# Employee Involvement - White-Collar Work Force

(U.S.DEPARTMENT OF THE NAVY
DAVID TAYLOR RESEARCH CENTER

in cooperation with
National Steel and Shipbuilding Company
San Diego, California

# Report Documentation Page

*Form Approved*
*OMB No. 0704-0188*



| 1. REPORT DATE | 2. REPORT TYPE | 3. DATES COVERED |
|---|---|---|
| **JAN 1993** | **N/A** | **-** |

| 4. TITLE AND SUBTITLE | 5a. CONTRACT NUMBER |
|---|---|
| **Employee Involvement - White-Collar Work Force** | 5b. GRANT NUMBER |
| | 5c. PROGRAM ELEMENT NUMBER |
| 6. AUTHOR(S) | 5d. PROJECT NUMBER |
| | 5e. TASK NUMBER |
| | 5f. WORK UNIT NUMBER |
| 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)<br>**Naval Surface Warfare Center CD Code 2230-Design Integration Tools Bldg 192, Room 128 9500 MacArthur Blvd, Bethesda, MD 20817-5700** | 8. PERFORMING ORGANIZATION REPORT NUMBER |
| 9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) | 10. SPONSOR/MONITOR'S ACRONYM(S) |
| | 11. SPONSOR/MONITOR'S REPORT NUMBER(S) |

12. DISTRIBUTION/AVAILABILITY STATEMENT
**Approved for public release, distribution unlimited**

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

| 16. SECURITY CLASSIFICATION OF: | | | 17. LIMITATION OF ABSTRACT | 18. NUMBER OF PAGES | 19a. NAME OF RESPONSIBLE PERSON |
|---|---|---|---|---|---|
| a. REPORT | b. ABSTRACT | c. THIS PAGE | | | |
| **unclassified** | **unclassified** | **unclassified** | **SAR** | **27** | |

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# FINAL REPORT

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# EMPLOYEE INVOLVEMENT - WHITE-COLLAR WORK FORCE

**(Phase II)**

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**In Behalf of**
**SNAME Ship Production Committee Panel SP-5**
**on**
**Human Resources Innovation**

**Under the**
**National Shipbuilding Research Program**

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**January 1993**

**TASK N5-91-5**

## PREFACE

The National Shipbuilding Research Program is sponsored by the Maritime Administration United States Department of Transportation and by the United States Navy toward improving productivity in the shipyard industry. An important part of this Program is carried out by SNAME Ship Production Committee Panel SP-5 on Human Resources Innovation. The Task described herein was sponsored by Panel SP-5 as the second phase of a study investigating the white-collar workforce in a representative shipyard. (For a report on the first phase, see NSRP 0337 ***Employee Involvement - White Collar Work Force (Phase I),*** August 1991.)

This Task identified as NSRP Project N5-91-5, was conducted by Robinson-Page-McDonough and Associates, Inc. (R-P-M) under National Steel and Shipbuilding Company (NASSCO) Purchase Order MU171052-D. Task Director was Rodney A. Robinson Vice President of R-P-M. The host shipyard was Peterson Builders, Inc. (PBI), Sturgeon Bay, WI. Performance of the Task began in June, 1991 and was completed in November,1992.

Appreciation is expressed to Daniel D. Kressig of PBI for his continued assistance in performing this Task to the members of the Multi-functional Action Team for their involvement and contributions during the several months of Action Team activities, and to the senior management at PBI for hosting and supporting the second phase of this important research.

## EXECUTIVE SUMMARY

This Task was the second investigation of improving white-collar productivity in a shipyard through employee involvement techniques. The first attempt utilized single-function Action Teams, in the general context of Total Quality Management, to improve the usefulness of the white-collar products in electrical and in structural areas. This second attempt concentrated on improving cross-functional communications through the use of a Multi-functional Action Team thereby improving white-collar knowledge of problem areas and enabling the generation of an improved white-collar product.

A Multi-functional Action Team was created, and allowed to operate for several months. Meetings were set up for one hour per week with the members selecting their own Chairman and Recorder. Several cross-functional issues were considered for treatment, following which two particularly disruptive items were selected for resolution. These were discussed in detail at several working sessions, and a “to-be” flow chart reflecting an improved method for handling these matters was prepared. Procedural and administrative changes were outlined, and formal remedial action was transferred to the proper organizational group within the shipyard for final disposition.

