MANAGING SERVICE CALL REDUCTION

BY

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ABSTRACT

CATV service calls have grown to a staggering one million dollar per day cost. Various MSO studies confirm that nearly 80% of all service calls fall between the pole and the TV - that is, within the drop system. And, of these, nearly 40% are the result of poor training, workmanship, or accountability of the field installation work force. A unique installer qualification and performance tracking program concept called Performance Plus was created to address this costly and subscriber frustrating problem. This paper details the Jones Intercable specific installer quality and performance tracking QIP program.

INTRODUCTION

Based on the industry average of 3% per month service call ratio of 60 million subscribers at an average cost of $30 per service call, the cable industry now experiences a service call expense of nearly one million dollars per day - and this expense continues to grow.

Research by several MSO's show that 80% of all service calls are caused by problems between the pole and the back of the TV set, i.e., the drop system and in the domain of the installer. The research also shows that of this 80%, nearly 40% of the problems are the direct result of poor training, workmanship, and accountability of the installation work force.

As an example, a large MSO with nearly one million subscribers has documented that its service call ratio is just at the industry average of 3%. Records show that it averaged a little over 30,000 service calls per month. Previous analysis by several MSO's assigns an average cost of $30 per service call. (Most industry experts believe $30/service call to be, if anything, conservative. The telephone company uses $72 per service call in their analysis.) This means that service calls cost this MSO at least $900,000 per month, every month. This equates to $10,800,000 per year.

If the same assumed ratios and costs were used, typical cable system with 10,000 subscribers would result in $9,000/month and $108,000/year service call expense respectively.

In both examples, a large sum of money!

The Performance Plus Concept

An industry expert in installer training and productivity tracking, Dana Eggert, introduced the Jones Technical Department to a unique and promising concept to effectively address service call reduction called the Performance Plus Installer Program (PPIP) (Fig. 1).

FIGURE 1

This unique approach addresses the service call problem by focusing on insuring that the initial installation or service call is done right the first time and establishes an effective performance tracking and feedback system.

This performance monitoring and feedback process is key to the effectiveness of the Performance Plus Installer Program. Unlike traditional training programs where performance peaks immediately after the training session then rather quickly falls back, the PPIP offers a long-term approach to performance management through the on-going performance monitoring process.

Initially, performance expectations are established and clearly communicated by a strong policy statement from the user company for quality workmanship and a complete installer handbook including all company practices and policies on installations. An evaluation of those performance standards is achieved through a written exam and field evaluation. Performance continues to be monitored, then, by periodic field evaluations.

The program in its complete form provides computer analysis of the initial and periodic tests, and field evaluations which are graphically represented to show performance trends and improvements by system, team, contractor, or individuals, in summary or by specific item (e.g., loose F-fittings, unlocked pedestals, and grounding). Such graphic and quantitative output serves as feedback to the individual installers and to the supervisory level as well.

THE JONES QUALIFIED INSTALLER PROGRAM

Jones leadership is both quality minded and concerned about managing service call cost reduction. Jones was intrigued by the fundamental concept of the Performance Plus Installer Program and commissioned its own company-specific version to be developed and implemented.

The Jones Qualified Installer Program (QIP) was designed to address the 80% of service calls that are caused by problems between the pole and the TV set, and more specifically, the 40% that are caused by poor training, workmanship, and accountability of the field installation work force.

Using the Performance Plus approach, the Jones QIP program is not a training program, per se. Nor is it just a manual, although a well written and illustrated generic or company-specific installation manual, which is an integral part of the final Jones QIP program. Further, the QIP program is not just based on an SCTE-type BCT/E written or field evaluation. The QIP program is all of the above. The Jones QIP Program is a complete but simple installer/management integrated approach founded on the basic philosophy of "doing it right the first time".

The Jones QIP program has six essential parts: 1) a well written and illustrated installer's manual printed in a manner that is easy to use in the field; 2) a strong statement of commitment from the President and Chairman of the Board, Glenn R. Jones, regarding the priority for quality installations and quality customer service; 3) a written self-evaluation of the manual's practices and policies; 4) a written proctored skill evaluation when the installer is ready; 5) initial and recurring field skill evaluations; 6) a formal method to include the QIP results in the personnel record in a manner that insures that they are considered during salary and promotion reviews.

