

Substantiality Plan of National Supporting Business to Prevent Industrial Accidents of Korea Small Workplace

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Abstract

The industrial accident rate of the South Korean has been decreased but still small workplace that has less than 50 workers has a relatively high accident rate. Therefore, with supporting of government funds, professional institutions visit the small workplace that needs safety and health, and make that workplace to enforce the technical guidance about disaster prevention activities. The supported target fields are manufacturing industry, dangerous machinery, chemicals, industrial health, and construction industry, etc., and the accident rate of small workplace has been decreased steadily due to national supporting business. In this study, the rate of needs of workplace, that receives the benefits of technical guidance, is analyzed, and improvement plan for substantiality of national supporting business is proposed to promote the effectiveness of disaster prevention activities of small workplace.

This study analyzes the current status of national supporting business and the real condition of workplace, and implements a survey targeting beneficiary workplace workers.

Keywords: small workplaces, industrial accident rate, technical support, national supporting business

INTRODUCTION

Although the overall industrial accident rate has been steadily declining due to the government's ongoing industrial accident prevention policy, the accident rate of small workplace with less than 50 employees is relatively high[1]. Therefore, the

reduction in the accident rate of small workplace has a great impact on the overall reduction of the accident rate. However, there is an absolute shortage of disaster prevention guidance and supervision personnel for the government's small workplaces compared to the increasing number of small workplaces, and there is a limit to the reduction of disasters of small businesses due to lack of manpower and funds of small workplaces.

Therefore, since 1996, the government has appointed a disaster prevention specialist institution for small workplaces that have insufficient safety and health management capability, and this agency has performed disaster prevention technical guidance for small workplaces and implemented a project (Private Consignment Business) to support the funding. This private consignment business has been implemented for small workplaces with less than 50 workers and small construction sites with a construction value of less than 300 million won[2].

In the early years of the implementation of the private consignment business, which is in the year 2000, 155 private consignment agencies were designated, and 26,426 small workplaces were instructed disaster prevention technical guidance, and government subsidies about 6.2 billion won was supported. This business has grown in size every year, and in 2016, it designated 247 private consignment agencies and provided about 31.6 billion won in technical guidance costs for 440,448 business sites[Table 1]. Supported workplaces were selected after dividing into five areas: safety, health, hazardous machinery, chemicals, and construction.

Table 1. Status of private consignment business in safety and health field

Years Contents	2000	2002	2004	2006	2008	2010	2012	2014	2016
Private Consignment Agencies	155	171	126	174	236	261	159	274	247
Supported Workplaces	26,426	101,525	42,586	38,682	38,103	360,363	568,489	533,106	440,448
Government Subsidies (one hundred million)	61.99	113.4	66	81.9	86.8	213.53	271.17	295.8	316.49
Total Accident Rate (%)	0.77	0.77	0.85	0.77	0.71	0.69	0.59	0.53	0.49

It is found that the total industrial accident rate has been continuously decreasing with the increase of the national government subsidy for disaster prevention technical guidance of small workplaces every year[3]. Although the overall industrial accident rate is steadily declining due to the effect of various government policies, in order to reduce the accident rate as the advanced foreign level, it is necessary to manage more intensively the disasters of small workplaces with less than 50 workers. And, it is also necessary to review the problems of the private consignment business that has been carried out continuously over about 20 years and to reexamine the requirements in the sites.

In order to maximize the performance of safety and health private consignment business with reflecting the change of safety and health environment, it is necessary to establish measures to prevent industrial accidents through the needs of the private consignment organizations and the beneficiary workplaces receiving the technical guidance.

Therefore, the purpose of this study is to investigate the needs of the workplaces benefiting from the technical guidance through the safety and health private consignment business and to suggest the improvement plan for the substantiality of the private consignment business, so as to improve the effectiveness of the industrial accident prevention activities of small workplaces.

RESEARCH METHOD

We conducted visit investigations and surveys on beneficiary workplace to analyze the current status of the beneficiary workplace and draw out the problems of the private consignment projects so that the private consignment projects can be implemented more effectively.

Visit Investigation

Visit investigation was conducted on a total of 50 beneficiary workplaces of 10 companies in the field of safety and health private consignment business. The interviewees were mainly CEOs and related people of safety and health as one people from one company, and visit investigation survey items were 5 items with opinions on technical guidance and safety training related materials, opinions on safety measures presented by private trustees, opinions on improving safety consciousness of workers through technical guidance and safety education, opinions on prevention of industrial disasters after technical guidance, and supplementary items for private entrusted technical support projects.

