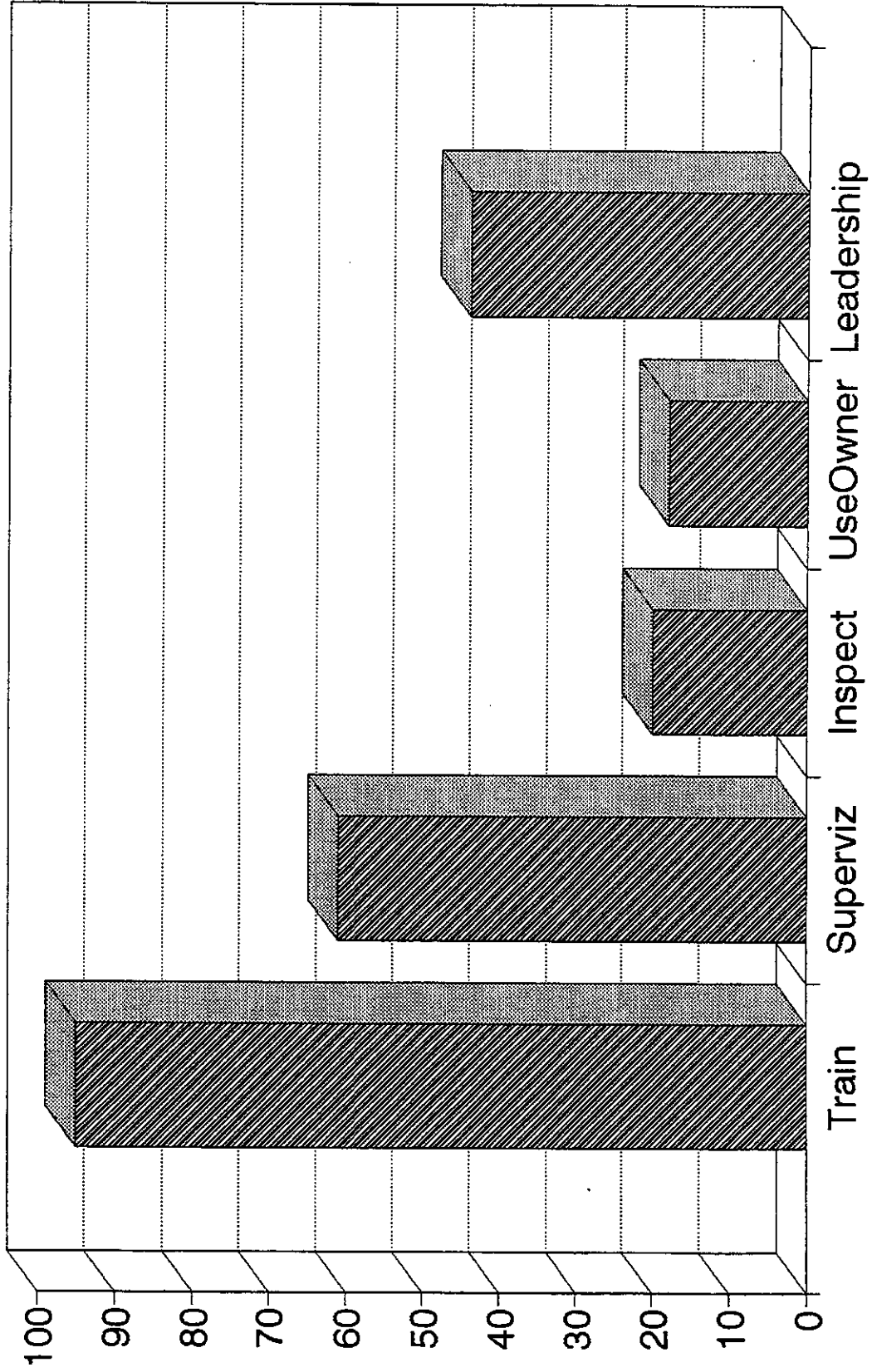
Suggested corrective measures





