



FOREMAN SKILLS - TRADE SPECIFIC



Prepared by:
Nova Scotia Construction Sector Council –ICI
Co-funded by :

Human Resources and Skills Development Canada
The Nova Scotia ICI Construction Industry
Representatives from major Nova Scotia companies

April 2005

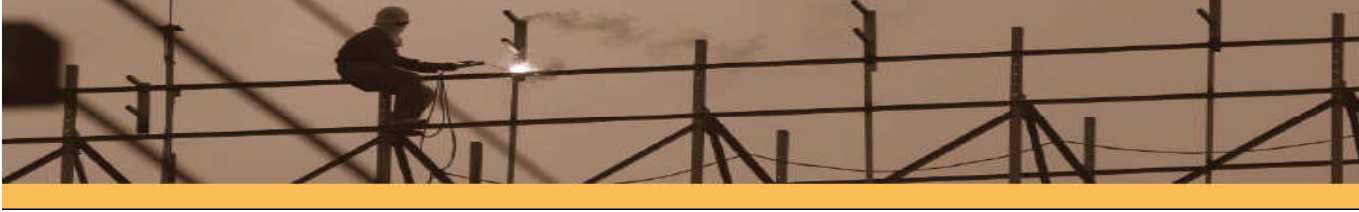


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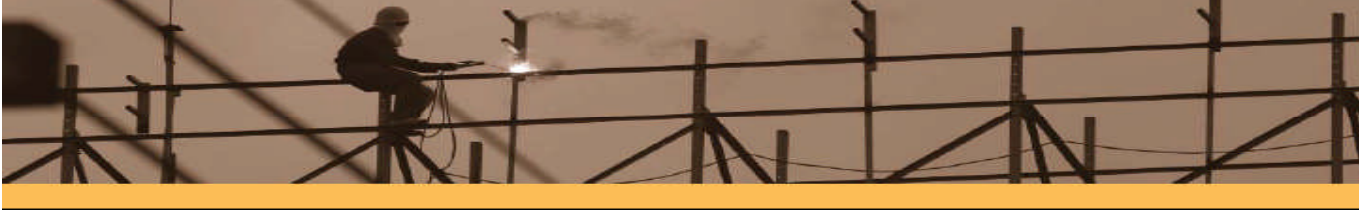
INTRODUCTION

The Nova Scotia Construction Sector Council, industrial-commercial-institutional (NSCSC – ICI), is a not for profit organization established to communicate and consult with the founding Member Organizations:

- Cape Breton Island Building & Construction Trades Council,
- Construction Management Bureau,
- Mainland Nova Scotia Building & Construction Trades Council,

the construction sector and federal and provincial partners to identify areas of concern related to human resource planning and skills development within the sector.

Working in partnership with the Member Organizations, NSCSC directors and staff will provide human resource and labour market information to industry partners including Human Resources and Skills Development Canada, the Province of Nova Scotia departments and agencies, national Construction Sector Council, public and private training institutions, associations, organizations, groups and individual Nova Scotians.



REPORT to INDUSTRY STAKEHOLDERS

Project start date: April 15, 2004
Project end date: April 30, 2005

- Following discussions with industry employers and labour, the Board of Directors of the Nova Scotia Construction Sector Council - Industrial, Commercial, Institutional (NSCSC - ICI) identified the need to develop specific training requirements for the foreman occupation.
- As a result, industry will have the information and knowledge required to inform and develop training curriculum to meet the occupational and skills requirements for the job site foreman position,
 - supported by industry
 - suited to the target audience
 - can be adapted to the ICI and residential sectors.
- With project funding from Human Resources and Skills Development Canada (HRSDC), in-kind contributions, expertise and time contributed by the industrial, commercial, institutional construction sector and key industry representatives, this project moved ahead.
- The project was researched in Canada, United Kingdom and the United States resulting in agreement that development of a foreman skills survey would be beneficial to the construction industry.
- Over a twelve (12) month period, the NSCSC collaborated with employers, union representatives, Foreman, and other industry practitioners throughout Nova Scotia to identify the requirements for specific Foreman Skills training.
- Industry recommendations:
 - Identify job site foreman skills current/future requirements
 - Research and assess training/learning mediums and/or delivery methods
 - Compile a report of findings and recommendations



The Member Organizations and Directors of NSCSC want to thank all those who contributed their expertise, time and travel to assist the Foreman Skills – Trade Specific sub committee identify occupational and skills requirements for the Job Site Foreman occupation with special acknowledgement of Human Resources and Skills Development Canada for their funding contribution and interest in this project.