Survey

The survey about beneficiary workplaces was conducted by nationwide 246 consigning agencies through the Internet. The

questionnaire consisted of 11 items including the general contents of respondents, and the total number of responses was 110.

RESEARCH RESULT

Analysis of Visit Investigation

Most of the workplaces were satisfied with the data provided by the private consignment agencies and the technical guidance on the safety measures through the survey of the beneficiary workplace visit investigation, and most of people responded as the private consignment business was helpful to improve the workers' safety consciousness and prevent industrial accidents. The opinions of the beneficiary were analyzed and the results were summarized as follows.

Opinions about Reference of Technical Guidance and Safety Education

Most respondents from workplaces are satisfied with the technical guidance and materials provided, and there is a request for improvement of the diversification of the provided data. In the case of the business with the parent company, there are some cases where it is not meaningful. In other opinions, education and related materials are very helpful, but there are many difficulties such as lack of improvement capacity in real conditions of small workplaces.

Comments and Improvements on Safety Measures

Most of the responding companies are responding that they are helpful and appropriate, and there is a request for improvement that realistic technical guidance should be made in accordance with the actual situation in the field. This project is formal and I would rather pay the protection or improvement goods at the cost There is also a negative opinion answer.

Improvement of Employee's Safety Consciousness

Most respondents answered that it is very helpful for employees' safety consciousness, and they hope to have safety education and technical guidance based on periodic and case-centered disaster cases. On the other hand, there is also a negative opinion that they do not expect safety education to improve employee's safety consciousness.

Industrial Accident Prevention Effect

The majority of responding workplaces responded that it is effective in preventing industrial accidents, and there is a need of improvement of continuity of business and continuous

relationship and guidance with the responsible person. However, there is also a negative opinion that it is ineffective and should be amplified by guidance with sense of reality.

Supplement

It is necessary to exchange opinions freely between the company and the sites by fixed and regular interviews with the same technical instructor. It is difficult to establish safety consciousness through short-term technical support, so long-term support should be provided. The answer is that it should be flexible and should be a direct benefit to workers.

Survey Analysis

General Status of Responded Workplaces

In the field of beneficiary workplaces responding to the questionnaire, the safety field was the highest with 63%, followed by health, hazardous machinery, chemicals and construction. In the case of the construction sector, the response rate is extremely low due to the characteristics of the site, which occurs only temporarily and disappears. The locations of workplaces with high response rates were GyeongBuk, DaeGu, GyeongGi and InCheon. The year of establishment of workplaces was 37% after 2010, 31% in 2000-2010 and 20% in 1990-2000.

As a result of a survey of the total number of regular employees, irregular employees and total number of employees in the workplace, the number of irregular employees is mostly "fewer than 2", and the total number of

employees is 49% "fewer than 10", "20-30 people" 11%, "30-40 people" 10% and "40-50 people" 5%.

Technical Guidance Effect

69% of the respondents answered that they have improved their safety consciousness after receiving private consignment technical support and safety education, and 2% of them said they have not improved ([Figure 1]), and the likert mean value was analyzed as 3.89. Also, for the reduction of disasters and improvement of safety management on sites after technical guidance, 78% of the respondents answered that they were effective and 3% had negative opinion([Figure 2]), and the likert mean value was analyzed as 4.02. As a result, beneficiary workplaces felt that they had the effect of improving safety consciousness, reducing disaster, and improving safety management.

In the survey on the reasons why the private consignment business was not effective, 31% of the respondents said that "the instruction period(1 year) was too short to reflect the technical guidance contents", 22% said "the number of technical guidance(average 3 times a year) is too small", 19% said "the guidance content of the technical guidance organ is far from the actual situation of the workplace", 16% said "the guidance contents of the technical guidance organ is rather formal than practical" and 4% said "the technical guidance agency is not reflecting the opinions or requirements of our workplace"([Figure 3]). Therefore, it is analyzed that it is the most important to improve the guidance period and the number of technical guidance in beneficiary workplace for effectiveness of this system.