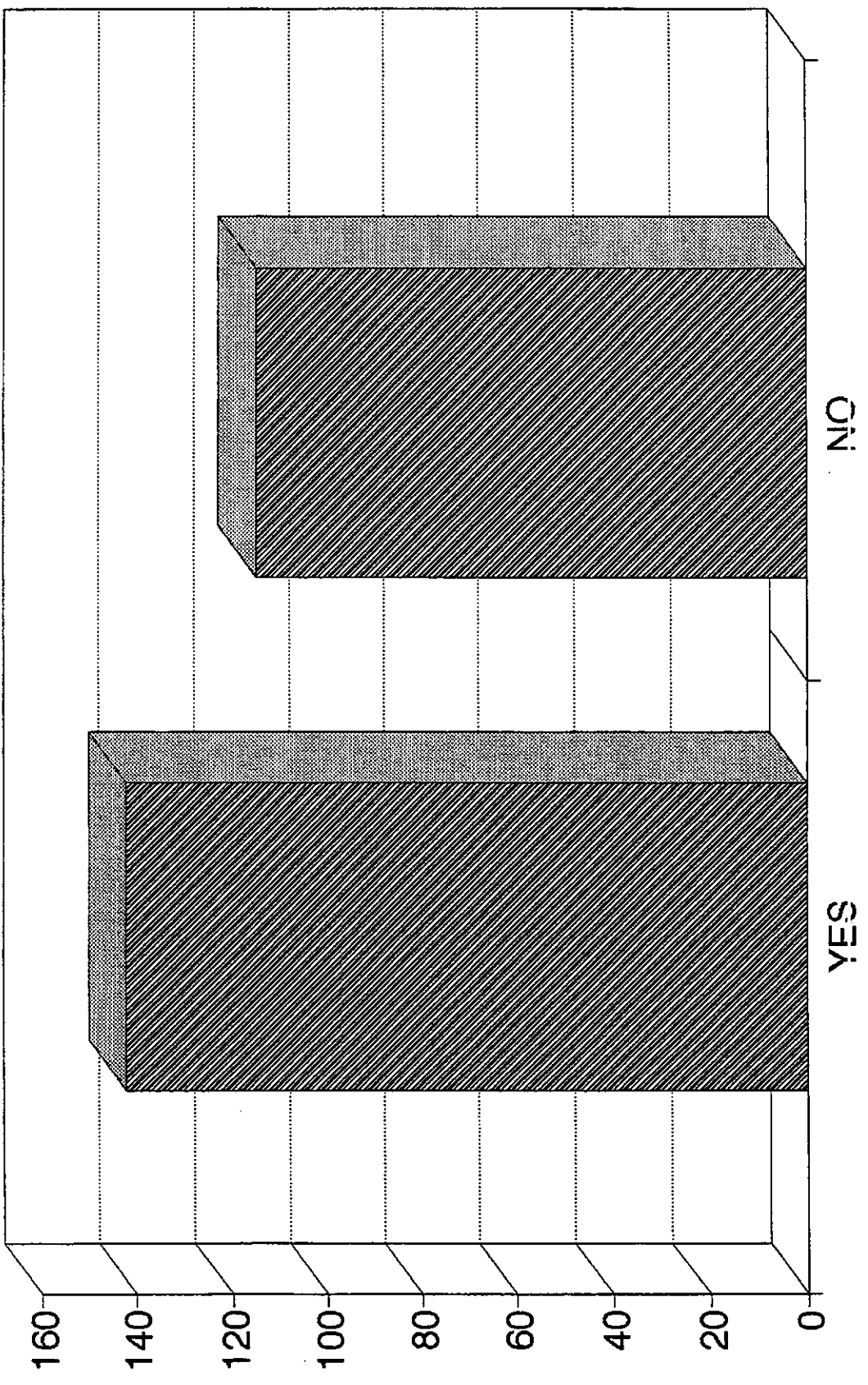
# QUESTION 14 (SUBS)