The Multi-functional Action Team approach proved to be successful in improving cross-functional communications, and in improving the operational relationships among the members. The Team grew in strength and capacity, and exhibited a capability to handle nearly any kind of problem even broad and complicated issues. This Report describes the Task in detail, and contains a section on Application of Findings which should be useful to a shipyard wishing to try this technique for improving white-collar products.

From a Human Resources standpoint, the Action Team technique can unlock the talents of the workforce, both blue-collar and white-collar, and direct this capability toward resolving a multitude of shipyard problems. It is not necessary to maintain on-going meetings, but only to keep the group members functioning together as a team - even on an intermittent basis. Then when the need arises, the team is ready to 'get the facts', 'face the facts', and 'do the right thing' to resolve each problem in favor of the overall interests of the shipyard with little or no preparation time.

From a Senior Management standpoint, the availability of an Action Team particularly one that is multi-functional, is a valuable tool for resolving on-going difficulties. While it is quite common for senior management to feel that risk is involved in allowing workers to resolve their own problems, most managers also recognize that vast amounts of information and intelligence reside in the minds of the workforce. Unlocking this cache may be the vital ingredient for resolving many concerns, for correcting many difficulties that impede the productive process, and for strengthening the overall posture of the shipyard. The risk is surely worth the prize.

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# FINAL REPORT
# on
# NSRP PROJECT N5-91-5

## EMPLOYEE INVOLVEMENT - WHITE COLLAR WORK FORCE
## (Phase II)

## BACKGROUND

This Task was sponsored in 1991 by SNAME Ship Production Committee (SPC) Panel SP-5 on Human Resources Innovation. The Task would continue the study of white-collar productivity that was begun in 1989 (see NSRP 0337) at Peterson Builders, Inc., Sturgeon Bay, WI. The first phase had investigated the benefits that could be achieved through two single-function Action Teams; an Electrical Action Team (EAT), and a Structural Action Team (SAT). This second phase would expand upon the Action Team approach by forming a **Multi-functional Action Team** (MAT) composed of representatives from the three major functional areas at PBI: Electrical, Structural, and Piping. The study would investigate the operational capabilities of such a broadly based group to see what types of problems might be treated by the MAT, and whether this type of Action Team could become an effective tool for treating major areas of concern.

Through the efforts of SPC Panel SP-5, and in cooperation with the NSRP Program Manager at National Steel and Shipbuilding Company (NASSCO), there was no interregnum between the first and second phases of this research. The two single-function Action Teams formed during the first phase of the project would continue to meet throughout the second phase this would allow their performance to be tracked for an additional year. Also, several members of the two single-function Action Teams would be invited to participate on the MAT, providing some continuity from the earlier project.

NASSCO Purchase Order No. MU171052-D was awarded to Robinson-Page-McDonough and Associates, Inc. (R-P-M) on 10 June 1992. Task Director would again be Rodney A. Robinson Vice President of R-P-M. The Facilitator at PBI would be Daniel D. Kressig, who had served in the same capacity for the first phase of this research. Every effort would be made to build on the accomplishments of the first phase, while exploring the operation of a different type of Action Team (MAT) with a much wider representation of shipyard operational-level interests in the white-collar and the blue-collar **areas.**

As with the first phase of this project, the members of the production work force at the shipyard would be heavily involved in the activities designed to improve white-collar productivity. The operational relationships developed during the first phase would be a strong starting point for the second phase. Although the piping group had not been a part of the first phase, their operational arrangement at PBI was viewed as directly in line with the intentions of the project. They were expected to participate in the cooperative efforts of the MAT with little difficulty.

## PREPARATIONS

The support of senior shipyard management was recognized as essential to the success of the earlier efforts to improve white-collar productivity in the two single function areas, electrical and structural. Such support would be just as essential to success during this second phase. The relationships that were already established with the senior shipyard managers allowed this portion of the Task to proceed much more rapidly than before. Briefings were carried out by the Task Director, usually one-on-one with the senior managers involved. This included the Vice President and General Manager, the Vice President of Manufacturing, the Vice President of Operations Support, and the Vice President of Human Resources. These senior managers were not expected to take any specific actions during prosecution of this Task but would be kept fully informed of activities and developments as they unfolded, particularly before each new substantive action to be undertaken by the MAT members.