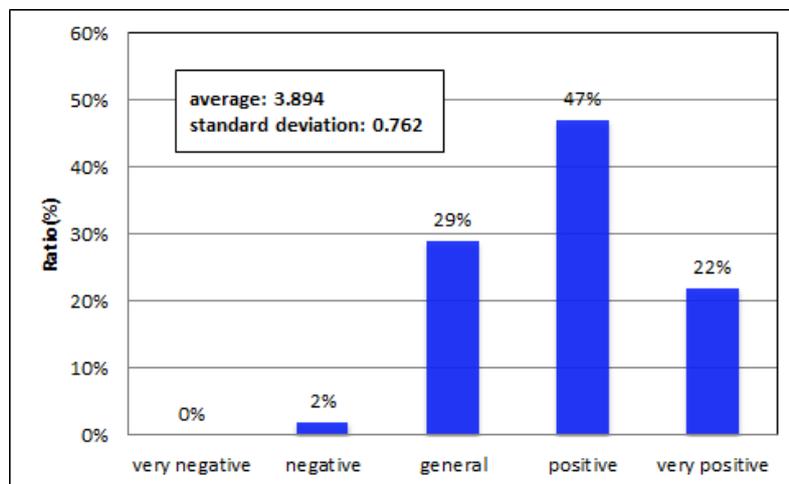


Figure 1. Contribution to improvement of safety consciousness of workers after technical guidance

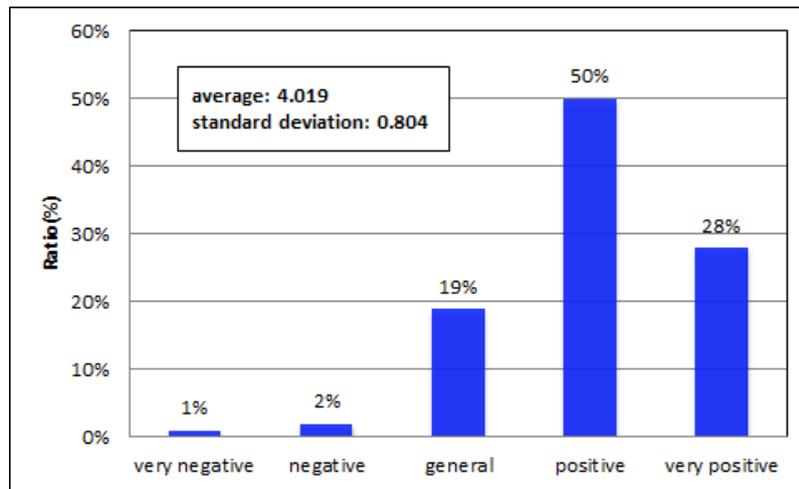
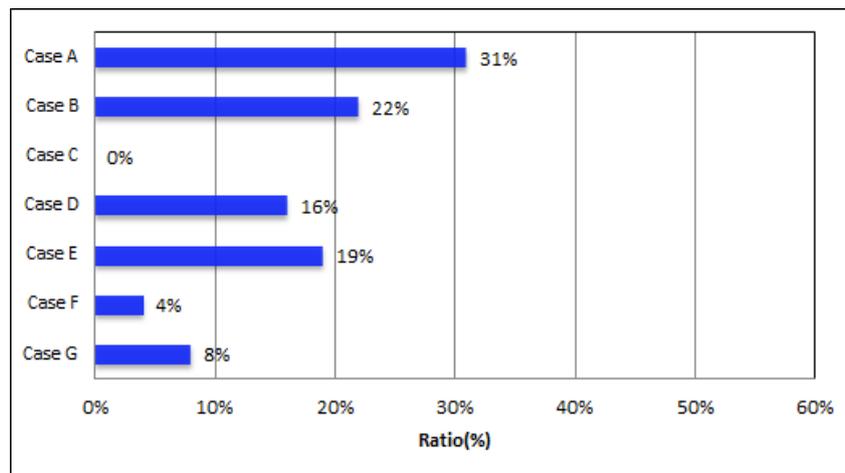


Figure 2. Contribution of improvement of disaster reduction and safety management after technical guidance



Case A : the instruction period(1 year) was too short to reflect the technical guidance contents

Case B : the number of technical guidance(average 3 times a year) is too small

Case C : the technical guidance staff has a lack of technical guidance capability.