Suggested corrective measures



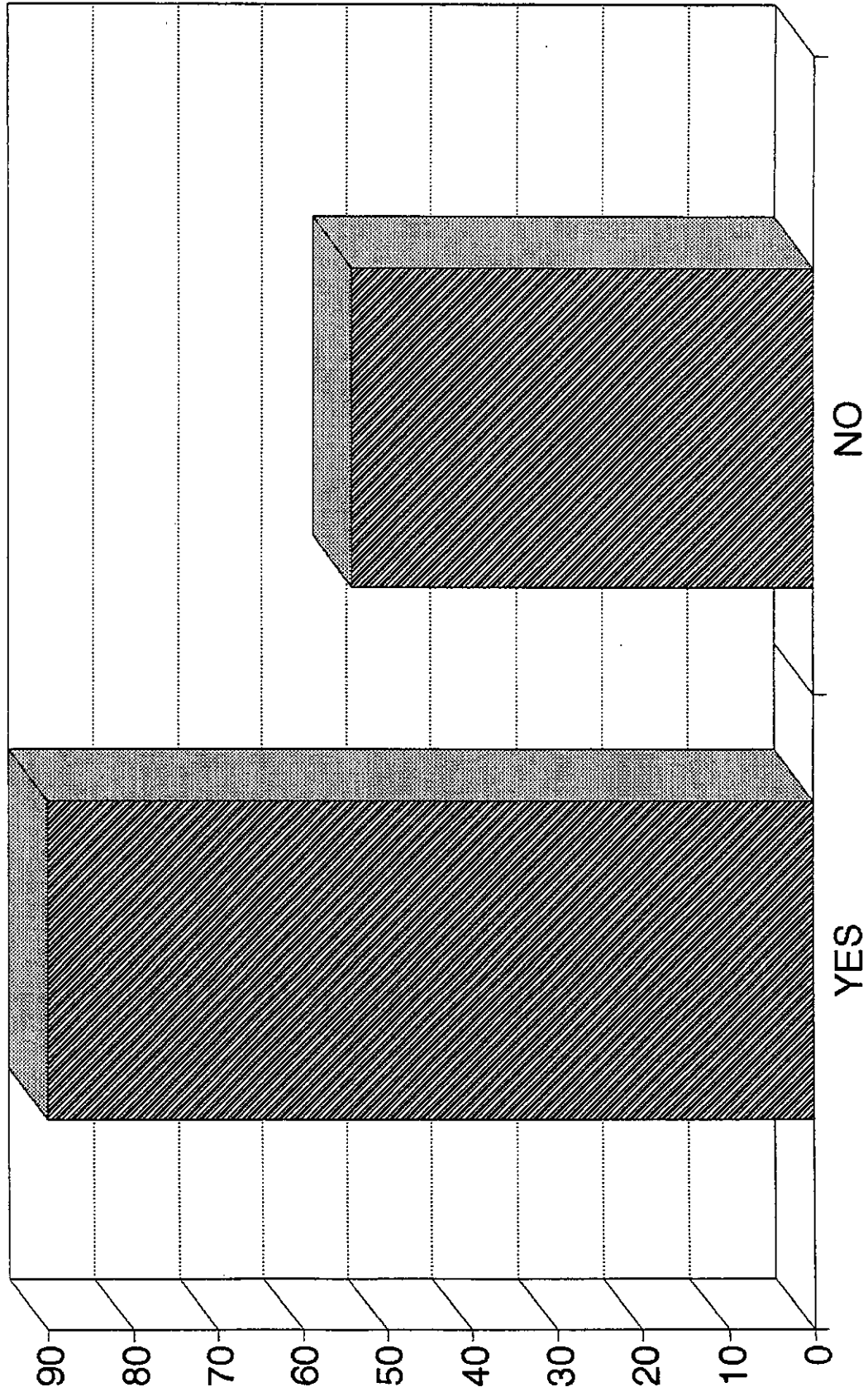
# QUESTION 15 (TOTAL)

Involved in defective work disputes?