The need for gaining and maintaining the support of senior shipyard management before proceeding with this Task must be emphasized prominently in this Report. It would be virtually impossible to gain meaningful advances in employee involvement activities, and in employee empowerment attempts, without the tacit approbation of the senior management group in the shipyard. Unless this atmosphere is freely and firmly established up front, it is not advisable to proceed further with an effort like this Task which involves encouraging operational-level employees to speak out and act independently on matters within their capacity.

## DETAIL DESCRIPTION OF TASK ACTIVITIES

### Subtask (l): Creation of the Multi-functional Action Team (MAT)

The purpose of the MAT would be to investigate, study, and improve the everyday working relationships within the multi-functional area of structural, electrical, and piping, with emphasis on effective communications and mutual support. MAT members would be carefully selected with this purpose clearly in mind.

The general intention followed in setting up the MAT was to have the three principal functional areas at PBI represented by the membership, both blue-collar and white-collar, with members being drawn from previous involvement with the Electrical Action Team or the Structural Action Team whenever possible. In the piping area at PBI, a "Piping Family" initiative had been on-going for nearly two years; it was clearly desirable to involve some of these people in the activities of the MAT. As with the EAT and the SAT, the aim was to include on the MAT the optimum mix of white-collar and production people so that all elements of daily operations would be represented. Each of the members should be capable of recognizing the action needed in their own area whether it be in planning, engineering, material, or manufacturing (production), and be able to get that action accomplished with minimal involvement of others in that organization. This would enhance the ability of the MAT members to act decisively on matters they would

later select for consideration. They would, as before with the EAT and the SAT, call in representatives from other areas of the shipyard to advise and/or participate directly on selected items that were beyond the control of the regular MAT membership.

The optimal size of the MAT was set at no more than 15 regular members from a group management standpoint. This size limitation meant that special care must be exercised in selecting the individual MAT members. Expedience gained with the EAT and the SAT during the first phase of this project, coupled with on-going knowledge of the "Piping Family" activities, provided a good basis for MAT member selection.

The initial composition of the Multi-functional Action Team was as follows:

Lead Engineer - Electrical
Lead Engineer - Structural
Lead Engineer - Piping
Planner - Electrical
Planner - Structural
Planner - Piping
General Supevisor - Electrical Shop
General Supervisor - Shipfitter Shop
General Supervisor - Pipe Shop
Purchasing Representative
Quality Assurance Manager
Ship Manager
Ship Manager
Facilitator (Kressig)
Task Director (Robinson)

Each of these selectees was familiar with the Action Team concept either through membership on the EAT, the SAT, or the "Piping Family", and was expected to have little or no difficulty adjusting to the activities of the MAT. Collectively, the members represented a broad cross section of the shipyard, with the potential for handling major areas of concern. Final selection of the MAT members received the approval of senior management after which information on the MAT membership was made known to the members themselves and to their immediate supervision.

Agreement on the composition of the MAT was promptly reached with all parties involved. Administrative arrangements for MAT meetings were then set up. Meetings were established as once-a-week for a duration of not more than one hour. Unfinished business would be carried over until the following meeting. This arrangement had worked well with the EAT and the SAT; it established a known commitment of time for each attendee, minimizing the disruptive effect on other activities. Meeting minutes would be kept, and an Agenda would be published prior to the next meeting. The atmosphere during the meetings would be kept open and informal, with control of the discussions being exercised by the Facilitator until the membership selected its own Chairman.

**Subtask (2): Establishment of a Baseline for Measuring Improvements**

During the first phase of this project, difficulty was encountered with establishing realistic baseline productivity indicators that would change to indicate whether progress was being made. A questionnaire was eventually used to gain some insight into how matters had proceeded.

The overall situation at the shipyard at the onset of the second phase of the project was quite unsettled due to workload reductions and the accompanying need for adjustments in the workforce in order to "right-size" the shipyard. These forces would undoubtedly influence the baseline indicators, making a determination of productivity change nearly impossible. It was therefore decided to have the MAT participants fill out a questionnaire (Appendix A) at the beginning of MAT activities, and then fill out a similar questionnaire at the end of the Task several months later. A comparison of the entries "before and after" might provide a meaningful comparison with which to measure the general performance of the overall effort. The other productivity indicators that were still being tracked for the EAT and the SAT would continue to be examined and analyzed, although the prospects of meaningfull determinations through their use were minimal.