With thanks to:

Ron McDonald, and Roy Pennell,
Carpenters Union #83

Greig Macleod, Director,
Construction Management Bureau

Franco Callegari, Business Manager,
Labourers' Union #615

Doug Serroul, Business Manager,
Labourers' International Union
of North America #1115

David Oulton, General Manager,
Marid Industries

Allan Stapleton, President,
Construction Management Bureau

Allan MacDonald,
Guildfords Limited

John Wilson, President, Training
Coordinator, Iron Workers #752

Brian Stevens, Business Manager,

Sheet Metal Workers' International
Association #409

*The many questionnaire respondents
who offered their trade experiences
and knowledge of the construction
trades foreman occupation.*

*And to all members of the Foreman
Skills – Trade Specific sub committee
for their generous contribution of time,
travel and expertise:*

Peter Caines,
Union representative / NSCSC Director

Bernie Carr, International Representative
Sheet Metal Workers Union International /
NSCSC Director

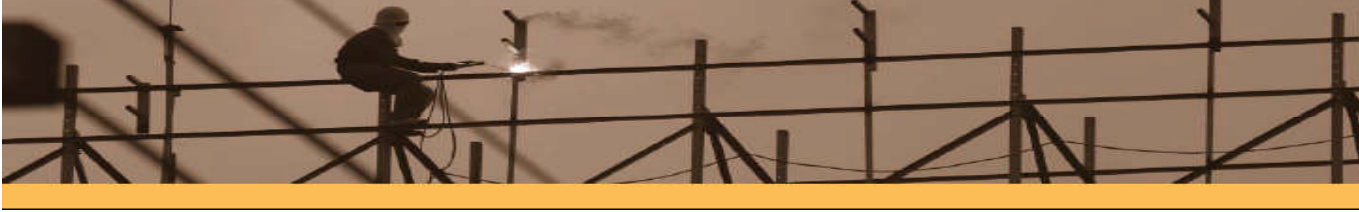
Steve Graves,
President MNSB&CTC / NSCSC Director

J. Marc Gallant, Manager, Atlantic Region,
Sayers & Associates Limited /
NSCSC Chair



METHODOLOGY

- The NSCSC sub committee met initially to decide methodology, timelines and identify major industry representatives who would assist in the development of this project.
- This sub committee and industry representatives met nine (9) times over a period of twelve (12) months to identify and communicate Foreman Skills training requirements, based on the recommendations and contributions of employers, union representatives, Foreman (representative(s)) and other industry practitioners.
- NSCSC Staff provided the researched material and project management required to generate the information needed to move the project forward.
- The NSCSC sub committee developed a Foreman Skills questionnaire.
- The sub-committee developed a distribution list of key participants that included: working foreman, business managers, employers and employer representatives.
- Respondents provided valuable insight and feedback as to specific experiences and what is required to take on the role of the Job Site Foreman.
- As a result, the responsibilities, skills and knowledge required of the Job Site Foreman, have been identified.



The sub committee reviewed questions asked by industry on a need to know basis:

- What skills does a generic foreman need?
 - What skills does a trade specific foreman need in addition to generic skills?
 - What training is required to provide the identified foreman skills?
 - What qualifications are required?
 - How responsible is the foreman for job site safety?
- Where do public and private trainers fit in?
 - What are the foreman's responsibilities?
 - What specific knowledge should the foreman possess?
 - How important is a foreman's attitude and what characteristics are necessary to do the job effectively?