THE QIP MANUAL

The heart of the QIP program is the QIP manual (Figure 2). How can we expect accurate execution of very complex installations if we do not define our practices and policies in a manner easily understood by installers? Included in this manual is everything the installer should know about a company's installation practices and procedures. So what's so new about an installation manual?

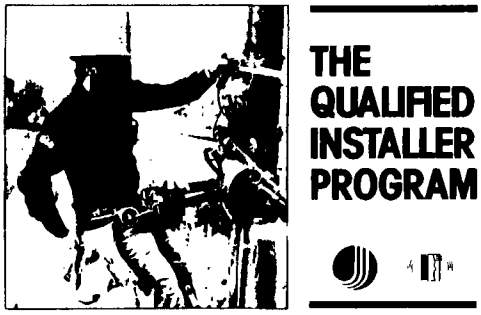


FIGURE 2

The authors of the Jones QIP manual, Bob Luff, Don Sutton, Pam King, Dana Eggert (Consultant), Paul Schauer, Charles Turner, collectively have had

considerable experience in writing manuals for various industries and applications. A review of CATV installation manuals in general found many common shortcomings. First, many companies and systems surprisingly do not even have a written installation manual for their employees. Everyone agreed with the need but just could not find the time. Many companies and systems who thought they had installation manuals were surprised with field results that showed no installers, and only a few of their highest technical level employees, could produce one. Also, even when a company or system could be found with an installation manual in the field, it fell into one or a combination of the following benefit-robbing situations: 1) so out-of-date most employees ignored it as a serious reference or guide; 2) written at such a high level (by senior technical personnel) that most field personnel, especially installers, found it above their level and too difficult to read; 3) the manual itself was printed in a format impractical for convenient day-to-day use in the field - usually a hard three-ring binder that may work well on a book shelf but hardly suitable for a back pocket or glove box.

The Jones QIP manual was designed to address each of these possible shortcomings. It was decided to make the manual contain every practice and policy the installer was expected to follow so that this manual would be the only manual. Further, it was decided to make the QIP manual very readable for its intended audience. After the Company's official practices and policies were all reviewed and updated (not at all an easy task), they were re-written and each important point amply illustrated.

The manual is styled very much like a typical State Drivers Manual. It is printed in a 6" x 8" format with soft covers allowing easy fit in the glove box or back pocket. An effort was made to keep the illustration to text space ratio to about 50% (Figure 3). The text was checked repeatedly for readability and understanding at the eighth grade level (eighth grade is a common target level for manuals of this type). The manual was also checked by qualified professions to insure that there were not ethnic, age, or gender bias in either the text, illustrations, or skill evaluations.

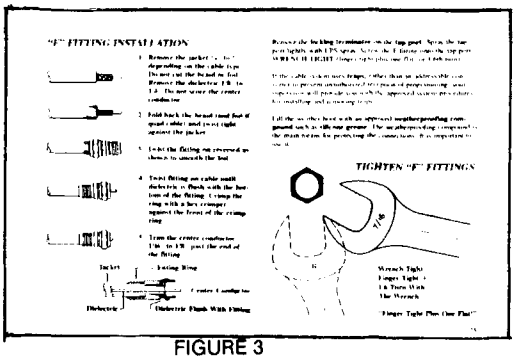


FIGURE 3

Statement of Commitment

A strong statement of commitment to quality workmanship and to the highest standards of customer service by the President of the Company is one of the most important guarantees of success for a quality-oriented installer program (Figure 4). Too often the field personnel hear guidance regarding only the quantity of daily work.

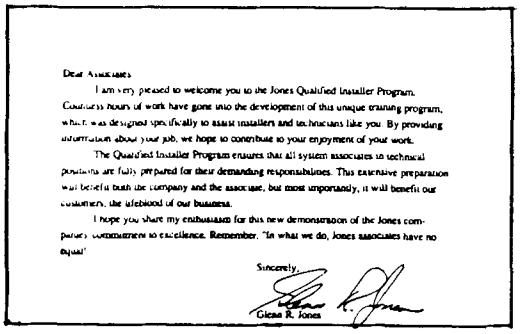


FIGURE 4

The Jones Statement of Commitment includes both the company's pledge to quality performance and the individual installer's pledge to quality performance (Figure 5). The statement of commitment appears in the very first few pages of the QIP manual and requires all company or contract installers to sign the commitment indicating that they