**Subtask (3): Implementation of the Multi-functional Action Team (MAT)**

The first meeting of the MAT was a "Kick-off Meeting", where the overall purpose of the Task was explained. The administrative arrangements to support MAT operations were discussed, and agreement was quickly reached on how the group would proceed. The questionnaire designed to survey member feelings about several specific areas of concern was distributed to the attendees. Plans were made to select a Chairman and a Recorder at the next meeting, followed by a brainstorming period to determine potential subjects for MAT consideration. The meeting atmosphere was open and positive, with nearly all members contributing freely during the discussions.

During the second meeting a Recorder was promptly selected, but the choice of a Chairman was deferred until the third meeting. Brainstorming for areas of concern was then carried out. 61 individual items were identified in one hour. These items would be grouped and categorized before the next meeting to assist the members in selecting one or two areas for their consideration. As with the first meeting, the atmosphere was constructive, with the members focusing on problem areas as they appeared from their own vantage points. The general nature of the items identified was somewhat broader and more roll-inclusive than those selected by the EAT or the SAT during the first phase of the project. This situation was expected, as the membership of the MAT was recognized as better able to provide a wider and more in-depth view of actual shipyard conditions, and the actions needed to improve them.

A Chairman was selected during the third meeting. The categorized items from the brainstorming session were then discussed in detail. The eight categories were as follows:

**Administration** (personnel matters)
**Scheduling** (schedule generation compliance, management)
**Communications** (general information flow)
**Training** (new employees, present workers, supervisors)
**Engineering** (technical items, procedures, policies)
**Operating Procedures** (generation, compliance, follow-up)
**GFM/GFE/CFM/CFE** (tracking, delivery, accountability)
**Operating Policy Matters** (overall shipyard management items)

After extensive discussion two related items in the Operating Procedures category were selected for treatment. They were associated with the handling of repair work for ships, and the handling of other non-ship related work (called "special projects") such as was being done for certain municipal or industrial interests throughout the City, County, and State. The work orders for these types of contracts were usually small, but often resulted in disruption of the general flow of shipyard efforts for ship construction which was the dominant activity in the shipyard. The MAT members recognized that currently there was no visible system for the processing of material requests for work on "special projects", and that there was a need for improvement in the coordination and planning of such work. Without attention this area was creating problems in adhering to, and completing, regular production schedules whenever such work orders were introduced into the overall production process. The MAT members also recognized the need for efficient handling of this general type of work as it would probably become more and more important in the near future toward maintaining a good shipyard workload overall.

Resolution of the problem area selected by the MAT was treated during the next nine meetings. Representatives from the affected shipyard groups were called in for consultation on several occasions. Existing shipyard procedures that applied to activities in these areas were analyzed in detail. A flow chart of activities "to-be" was developed, and a milestone chart of actions needed for resolution was prepared. Overall, the MAT members were able to identified in detail each action needed to resolve this rather broad area of concern. The shipyard procedural documents needing changes were identified, and the changes were outlined.

During this entire period of time, adjustments in the workforce and work assignments were continuing to take place in the shipyard. Unfortunately, the individual who had volunteered to carry out most of the main actions leading to resolution of this MAT project left the shipyard for other employment before those actions had been completed. Responsibility for completing those actions was picked up by another individual in the same organizational group. Due to continuation of the unsettled nature of activities, however, the necessary procedural changes were not completed before the performance period for this Task was exhausted. The expectation is that once the

procedural changes become available for review, the MAT will meet to consider them in detail, and ensure that all necessary considerations are satisfied. Then the procedural changes will be finalized, and steps will be taken to have them issued. If these changes are followed in the future, "special projects" should be handled in a much less disruptive way relative to their impact on main-line shipyard work.

The MAT members also treated several small problem areas during the Task although the main theme continued to be "special projects" as described above. There was adequate time during each meeting for impromptu discussions, which usually led to the resolution of some relatively small problem. On several occasions the question of changing the main thrust of the meetings was brought up, but each time the group decided to stick with the same basic activity. The items being suggested for consideration however, illustrated the broad capability of the MAT. For example, serious consideration was given to investigating the actions needed to get the shipyard qualified to IS0-9000, the internationally recognized quality program standard for commercial shipbuilding. This would have been a major undertaking, but within the capabilities of the MAT. After discussing the possibility within the MAT, and also separately with senior management, a decision not to pursue it was reached.

During the last meeting of the MAT within the periformance period of the Task the members were asked to fill out a questionnaire (Appendix B) similar to the one that they had filled out at the beginning of the Task. Comparison of entries "before and after" would be analyzed to see whether changes had occurred that might be attributable to the efforts of the MAT.