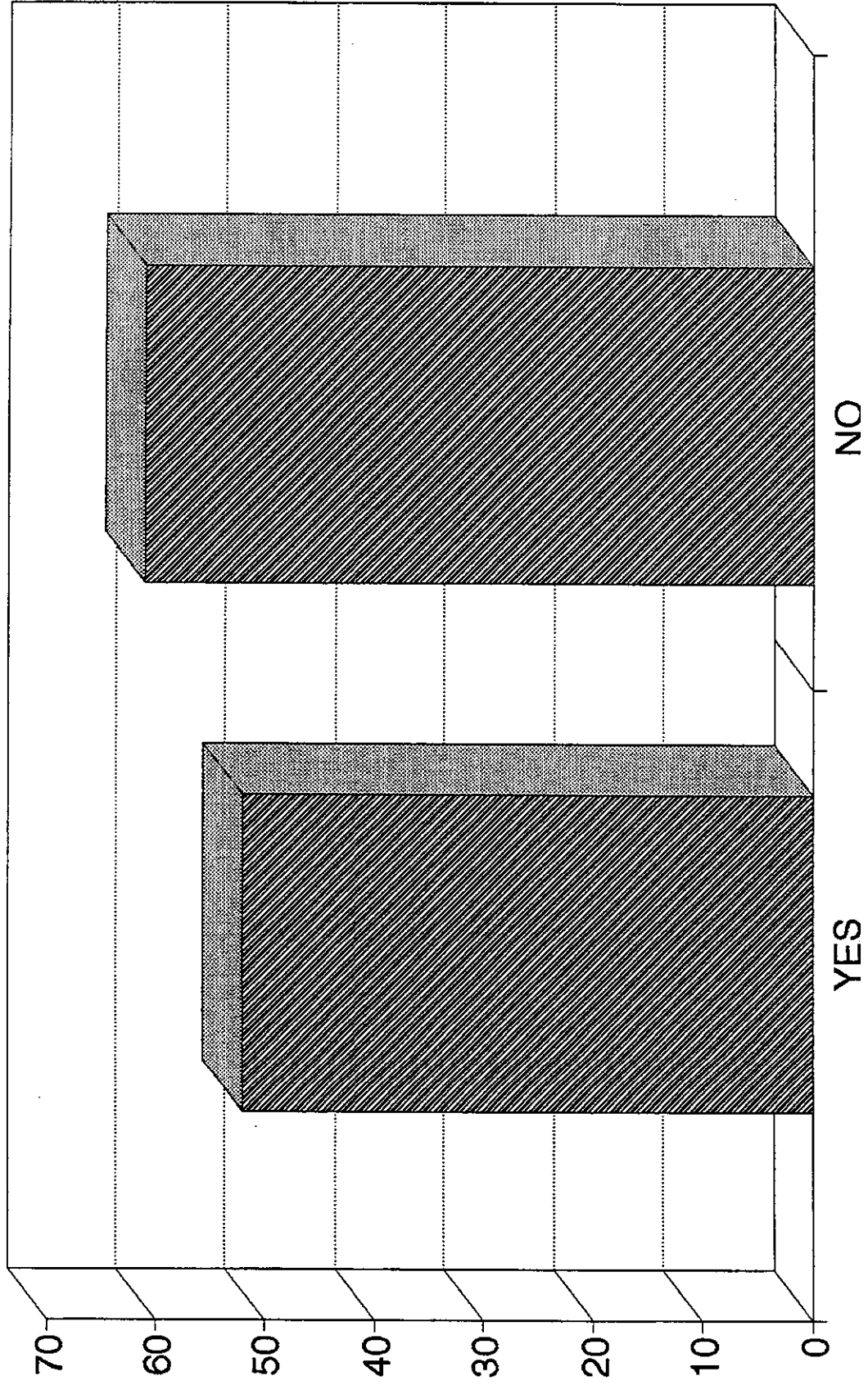
# QUESTION 15 (GENERALS)

Involvement in defective work disputes?