Case D : the guidance contents of the technical guidance organ is rather formal than practical

Case E : the guidance content of the technical guidance organ is far from the actual situation of the workplace

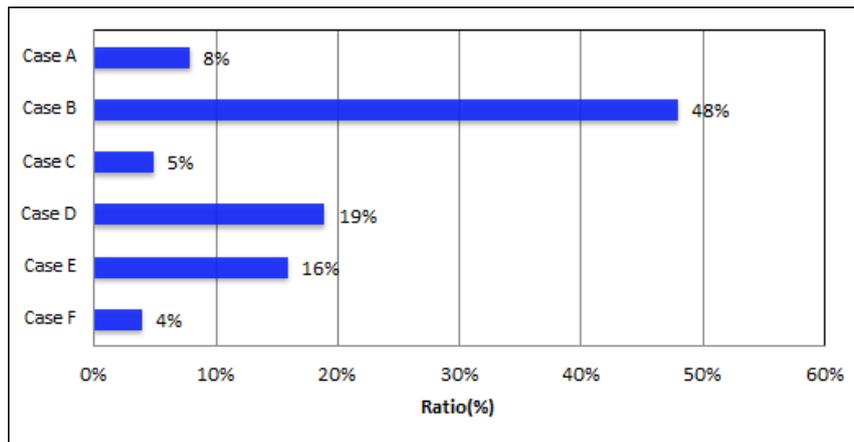
Case F : the technical guidance agency is not reflecting the opinions or requirements of our workplace

Case G : others

Figure 3. Cause of ineffective private consignment business

In the question about why it is difficult to reflect the technical guidance contents(error list) on the site, most of the worksites chose this reason “because there are many things that are difficult to reflect on the site in administrative and technical terms”(48%)([Figure 4]). Next, they chose as “incentives or sanctions for reflection status are insufficient”(19%), “the safety management obligation(safety management predecessor, etc.) is not included in the workplace with less

than 50 employees”(16%), “due to formal technical support, it is far from the site situation of these workplaces”(8%) and “It is because of the lack of follow-up management such as action reports for workplaces that are less than 1%”(5%). The difficulty of reflecting on sites due to the characteristics of small workplaces can be judged as the biggest cause of not applying field technical guidance contents.

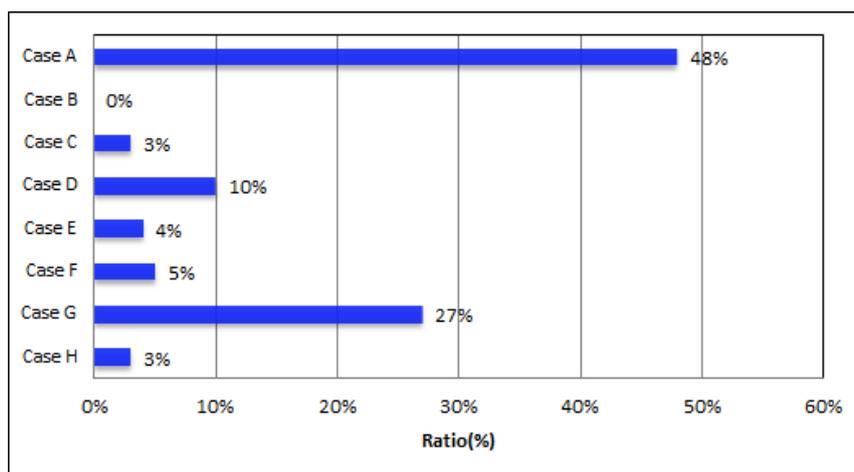


- Case A : due to formal technical support, it is far from the site situation of these workplaces
- Case B : because there are many things that are difficult to reflect on the site in administrative and technical terms
- Case C : It is because of the lack of follow-up management such as action reports for workplaces that are less than 1%
- Case D : incentives or sanctions for reflection status are insufficient
- Case E : the safety management obligation(safety management predecessor, etc.) is not included in the workplace with less than 50 employees
- Case F : others

Figure 4. Causes that do not reflect technical guidance content

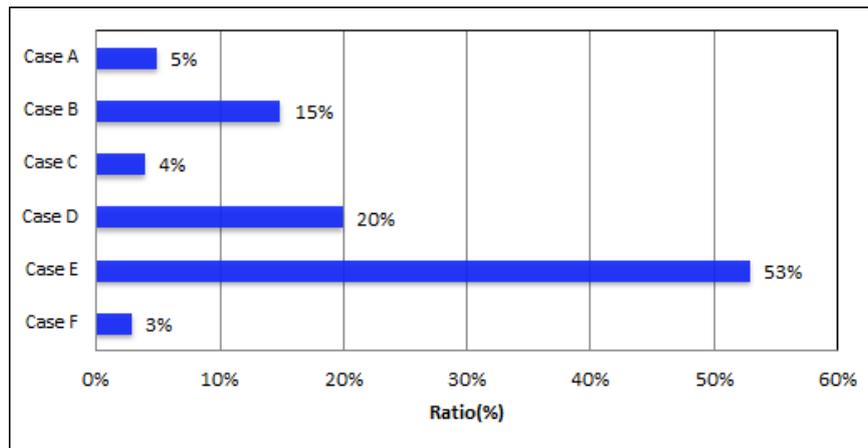
For the question that if you ever refused a private consignment technical guidance from your workplace and asked why you denied it([Figure 5]), 48% of the respondents answered that they did not reject it which is “Not Applicable”,

and the reasons from workplaces that denied were “It is an economic burden to take care of technical matters”, “I do not feel the need for technical guidance” and “I am hindered by work hours such as unexpected visits and unnecessary visits”.