**Subtask (4): Tracking the Second Year Activities of the Electrical Action Team (EAT) and the Structural Action Team (SAT)**

The EAT and the SAT continued to meet throughout most of the performance period of this Task totaling nearly two years of operation for each Action Team. Although meetings were not held each and every week they were held often enough for the members to maintain a good relationship with each other, and to continue their collective posture as an Action Team. Each Action Team resolved several problems during the second year of operation. Each produced a significant and noteworthy achievement, as follows:

**Electrical Action Team -** The shipyard workload during this time period was winding down from earlier Government contracts. The future was viewed as potentially involving more commercial shipbuilding work with growing opportunities for considering the application of commercially available electrical fixtures and equipment, with the attendant savings in purchase costs and installation times. A program was established to investigate this entire area. Local equipment suppliers were invited into show their wares and discuss their products. Information was gathered on a variety of items, such as: cable and wireway hangers; attachment methods for wireways, lighting, and equipment and specific types of electrical wireway and lighting equipment for various applications. After

gathering this information the members discussed in detail how best to install this kind of electrical equipment, leadmg to the development of recommended procedures, complete with drawings and technical notes, for cableways and related electrical equipment on commercial ships. This compilation of information was developed through a cooperative exchange of information between blue-collar and white-collar personnel. The resulting booklet, entitled "EAT Cableway Recommendations", may well become the forerunner of a commercial standard for shipyard use. It is quite unlikely that such an impressive and comprehensive investigation would have been carried out in the absence of the EAT. On the contrary, no single person or interest within the shipyard would have had the knowledge, or the desire, to treat this matter and develop it into such a favorable position.

**Structural Action Team -** The shipyard work mix for several years had involved wood, aluminum and fiberglass materials, but little in the way of major steel fabrications. It was prudent, in view of potential future contracts, to determine the actions needed to elevate the shipyard to the state-of-the-art in steel fabrication capability. Several shipyard representatives had been exploring this matter with other shipyards and with industry representatives, gathering information with which to make an assessment. The SAT was asked to contribute to this general investigation which invitation was promptly accepted. Under the title of Metal Processing Improvement Project, a plan was developed for (1) studying the needs for improvement, (2) implementing a panel line/lane process, (3) converting to a product/functional based system and (4) integrating this manufacturing process into existing activities. The members of the SAT played a major role in this effort. They were already conversant with the subject, able to work well together with no “warm-up", and to support such a shipyard-wide endeavor from the opening gun. Having a group Iiie the SAT already practiced in handling matters of this type, even though they might not be meeting actively at the time, is an advantage to senior management who can employ their talents quickly and without difficulty.

**Subtask (5): Evaluation of Action Team Effectiveness**

A questionnaire designed to gather information on which to assess Action Team effectiveness was distributed to the members of the MAT, and also to the members of the EAT, SAT, and Piping Family, both at the beginning and at the end of the performance period for this Task. Examination of the questionnaire entries from "before and after" the Action Team activities has disclosed several points of interest, as follows:

"Problems involving interfererences with other trades" dropped by 45%. This could be coincidental, or could reflect better communications among the trades, prompted by better communications and operating relationships among the members of the Action Teams.

"Problems resolving differences with other trades" dropped by 31%. This could reflect a closer working relationship between white-collar and blue-collar workers, or could be due to the nature of the existing workmix.

"Do you think that the different trades work well in Engineering?" produced a 44% increase in NO'S. This probably reflects the recent reductions in staffing within Engineering, and the relatively low numbers of personnel remaining in the Engineering group.

"Do you think that the different trades work well introduction?" produced a 34% increase in YES'S. This might represent better working conditions facing Production workers due to improved quality and timeliness in planning and technical support, or it might simply reflect the current workmix.

"Do you think that it is possible for the different trades (functions) to work together as one coordinated effort?" continued to produce an overwhelming YES during both surveys

"Would better communications and more cooperation among trades help you?" also produced an resounding YES, both times.

The other questions produced responses that were about equally divided, with little change from before to after. On the general rating of Action Team effectiveness, the composite number was 7.3 on a scale of 1 to 10 (1 0 high). On the general question of whether more Action Teams should be established, the sentiment was slightly more on the NO side, with several entries advocating an "as needed" point of view. Some replies favored setting up the next Action Team within Engineering, indicating the perceived need for improved communication and cooperation among engineering personnel.