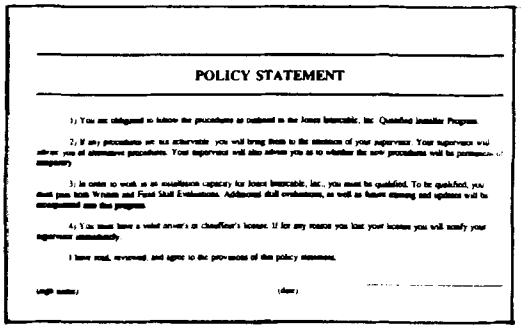


FIGURE 5

understand that quality workmanship and high customer service standards are desired at all times, and that by their signatures they are agreeing to follow the specific Jones installation procedures, standards, and policies. They also agree to cheerfully accept guidance and constructive comments from supervisors and make every attempt to address their points as quickly as possible. And lastly, the installers agree to have the results of the recurring skill evaluations entered into their individual personnel files and acknowledge that they are an important part of the performance evaluation process.

There was concern that such a radical change from virtually no direct link between actual field workmanship and the evaluation process to a very formal and direct link would cause employee concern or backlash. In fact, the installers very much welcomed the process. It seems that lacking such a formal process, installers have felt that salary increases and promotions have been based on friendships or at best random. This process took the all important merit and promotion consideration from under-the-table to on-the-table in their eyes, and they liked the change.

Self-Evaluation

Perhaps the strongest factor in early enthusiastic acceptance of Jones QIP Program to both company and contract installers is the self-evaluation feature of the manual. Every two or three pages in the text there are three to five "bullet questions" covering the important procedures or policies of the immediate text and illustrations (Figure 6). The reader is able to immediately determine whether he fully understands that section before going on. The answers are given in full on the next page so there is no frustration, waiting, or misconceptions allowed to develop. At the end of each chapter is a chapter quiz - again with the answers on the next page.

REVIEW QUESTIONS

1) WHAT ACTION IS TAKEN WHEN AN ASSOCIATE KNOWINGLY VIOLATES OR ALLOWS OTHERS TO VIOLATE AN ESTABLISHED SAFETY RULE OR PRACTICE?
2) WHAT ARE TYPICAL HAZARDS ENCOUNTERED ON THE CUSTOMER'S PROPERTY? WHAT CAN BE DONE TO AVOID POSSIBLE ACCIDENTS?
3) WHAT TYPE OF CLOTHING IS RECOMMENDED FOR AN INSTALLER?
4) WHEN ARE SAFETY CAPS REQUIRED?
5) DESCRIBE HOW TO SURVEY THE CLIMB BEFORE MOUNTING THE POLE.
6) NAME EIGHT ITEMS WHICH MUST BE WORN WHEN CLIMBING. DESCRIBE EACH ONE.
7) WHEN IS CLIMBING EQUIPMENT NOT TO BE WORN?
8) WHAT IS THE PREFERRED METHOD OF CLIMBING?
9) WHAT TYPES OF LADDERS ARE APPROVED?
10) DESCRIBE HOW TO SURVEY THE CLIMB BEFORE MOUNTING THE LADDER.
11) DESCRIBE THE SLOPE OF THE LADDER IN RELATION TO THE POLE OR STRAND.

FIGURE 6

The comments from the field have been very positive on the self-evaluation bullets and chapter quizzes. Installers (everyone) likes to know where they stand as they proceed.

There is an important element to successful training theory working here as well. "Fear of failure" robs everyone of a fully positive attitude toward something new that involves a testing process. It is only natural to doubt one's own ability or the fairness of the exam which can also dampen the enthusiasm and momentum of even the highest charged program. The self-evaluation bullets and chapter quizzes quickly help to show the installer knows the material and <u>can easily pass</u>.

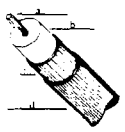
The chapter self-evaluation quizzes presented in the same format as the final written exam further builds confidence in the installer's ability as well as to the fairness of the questions.

Proctored Exam

No element of the original Performance Plus or Jones specific QIP programs was debated more than whether this program would work best (or at all) with or without a final written proctored exam (Figure 7).