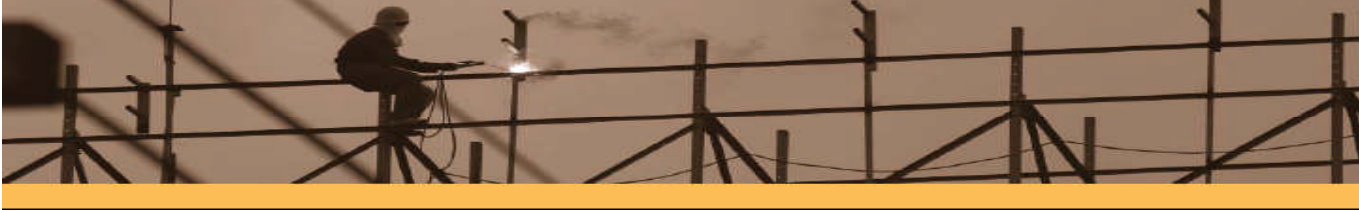
Skilled foremen are essential to a company's success; the jobsite foreman is typically the first line of supervision within the management structure of a construction company



INDUSTRY COMMENTS and CONCERNS

Industry employers/representatives and working foremen

- We have foremen who are 60% capable but require information and skills upgrade on how to become 100% capable.
 - This refers to the working foreman and the job site foreman.
 - Better-trained foremen make for a better workforce.
 - Everyone on the job site is responsible for the safety and well being of colleagues. The Foreman has a share of that responsibility – for his trade's people or, on small job sites he/she may be responsible for the entire job site. Supervisors, who supervise two or more job sites, depend on the site foreman.
 - Communication between foreman supervisors and project managers appears to be lacking.
- Bottom line: A supervisor, a foreman, or anyone else with responsibility for the job site, will emphasize the importance of safety however, he/she cannot watch every person on the site at all times. Due diligence is the key and he/she will keep a record of any and all infractions and all warnings issued.
 - Foremen must be aware of their liability and what records to keep.
 - A number of trade's people do not ever want to be a job site foreman or supervisor as they are concerned about the liability.
 - Many small to medium size jobs lack quality communication between the job site and middle management.



FOREMAN SKILLS QUESTIONNAIRE RESPONSES

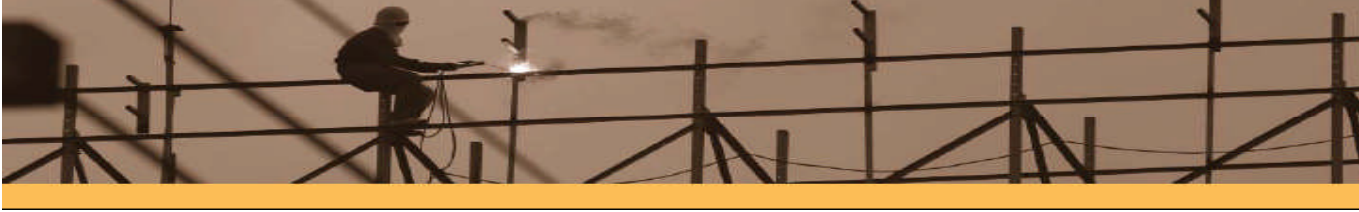
A. Responsibilities

Respondents were asked to rate in order of priority the importance of the Responsibilities, Knowledge, Skills and Attitude and Qualifications for the Job Site Foreman Occupation. Comments and/or experiences we're also requested. Responses and graphical information are based on each of the topics listed in this report as they appear in the questionnaire.