Because of the disrupted conditions in the shipyard due to "right-sizing" efforts and a declining workload overall, the productivity indicators selected for tracking at the beginning of Phase I of this Task and followed throughout Phase II, were of essentially no use as a measure of progress. These conditions caused changes in the indicators that could not be distinguished from the changes that were produced by the Task itself. Some measure of progress was gained from the questionnaire entries, even though this source is recognized as dubious at best. The questionnaire used was surely not the ultimate indicator, but did provide some intelligence about what had developed during the pefiormance period of the Task. The attitudes and actions of the participants as witnessed during this Task however, suggest strongly that the Action Team idea is sound, and can develop into a decided asset for the shipyard.

## APPLICATION OF FINDINGS

The following guidelines are suggested for use by other shipyards interested in implementing the Multi-functional Action Team approach:

### Step 1: Gain the Confidence of Most Senior Shipyard Management

As identified in Phase I of this Task and illustrated again during Phase II, this

action is absolutely essential to a successful operation. This level of management must be kept aware of activities as they develop, and have the opportunity to show their acceptance of the overall effort by openly allowing it to continue. That is, senior management need not (and should not) be directly involved in every event, but still must indicate agreement with the overall endeavor by letting the participants know on occasion that their efforts are appreciated and, in fact, encouraged. Once the participants are made aware that senior management is being kept informed of Action Team activities, and they are given a favorable sign now and then that their management wants them to continue, the necessary positive and progressive atmosphere will result.

If experience with single-function Action Teams has already been gained, the time needed to achieve senior management endorsement of trying a Multi-functional Action Team should be minimal. If, however, a Multi-functional Action Team is the first experience with the Action Team technique, much more time would be needed to develop the confidence of senior management in this kind of arrangement. This point argues for trying the single-function Action Team approach first, and then expanding to the Multi-functional Action Team setup. In any event, senior management must be on board and supportive, or success is not likely,

**Step** 2: **Accept the Need to Involve Production Workers**

Although the primary intention of the Action Team arrangement as used here is to improve the productivity of the white-collar community, the need for involvement of the blue-collar workforce during this process is quite clear. The communication gap between the white-collar workers and the blue-collar workers is unexpectedly wide and deep. Closing this gap is STEP ONE toward success. No single individual or organization group knows all there is to know about shipyard work. It is only through frequent and faithful communications among all of those involved in the many facets of the work that ALL of the vital information can be brought to light. Then and only them can a sensible and appropriate solution be developed that will satisfy the concerns and interests of all parties.

It is quite common to assume that the white-collar segment keeps itself knowledgeable of blue-collar conditions and needs on a continuing basis, but this assumption is usually wrong. The true facts about the blue-collar situation can be gained quite easily, however, by communicating with those who know those facts; that is, the blue-collar workers. They cannot be expected to know what needs to be told, who needs to know it, or when the information is important. Nor can they be expected to volunteer the necessary information to the proper white-collar party at precisely the right time. Rather, the white-collar segment needs to cultivate an operational closeness with the blue--collar workers well in advance, so that a faithfhl exchange of information CAN take place when the critical moment arrives. The Action Team format can establish such a relationship among ALL of the participants on the team and have it ready for essentially instant use.

**Step 3: Establish Baseline Productivity Indicators**

This step was unsuccessful during both phases of this Task but the need for it was not diminished. Under normal workload conditions where steady employment is the rule throughout a shipyard, several baseline indicators should be effective tools for measuring progress. A suitable set of indicators should be identified. Each indicator should be tracked during the performance period of the Action Team to gain a measure of improvements.

If changes in the indicators do not occur, or if changes cannot be attributed specifically to the Action TeamW then the use of a questionnaire is recommended. The questionnaire should be filled out before Action Team activities begin. A similar questionnaire should be filled out after several months of operations. Comparison of the entries should shed some light on Action Team effectiveness.

**Step 4: Create the Multi-functional Action Team**

Members of the Action Team should be selected carefully, keeping in mind that they will have a better chance for success if they have demonstrated an ability to handle their own affairs well, and are good communicators. Since a multi-functional group is being set up, the principal trades/functions of the shipyard should be represented on the Action Team. At the same time, the group should be kept as small as possible. These two mutually exclusive conditions were not difficult to satisfy in a small shipyard, but will be more onerous in a large shipyard. This difficulty might be handled by limiting the scope of Action Team activities to a particular segment of the shipyard, rather than to allow the Action Team free access to the entire operation.