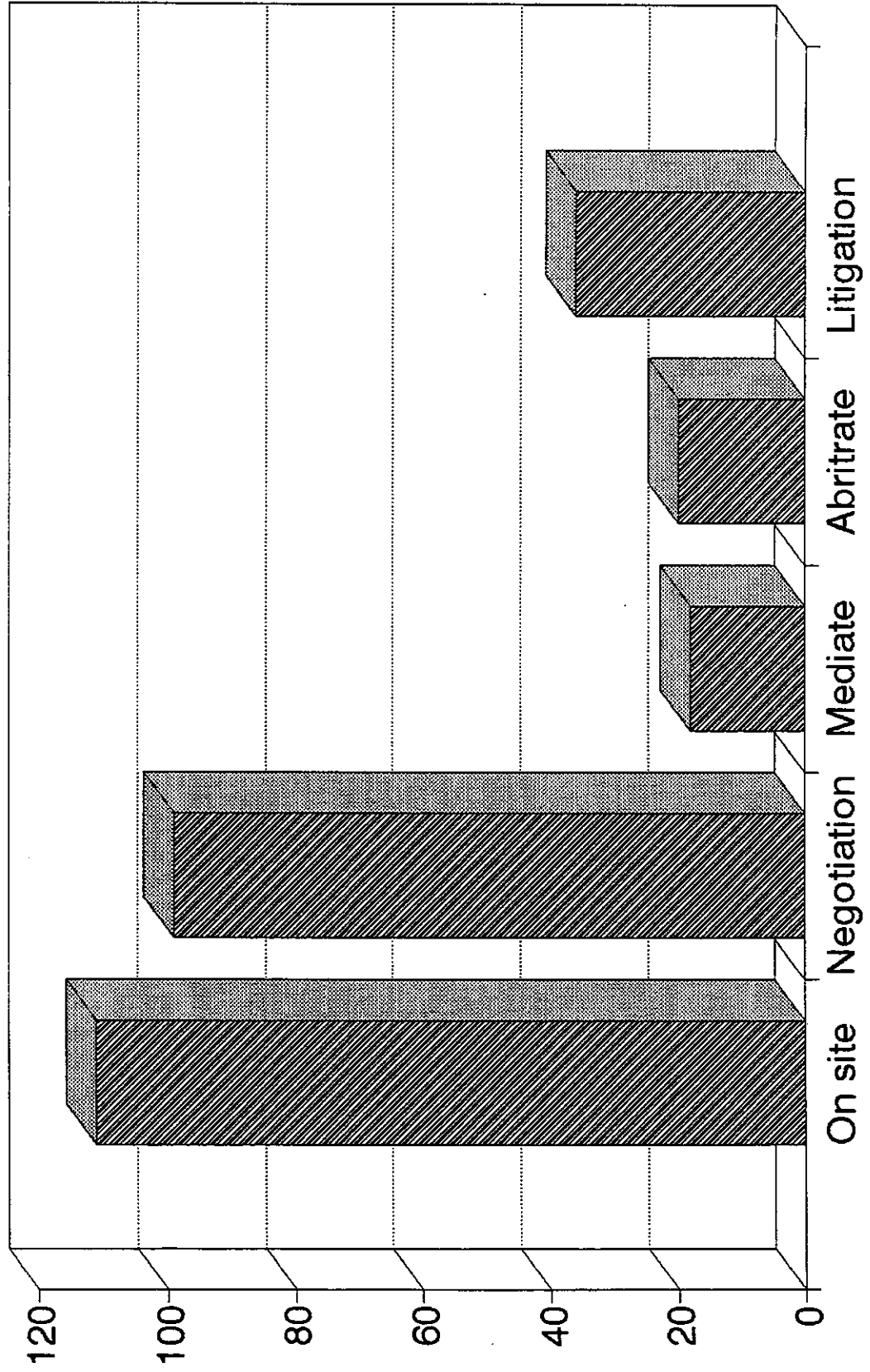
# QUESTION 15 (SUBS)

Involved in defective work disputes?