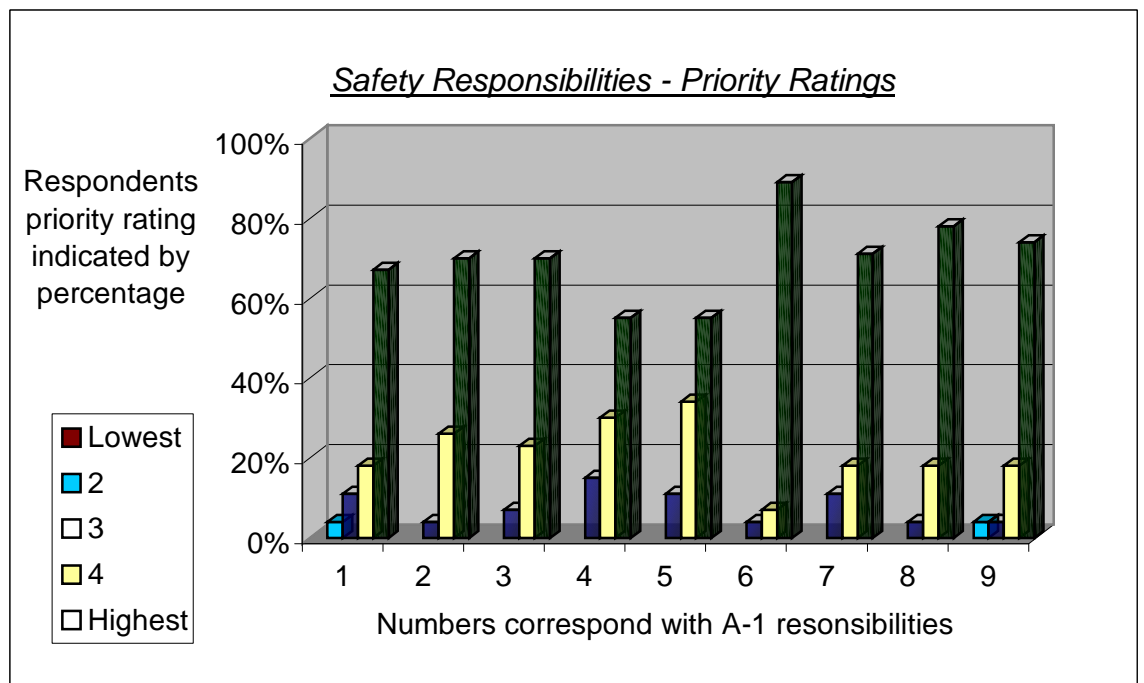
A-1 SAFETY:

The foreman is accountable for the safety of his crew and must understand the legal responsibilities and liability associated with this role. He must facilitate a safe and productive work site and ensure compliance to safety regulations.

- | | |
|--|---|
| <ol style="list-style-type: none">1. Conduct "Safety Tool Box Meetings2. Know, understand, communicate and ensure compliance of safety regulations, policies and procedures3. Complete safety and hazard assessments4. Participate in incident investigations5. Complete incident and other safety reports | <ol style="list-style-type: none">6. Identify and eliminate job hazards, review accident trends and use preventative measures where applicable7. Review safety measures and rules as job conditions change or if individual workers have special needs8. Ensure protective equipment is used properly and kept in good condition.9. Participate in on site safety meetings and ensure safety certification of crewmembers is current |
|--|---|



PROFILE OF QUESTIONNAIRE
RESULTS ON SAFETY

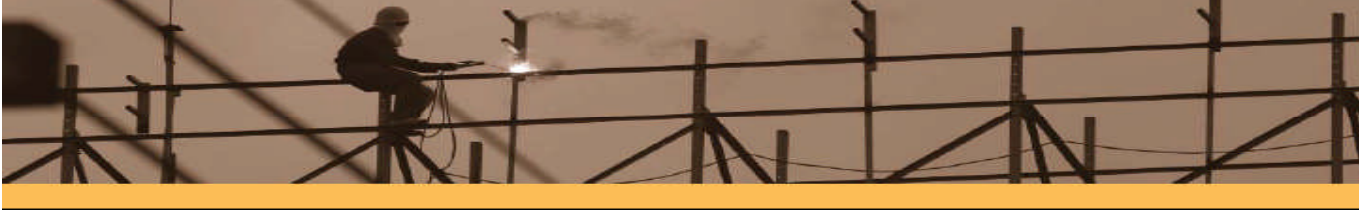


Trade specific formal foreman training is not available



RESPONDENTS COMMENTS ON SAFETY

- Each project or jobsite will demand different skills as a foreman.
- Certain jobs need all these skills and then other jobs fewer skills.
- These skills are very important. They could all be priority five (5).
- In our industry I think we have a shortage of trades people that are willing to take positions higher than a foreman.
- Foremen are not responsible to deliver training but should be knowledgeable and provide leadership.
- Safety Tool Box Meetings are held weekly.
- Safety training should be provided to workers before entering the work place.
- The site foreman would require the support and lead from the superintendent or safety officer to properly care for these duties.
- This will only work if management is also trained and participating.
- Ensure site safety officer participates in Job site Occupational Health and Safety Committee (JOHSC) meetings. All these functions are performed in conjunction with the company Safety Officer.
- Critical function should have formal safety training, supervision level.
- Management has job to do here.
- Our Company has a safety person to do this.
- Check all lift platforms are working properly and daily scaffold inspections are done.
- Continuing education – Nova Scotia Construction Safety Association (NSCSA) and Occupational Health and Safety (OH&S)



A-2 LEADERSHIP AND SUPERVISION:

The foreman leads and motivates the crew. He is responsible for the completion of assigned work and must understand and apply company policies.