Candidates for membership should be listed, and then analyzed one-by-one relative to their relationship with the other potential members. Once an effective group has been created on paper, the agreement of their management should next be obtained, followed by their supervision. When these parties are all in agreement, the names of the selectees should be released, and the members themselves given an opportunity to object to their assignment. Although unlikely, each member should be treated individually if a disagreement is encountered. "Marginal" cases should be encouraged to give it a try, and to reconsider their situation after they have attended a few meetings. It is most likely that they will favor continuing with the assignment once they sense the value to be gained from the experience.

**Step 5: Implement the Multi-functional Action Team**

Meetings should be set up to occur on a regular basis at a fixed location. One hour per week has proven to be an effective meeting duration. An Agenda should be prepared for each meeting, and Minutes should be kept and published to the membership. The use of a Facilitator is recommended, at least until the group selects its own Chairman and Recorder. The selections of Chairman and Recorder can be rotated on some

reasonable basis, if desired. Also, the use of a Facilitator can be reduced, and perhaps eliminated, after the group becomes able to manage itself

During the early meetings of the Action Team, the Facilitator should understand that time is to be USED in this instance for building relationships among the members, and for nurturing effective communications among all of the participants. At first the tenuous ties between members may seem so fragile that any impact will destroy the whole structure, but after several meetings those ties will strengthen and become surprisingly resilient. Thereafter, relatively devastating exchanges will be possible among members, with the whole group enjoying the untethered opportunity to express themselves openly, strongly, and candidly. Such an unthreatening atmosphere is to be cultivated and appreciated, as it will lead to the most effective and faithful communications among members, uncovering the true facts of the situation in the process. These discussions should remain within the Action Team itself, however, since those outside of the membership may not understand the context in which the discussions occurred, and may misinterpret the thrust of the points made there.

The technique of brainstorming to identify and list potential subjects for consideration is a proven way to get started. In the case of the Multi-functional Action Team however, where the members will be able to handle a wide variety of problems within many areas of the shipyard, it is quite permissible for senior management to make the decision on what should be treated. Many of the problem areas of concern to the MAT have a relatively high level nature, and as such are familiar to senior management. If this course is followed, indecision and consternation on the part of the Action Team members over what to work on can be avoided. They need only to agree that the area for consideration is within their capability for treatment, as will normally be the case.

### Step 6: Assess the Value of the Multi-functional Action Team

After several months of operation the baseline productivity indicators should be reexamined to find out whether advantages are being accrued through use of the Action Team. If these indicators are inconclusive, a questionnaire may shed some light on the subject. Somehow, however, a determination should be made on whether to continue meeting, whether adjustments in the membership are appropriate, and whether the proper subjects are being treated. It is unwise to continue with regular meetings unless gains are being made. It is better to arrange for occasional meetings, based on need, where the members can renew their relationships and maintain their collective skills.

## CONCLUSIONS AND RECOMMENDATIONS

### General Conclusions

The posture developed by the Multi-functional Action Team was quite encouraging. The group became stronger and more able to resolve issues than was expected. This situation was a direct result of the extensive and detailed communications

that were taking place among the members at the meetings, and quite likely on other occasions as well. The subjects being discussed were broad and substantive, with each member contributing information from his own point of view. High quality cross-functional communications were the result, which in the aggregate provided a wealth of information that became a major advantage toward problem resolution.

The atmosphere during the meetings was open unthreatening, and constructive. When placed in this environment, the members freely exchanged their understanding of each problem and moved smoothly toward resolution. The meetings were intense, and were conducted in a most professional manner by the Chairman. Meeting Agendas and Minutes were clearly Written and were distributed to senior management as well as to the members and to guest participants.

Perhaps the conditions that impacted this Task most dramatically was the declining workload and the associated "right-sizing" activities prevalent in the shipyard throughout the entire performance period. The associated disruption was extensive and continuing, and produced an unsettled attitude throughout the workforce that was counterproductive to the efforts of this Task. While the Task was building teamwork and worker confidence, the declining workload was causing apprehension and concern about the future. Even in this environment, the MAT members remained on course, and carried the principal topic for treatment to the point where only administrative and procedural changes were needed for final resolution. This is a compliment to their determination and to their interest in improving their ability to handle "special projects" without injury to other work.