SAMPLE

1. Name the four main parts of coaxial cable as indicated in the diagram:



a. _____
b. _____
c. _____
d. _____

2. If braid is exposed when the messenger is removed, the drop cable must be replaced.

T F

3. The best input signal range to the television set that ensures quality pictures is:

a. +10 dBmV to +10 dBmV
b. +5 dBmV to +8 dBmV
c. +2 dBmV to +12 dBmV
d. 0 dBmV to +10 dBmV

4. The number of splitters corresponds to the number of TV sets.

T F

5. The safest method of parking a vehicle at an installation site is:

a. on the driveway
b. on the street in front of the subscriber's house
c. backed into the subscriber's driveway
d. in the alley

FIGURE 7

The arguments against an exam centered around the fear that the installers, particularly contract employees, would object to the requirement and that there was so much obvious benefit from the rest of the total program - why risk it?

The arguments for the exam centered around accountability of the program itself as well as the installation work force, including the supervisory level.

One of the strongest fundamental elements of the parent Performance Plus concept that intrigued Jones was that the program had an automatic "self driving factor" and an automatic "self healing factor" built in. The Performance Plus concept included a policy statement "that no one is allowed to perform installations or service calls unless they are 'qualified' to do so by successfully completing both written and field evaluations". The intent as far as desired impact on the installation work force is obvious, but the full purpose of this policy was to insure the company had a means to focus daily on the program and that it could not slowly erode into inexistence or ineffectiveness like so many "voluntary" programs. The theory is that by making the testing a company requirement and making the field evaluations very much part of the employee evaluation process, the program, once started, would remain in a state of "spontaneous combustion" without continuous support from the distant corporate office. Once the program was up and running, employees involved in the process would not sit back and allow "less qualified" employees to enter their same QIP status. Further, if an employee or contractor's employee was ready to take the written exam and the supervisor delayed the process excessively, the employee or contractor would cause a review of the situation. And lastly, if company practices or procedures change (as they do frequently) and either the text, illustrations, or exams fell out of date, the employees would again cause a review.

In short, the written exam decision was made to insure that the program is scrutinized by all those involved so that it remains fair, accurate, up-to-date, and carefully administered.

Field Evaluation

The last major element of the Jones QIP Program is actual field evaluation of installer workmanship quality. To become a Jones Qualified Installer the associate must pass an initial field evaluation, and must pass recurring field evaluations to maintain that status.

When the installer is ready, he simply requests a field evaluation. His supervisor accompanies him on a regular installation work order, and with a formal computer check sheet observes the installer perform an installation without interfering with the job (Figure 8). During the installation the installer is rated on the defined performance standards in all areas including safety, customer service, drop procedures, etc. When the installation is over, the supervisor more closely inspects the drop for mechanical and electrical integrity and completes the evaluation form. The results are shared and discussed with the installer immediately at the site to provide more effective feedback with concrete examples.

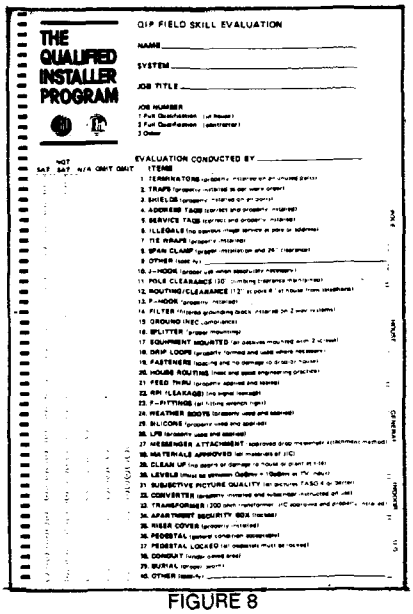


FIGURE 8

The Jones QIP Program requires all supervisors to perform at least five random field evaluations for each installer under his supervision every quarter. The installations selected must be current installs that were done by the installer during that same quarter. These evaluations can be done after the fact without the installer actually present.

This requirement serves several important functions. First, it insures continual focus on the program. It also provides an important mechanism for the supervisor to "schedule in" field visits in his own calendar for the express purpose of reviewing his installers' performance - a function that too often gives way to other seemingly important tasks.

Also, by requiring quarterly evaluations of all installers on the

same standardized sheet, the supervisor and the installer are able to observe through graphic representation any positive or negative performance trends in as little as six months and have the opportunity to have several feedback/result sessions within the first year of the program.

Indeed, from the company's standpoint, this quarterly review of all workmanship in the field provides invaluable data on the overall effectiveness of our training, recent changes in important practices, and changes in system technical or management leadership. Because the field data evaluation sheets are optically scanned into a computer, any amount of analysis and comparison are easily done and graphically represented.