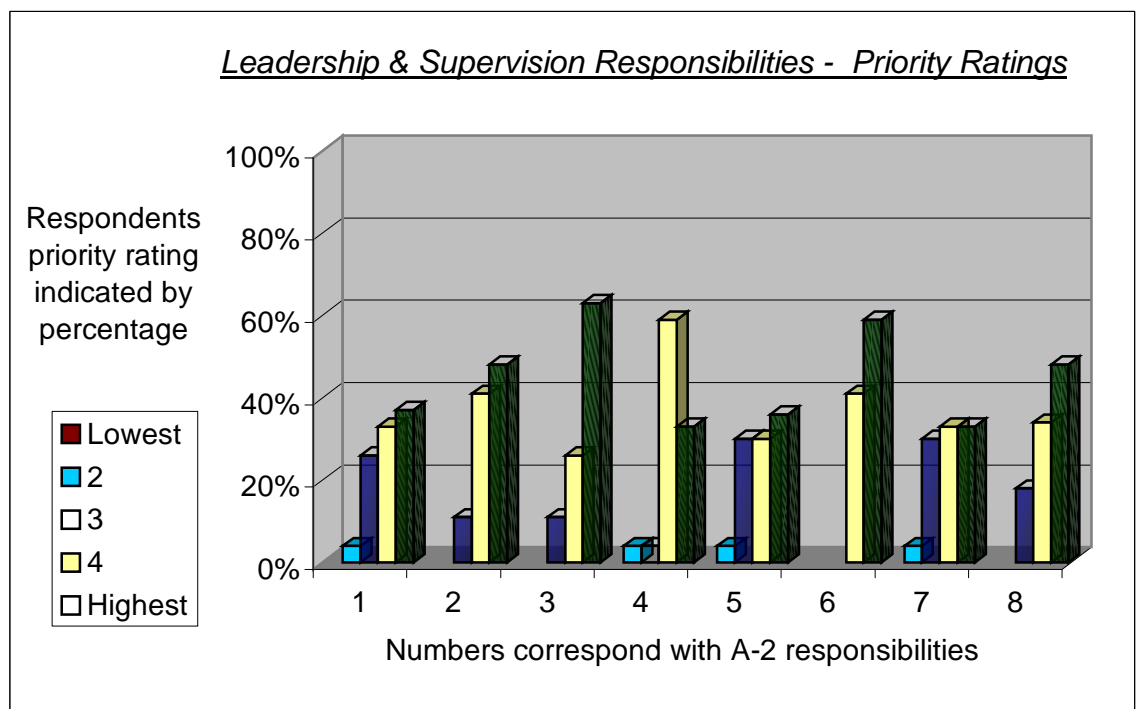
1. Communicate job details and requirements to the crew/ assign work tasks
2. Ensure crewmembers are competent and capable of carrying out assigned work tasks
3. Coordinate mentoring of apprentices/ orient crewmembers
4. Communicate expectations of behavioral/ work standards to crew
5. Address and resolve work related issues/ conflict among crew(s)
6. Communicate expectations of behavioral/ work standards to crew
7. Facilitate a positive work atmosphere to ensure crew moral/ productivity
8. Apply company policies and work procedures, including corrective actions and collective agreement requirements where applicable



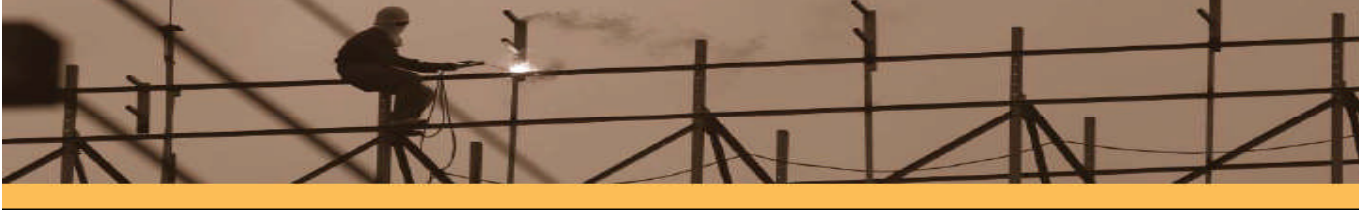
Industry is changing; new technology, changes in regulations and reduced construction schedule timeframes have created new responsibilities and broader knowledge requirements of today's jobsite foreman