Performance of this Task was disappointing, however, because the main problem treated by the MAT was not conclusively resolved before the end of the Task performance period. Although there is every reason to believe that a valuable service was performed by the MAT toward resolution of a broad and complicated issue, specific evidence to that effect was not realised.

**Recommendation 1:** The Multi-functional Action Team at PBI should remain intact, but should meet only on an infrequent and "as needed' basis. This will accommodate immediate reinstitution of the MAT when a problem area arises that matches the resolution capability of the group. The operational relationships developed during the MAT meetings should extend into the daily activities of the members, and these relationships may well become permanent assets.

**Recommendation 2:** Other shipyards should consider establishing single-finction Action Teams as a way to upgrade communications and improve productivity. At least one Multi-functional Action Team also should be tried. The tone, strength and capacity of a MAT is different from that of a single-finction Action Team making it better suited to resolving the larger and more organizationally-involved problems. Both types of Action Teams have merit, however, and should be put to use wherever improved productivity within the white-collar community is desired.

**NSRP Project N5-91-5**

# EMPLOYEE INVOLVEMENT - WHITE-COLLAR WORK FORCE
**(Pha.se II)**

## APPENDIX A

**"BEFORE"**

**QUESTIONNAIRE**

# Questionnaire

Date _____

As a member of the EAT, or SAT, or MAT, please answer a few questions to help us understand how you feel about multi-function or inter-trade matters.

1. Do you have a problem with interferences involving other trades? _____

2. If so, how often do they occur? _____

3. Do you have a problem resolving differences with other trades? _____

4. Would better communications and more cooperation between trades help you? _____

5. Does your group have established working tolerances (accuracy limits)? _____

6. Are these tolerances strictly adhered to? _____

7. Are inter-trade problems usually reported? _____

8. Are inter-trade problems usually worked around without any paper changes? _____

(over)

9. Do you think that the different trades work well together in Engineering? _____

10. Do you think that the different trades work well together in Production? _____

11. Does the product from Engineering give you what you need to do your job in Material/Planning/Production/Quality Assurance/Ship Management? _____

12. Do you think that it is possible for the different trades (functions) to work together as one coordinated effort? _____

13. If not, why not? _____

14. If so, what would be needed to make it happen? _____

15. Do you work in Production? (Yes or No) _____

Please do not sign your name to this questionnaire. Thank you.

**NSRP Project N5-91-5**

**EMPLOYEE INVOLVEMENT - WHITECOLLAR WORK FORCE**
**(Phase II)**

# APPENDIX B

"AFTER"

QUESTIONNAIRE

Questionnaire

Date _____

As a member of the Pipe Family Team, or EAT, or SAT, or MAT, please answer a few questions to help us understand how you feel about your Action Team.

1. Your Action Team has been meeting for about one hour per week. Is this (check one) too little _____ about right _____ too much _____.

2. What has been the best topic discussed at the meetings? _____

_____

_____

3. What has been the worst topic discussed at the meetings? _____

_____

_____

4. On a scale of 1 to 10 (10 being the highest), how do you rate your Action Team overall?

_____

5. Do you think that white-collar productivity has dropped _____ stayed the same _____ or improved _____ since your Action Team has been operating?

6. Do you have a problem with interferences involving other trades?_____

_____

7. If so, how often do they occur? _____

_____

8. Do you have a problem resolving differences with other trades? _____

_____

9. Are inter-trade problems usually reported? _____

_____

10. Are inter-trade problems usually worked around without any paper changes?_____

_____

11. Do you think that the different trades work well in Engineering_____

_____

12. Do you think that the different trades work well Production? _____

13. Does the product from Engineering give you what you need to do your job in Material/Planning/Production/Quality Assurance/Ship Management? _____

14. Do you think that it is possible for the different trades (functions) to work together as one coordinated effort? _____

15. If not, why not? _____

16. If so, what would be needed to make it happen? _____

17. Would better communications and more cooperation between trades help you? _____

18. Does your group have established working tolerances (accuracy limits)? _____

19. Are these tolerances strictly adhered to? _____

20. Do you think that it would be a good idea to have more Action Teams? _____

21. In what area should the next new Action Team be set up? _____

22. Do you work in Production? (Yes or No) _____

Check which Action Teams you are (or have been) a member of:

SAT _____ EAT _____ MFAT _____ Pipe Family _____

Please do not sign your name to this questionnaire. Thank you.

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