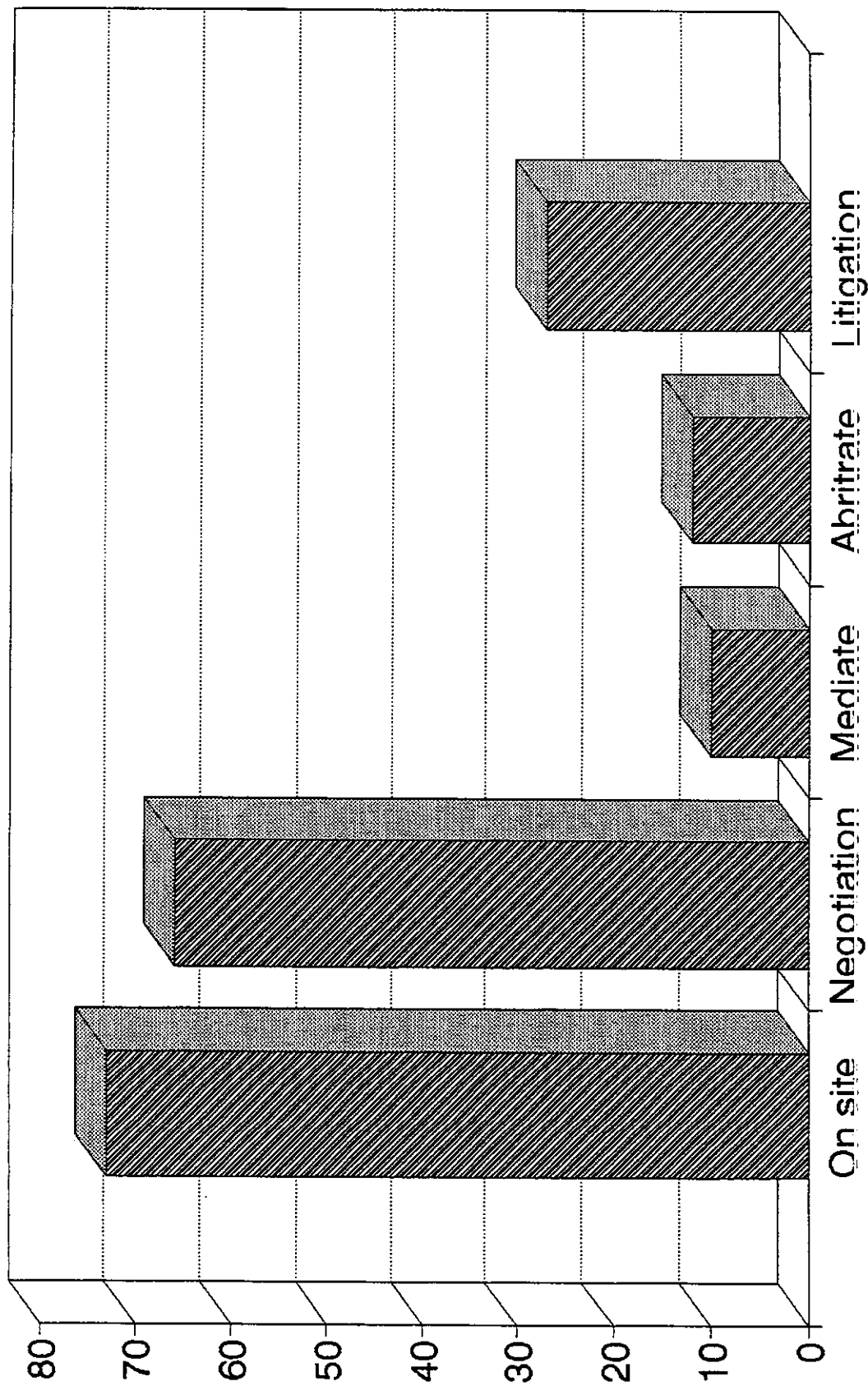
# QUESTION 16 (TOTAL)

How were these disputes resolved?