PROFILE OF QUESTIONNAIRE RESULTS ON LEADERSHIP AND SUPERVISION



Inadequate qualifications and skills of a jobsite foreman can result in poor productivity, deficiencies and job site safety incidences that in turn affect the company's bottom line

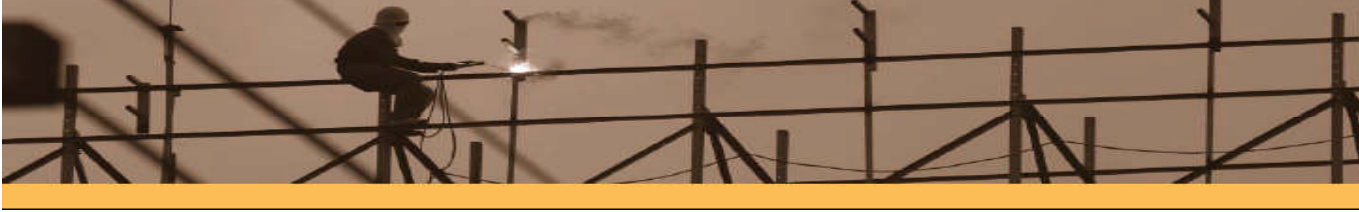


RESPONDENTS COMMENTS ON LEADERSHIP AND SUPERVISION

- These skills would be useful to implement for positions above a foreman as well.
 - Foreman needs to be able to utilize individual talents.
 - Must recognize that individuals may have particular strengths or weaknesses and should be able to assign appropriate tasks to individuals so as to maximize strengths and minimize weaknesses.
- It is usually a balancing act between highly skilled tradesmen and company policy issues, sometimes a challenge to achieve satisfaction of both parties. Both need to be achieved in order to accomplish a high quality completion of projects at hand.
 - These require coordination with the office.



Leadership is the ability to effectively delegate tasks, assemble the right people and get everyone working together for the benefit of the job



A-3 PLANNING, SCHEDULING AND COST CONTROL

The foreman must ensure work schedules and daily/ weekly crew activities are coordinated to effectively control costs and meet production goals.

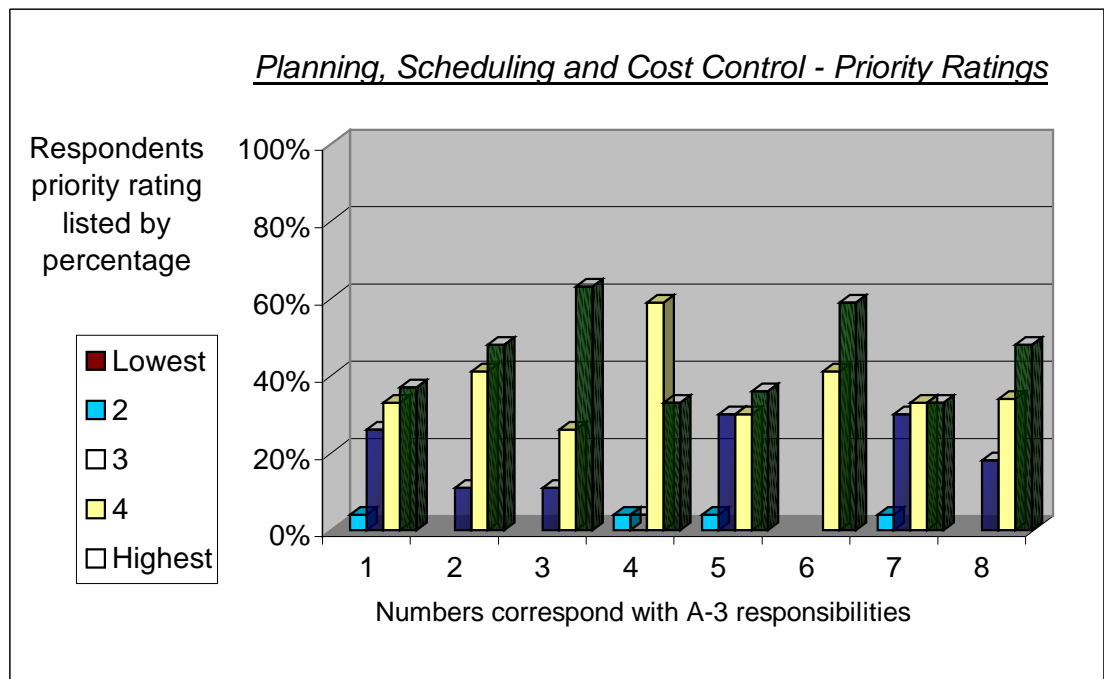
1. Understand the relationships between production, overhead and profit
2. Communicate plan or schedule deficiencies/needs to the appropriate person
3. Plan and prioritized work requirements/individual tasks
4. Revise scheduled workforce activities as required to meet project schedules
5. Ensure accurate estimating when ordering materials/ costs associated with work site activities
6. Verify tools/ materials needed to complete crew(s) work tasks are available and complete
7. Know the important elements in job cost and control
8. Understand the foreman's role in the profitability of the company