Beta Test

The primary reason for a controlled and limited Beta Test was to evaluate the attitudes and receptiveness to the QIP from field personnel. While Jones was confident that the program would be well received, the technical department exercised some degree of caution by introducing it to one system at a time in a total of six systems of varying size and installation complexity (in-house vs. contract installers, and known high quality field work vs. known areas of needed performance improvement). Any unforeseen employee concerns or backlash could be analyzed and addressed at a single system level. Also, but to a lesser level of concern, the Beta Test provided a small forum to "tweek" the manual text and illustrations.

As it turned out, employee reaction and acceptance was enthusiastic. And, as expected, the text, illustrations, and particularly the test questions quickly revealed areas requiring further change as a result of the careful review by the installers who were now agreeing to be held more closely accountable to the stated requirements. Each system added valuable recommendations. In fact, the comments were so insightful and valuable that it was decided to form a formal, annual QIP Review Committee from our "Gold Medalist" installers to insure their input is built into future revisions.

The systems selected for Beta testing were Broomfield, CO; Albuquerque, NM; Green Bay, WI; Independence, MO; Ft. Myers, FL; and Saratoga Springs, NY. A typical launch included descriptive memos to the manager and chief engineer and a scheduled date where all field associates, including contract installers and their supervisors would be present for the roll out briefing.

At this briefing our corporate engineering technical training coordinator and often the regional engineer would explain the whole scope and intention of the QIP program, especially including the specific benefits to the system, subscribers, and individuals.

This cushioned the next event which was a pre-QIP quiz and field evaluation of recent installation workmanship and practices.

The system associates were given the QIP manual, and a local QIP facilitator was selected and given additional background and support material.

The associates were then challenged to improve their understanding of the important company installation practices, procedures, and policies, and field workmanship and productivity. A contest between the Beta Test systems was developed to reward the team with the most improved written test scores and most improved field evaluation scores.

This team concept as well as individual achievement was purposely developed to foster positive peer pressure. In addition, the team concept helped the associates recognize the fact that the public perceives the Company as a "team" or single entity, and that poor driving habits in a service vehicle, rude attitudes, or poor workmanship of any one member reflects on the entire team.

The corporate engineering training coordinator would schedule a return trip to the system in 30 days and host a second QIP briefing. At this visit a second written exam was given as well as second field evaluation of workmanship and practices. The second exam as with the first was graded on the spot. Exam improvements and field evaluation improvements were discussed in full.

In addition, a thorough discussion of the system's comments about the QIP program occurred with all suggested changes carefully recorded right in the master QIP manual. The managers, chief engineers, and supervisors were asked to participate in the general sessions as well as in private discussions regarding the QIP Beta Test.

The same procedure was followed in each Beta Test launch, and except for the excellent feedback and comments given, each launch proceeded nearly identically.

Perhaps the only surprise was the initial reluctance by contract installers to attend the general sessions. We initially incorrectly jumped to the conclusion that the contract installers saw no long-term benefit to them, considering their possible relatively short-term association with the system. Much anxiety and brainstorming occurred before learning that the reason for the contract installers' reluctance was due to their piece work (per install) salaries. Sitting in a conference room for an hour was, in effect, "work without pay". In fact, some contract installers would have been exposed to "penalties" for fewer installation completions that day. The situation once understood was quickly corrected.

Waiver Policy

Jones is committed to the philosophy of having one strong, well-documented set of installation practices and procedures to insure that all our subscribers benefit from the best possible picture quality, reliability, and customer service. But, one of the most important findings during the Beta Test period was the need to have a formal Waiver Policy of specific practices and procedures that were unsuitable to a particular system for one reason or another.

Just as State Rights have served to relieve the pressure on everyone being forced to agree to a single federal set of laws, the Jones QIP Waiver Policy allows for these same regional variances. Climate differences between systems is one such justification for regional procedural waivers.

For example, long periods of significant snow cover prevents burying of drops for many months at a time. Very dry climates eliminate the need for a system to provide the extra boots and silicone gel weather protection -- and, there are many more examples.

However, to just allow systems to drop or substitute various QIP requirements without review or formal change to that system's standards was seen as a "little hole that over time could deflate the program". There would be a breach in accountability on which the very essence the QIP program is built.

This Waiver Policy simply requires the chief engineer and manager to make a formal request for a variance on a specific form stating the reasons for the variance as well as a draft of the specific changes to the text, illustrations, test questions, and field evaluations. The self-mailing form is returned to the manager and the chief engineer upon approval by corporate engineering for implementation and permanent filing.