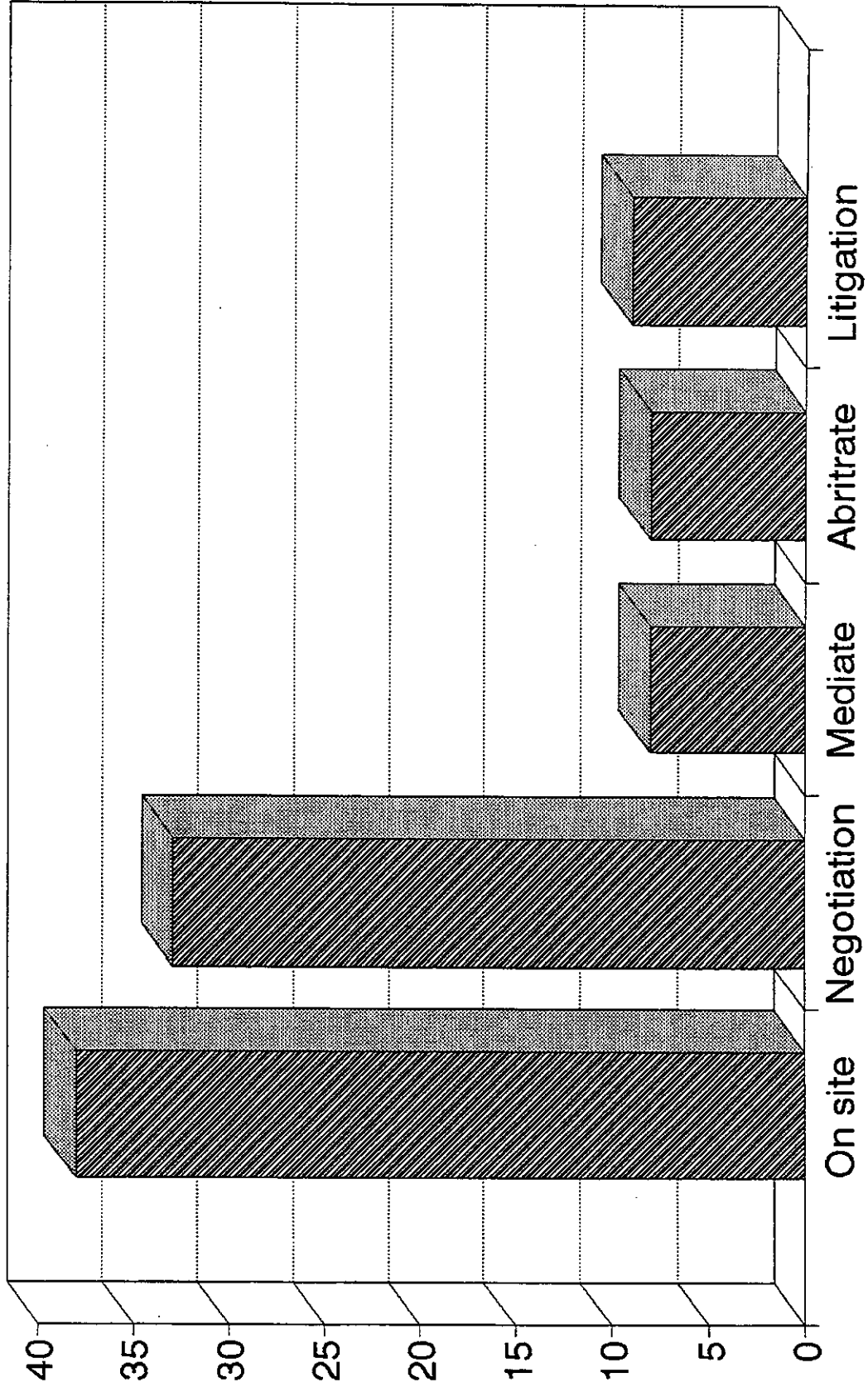
# QUESTION 16 (GENERALS)

How were these disputes resolved?



# QUESTION 16 (SUBS)

How were these disputes resolved?



APPENDIX E  
Sample Announcement



**State of Florida  
Department of Education**

**The Building Construction Industry Advisory Committee**

**&**

**The Department of Construction Management  
Florida International University**

**Present A**

**SEMINAR  
on  
JOB COST ACCOUNTING**

**13 April 1994  
C.E.Hutcheson Agricultural Services Center  
559 North Military Trail  
West Palm Beach  
6:00 PM - 9:00 PM**

**This seminar is Module V of a five part series  
focusing on practices & pitfalls  
in the construction industry that are subject to law suits.**

**The material addresses the  
importance and techniques of effective job cost accounting  
and how to make it work for you.**