- Case A : Not applicable
- Case B : The kindness of technical guidance agency staff is poor
- Case C : The professionalism of technical guidance agency staff is poor
- Case D : I do not feel the need for technical guidance
- Case E : Private consignment technology guidance and content are far from reality
- Case F : I am hindered by work hours such as unexpected visits and unnecessary visits
- Case G : It is an economic burden to take care of technical matters
- Case H : others

Figure 5. Reasons for refusing a private consignment business



Case A : Suggestion of consulting for this workplace with professionalism of technical instructor

Case B : Suggestion of practical methods rather than formal safety explanation

Case C : Guidance with prepared contents for each visit not just visitation

Case D : Material support such as safety shoes and safety helmets

Case E : Providing enterprise incentive and supervision exemption when receiving technical guidance

Case F : others

Figure 6. Improvement demand of private consignment business

The most frequently asked opinion to select the most necessary points for the private consignment business to be helpful to the workplace (Figure 6) was “Providing enterprise incentive and supervision exemption when receiving technical guidance” (53%), and other opinions were “Material support such as safety shoes and safety helmets” (20%), “Suggestion of practical methods rather than formal safety explanation” (15%), “Suggestion of consulting for this workplace with professionalism of technical instructor” (5%) and “Guidance with prepared contents for each visit not just visitation” (4%). Therefore, in the small beneficiary workplaces, it has been shown that they desire the material support rather than promotion of safety management and self-reliance on safety capability from private consignment technical support.

RESULT

In order to propose the improvement plan for the substantiality of the safety and health private consignment business, which has been continuously expanded since 1996, we conducted a visiting investigation and an internet survey on the beneficiary workplace, and as a result, the following conclusions were obtained.

(1) Most of the beneficiary workplaces recognize that the safety consciousness of workers has improved, disaster reduction and improvement of safety management are effective due to the private consignment business. Also, in the

aspect of the beneficiary workplace, the private consignment business was analyzed as a project to help prevent industrial accidents.

(2) The reasons for the reduction of the effectiveness of the technical guidance system of the private consignment business are that it is difficult to reflect the contents of the technical guidance because the instruction period is short, the number of technical guidance is small, the guidance contents are different from the reality of the workplace and the contents are formalized.

(3) In the point that it is difficult to reflect the technical guidance contents due to the short instruction period, it is necessary for the requested workplace to consider the method of continuously providing technical guidance to the same private consignment organization by selecting it as a beneficiary workplace for about two years. Also, in order to minimize the loss time such as identification of the business situation, in case that the private consignment organization is not selected consecutively or the beneficial workplace is not selected consecutively, it is also necessary to consider the long-term consideration in relation to the K2B system for the system construction of the database of the contents of the beneficiary workplace, the history of the technical guidance, and the contents of the guidance.

(4) In view of the difficulty in having a small number of technical guidance, smaller sized workplaces do not know or care about safety management, so it is necessary to increase the number of visits to increase business efficiency. The

increase in the number of visits should be differentiated according to size, for example as the workplace with 5 or 10 employees, rather than expanding to all small-sized workplaces with less than 50 employees. It is necessary to consider the effect of applying and verifying the effect for those small workplaces with 5 or 10 employees.

(5) For the point that the guidance contents differ from the actual workplace and the guidance contents are formal, the work environment is different for each workplace, so it is analyzed as a method that can avoid the formal technical guidance which is distance from the reality, to offer specific measures or methods by allocating more customized guidance and time through consultation with the employer. In particular, it is considered that the smaller the size of a small business, where there is little designation of the person in charge, the more necessary guidance is needed.

(6) It was surveyed that most provided educational materials were satisfied by workplace in general. In addition to the material assistance, additional attention should be paid to providing disaster cases related to the workplace, cases of similar workplaces where safety measures are well applied, video educational materials and so on. It is necessary to seek ways to support the use of educational materials by utilizing the references and videos from case of private consignment best practice contest and the website of the industrial complex conducted by the Korean government.

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