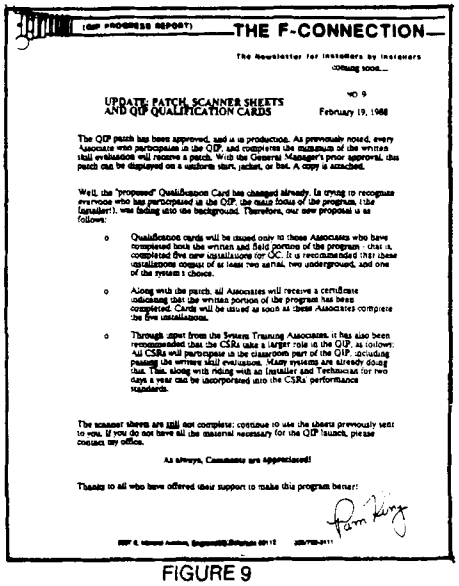
The easy Waiver Policy is probably one of major factors of quick acceptance by even the most strong-willed managers or chief engineers who have long-standing feelings on certain issues.

Implementation

The QIP program implementation began in late November of 1987. The process is proceeding very smoothly and similarly to the Beta Test launches. New systems continue to be launched at a rate of several a month. With over 78 systems, program implementation is projected to be completed by the end of 1988.

Initially systems were brought "on-line" one or two at a time to be sure the corporate facilitators could schedule the trips and be totally available for follow-up questions and discussions. It was decided that a twenty minute video tape explaining the QIP program and a strong facilitator's guide would allow all remaining systems to implement the QIP program totally on their own and at their own pace in a uniform, highly organized manner. With 78 separate systems, this was indeed a welcome labor-saving approach. In fact, the QIP launch tape and the facilitator's guide have proven to be very effective, and many systems have implemented the QIP totally on their own.

Also, throughout the process, a bi-weekly newsletter called the F-Connection was written to insure everyone in the company was fully aware of the QIP implementation process (Figure 9). This newsletter also reported on text or illustration changes, and highlighted which systems and individuals had made program improvement suggestions. The success of this newsletter suggests its continuation even after the QIP program is 100% implemented.



—THE F-CONNECTION—

The Newsletter for Installers by Installers

UPDATE: PATCH, SCANNER SHEETS AND QIP QUALIFICATION CARDS

February 19, 1988

The QIP patch has been approved, and is in production. As previously noted, every Associate who participates in the QIP, and completes the maximum of the written skill evaluation will receive a patch. With the General Manager's prior approval, this patch can be displayed on a uniform shirt, jacket, or hat. A copy is attached.

Well, the "proposed" Qualification Card has changed already. In trying to recognize everyone who has participated in the QIP, the main focus of the program, (the Installer), was being sent to the background. Therefore, our new proposal is as follows:

- Qualification cards will be issued only to those Associates who have completed both the written and field portions of the program - that is, completed five new installations for QIC. It is recommended that these installations consist of at least two aerial, two underground, and one of the system's choice.
- Along with the patch, all Associates will receive a certificate indicating that the written portion of the program has been completed. Cards will be issued as soon as these Associates complete the five installations.
- Through input from the System Training Associates, it has also been recommended that the CSRs take a larger role in the QIP, as follows: All CSRs will participate in the classroom part of the QIP, including passing the written skill evaluation. Many systems are already doing this. This, along with riding with an Installer and Technician for two days a year can be incorporated into the CSR's performance standards.

The scanner sheets are still not complete; continue to use the sheets previously sent to you. If you do not have all the material necessary for the QIP launch, please contact my office.

As always, Comments are appreciated!

Thanks to all who have offered their support to make this program better!

Pam King

FIGURE 9

Lastly, during the implementation, the company quickly realized how significant the QIP program was in terms of positive individual and team morale. For the first time, installers were observed during lunch and breaks actually discussing company practices and procedures. It was also recognized that reaching the full Qualified Installer status was a highly sought and prized accomplishment by the installers. The company felt that this attitude was indeed valuable to individual morale and to the program, and that we should develop a suitably more visible indication of an installer reaching the full Qualified Installer status. A handsome diploma was first considered but installers do not have offices and, hence, walls to display their accomplishment. Instead, a special patch was designed and our company's standards for installer dress requirements were modified to specifically assign a specific location for this patch to be worn (Figure 10).

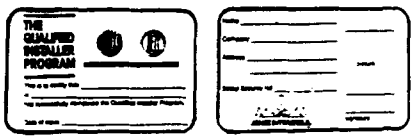


FIGURE 10

Along with the patch, a new Qualified Installer picture ID is issued (Figure 11). Both the ID, which is clipped in full view on the shirt pocket, and the Qualified Installer

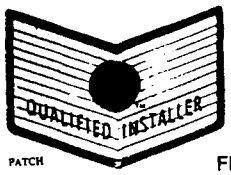


FIGURE 11

patch provide a constant valuable visibility of the installer's achievement to all other installers and to our subscribers.

Jones Intercable is also rolling out a comprehensive E-mail system to all of its cable systems. The individual system QIP facilitators, plus the corporate technical trainer and senior engineering staff will then be able to communicate via computer network to insure an on-going flow of information, support and feedback on the QIP Program.

Results

The results of the Jones QIP program are already very favorable considering that for many systems the program is just starting. These early results also show that positive impact to the company as a whole will far exceed the initial goals and projections.

Using the same six Beta Test systems, Figure 12 shows a before and after comparison of the written test scores on important installation practices and procedures. A 20+ point average increase has been observed.

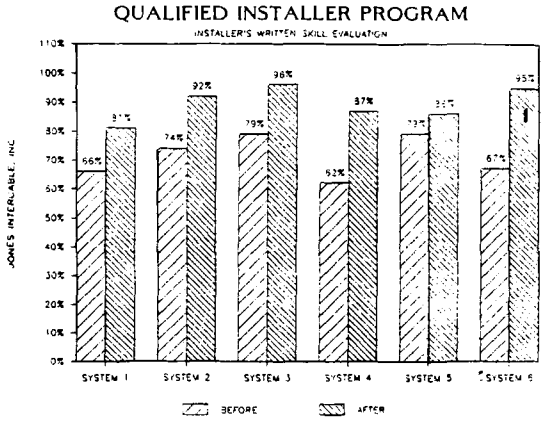
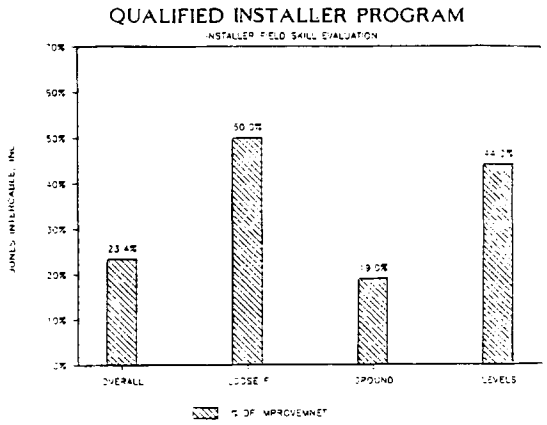


FIGURE 12

Performance improvement on these written test scores is seen as very significant because without a firm understanding of exact performance

expectations on important well known service call-producing operations, the installer and Company is doomed, at best, to mediocre execution. While there is still room for improvement in this area, observers agree that the difference between a mid-60's percent score on important installation requirements and a high 80's to low 90's percent score as a Company-wide average is indeed a very significant improvement.

The question then turns to whether the QIP Program is actually producing better workmanship and procedure compliance in the field. Figure 13 shows the percent improvement in installation quality as measured by the fixed Jones standard field evaluation data sheets.



The most impressive result, steady reduction of controllable service calls reported by our billing service, Cable Data, is as yet simply too soon to reliably measure. We must remember that today's service calls are the result of poor practices and workmanship that occurred months or even years prior. It is recognized that even the most successful installation procedures and quality program will take some time to fully address years of less structured performance management.

Conclusions

Service calls are a major expense to the cable industry and cause negative subscriber attitude issues in every cable system. The magnitude of the expense - one million dollars/day for the industry and over $100,000/year for a 10,000 subscriber system requires all systems and companies to focus on better management of service call reduction.

The fundamental concepts of the Performance Plus Installer Program and the nearly full implementation of the Jones Qualified Installer Program with immediate impressive results exceeding expectations, prove that managing service call reduction can be successful, affecting not only the bottom line but subscriber satisfaction as well. And further, such installation performance management programs actually have been proven to improve associate morale and motivating team spirit.