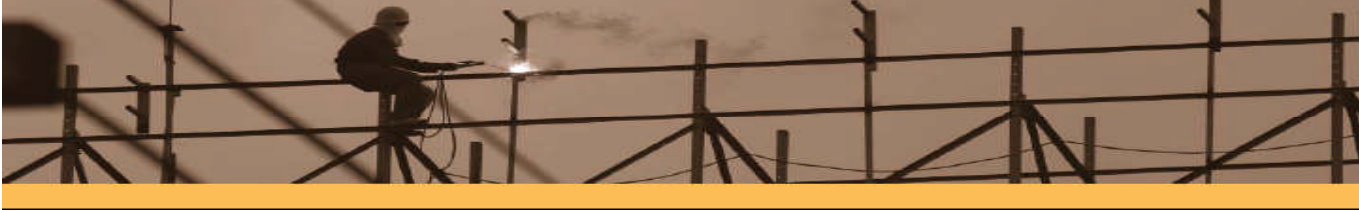
A good work plan will help keep a job on schedule, reduce man-hour costs and limit mistakes on the jobsite.



PROFILE OF QUESTIONNAIRE RESULTS ON PLANNING, SCHEDULING AND COST CONTROL



Coordination of work activity ensures that the work being carried out fits together effectively to keep the job on schedule



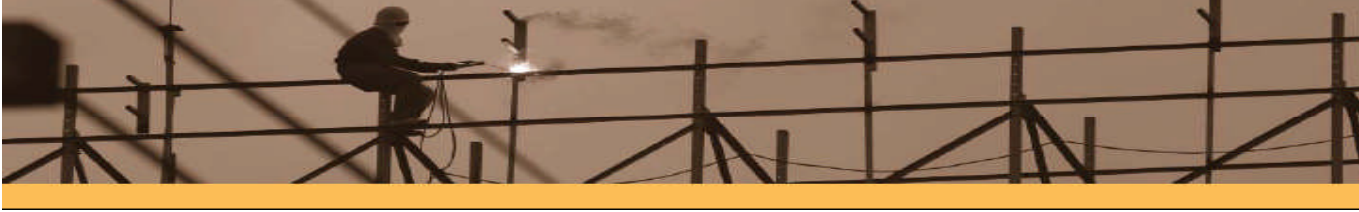
RESPONDENTS COMMENTS ON PLANNING, SCHEDULING AND COST CONTROL

- The foreman on most of our sites won't have a lot of control over schedules and estimating other than making sure his crew works efficiently.
- Although costs are important to all parties, the foreman's area of

responsibility should be to ensure on site project activities run smoothly and in compliance with all rules, regulations etc. (usually a dollar value limit allows a certain amount of freedom in spending but high volume spending is the responsibility of others.



Skilled foremen are essential to a company's success; the jobsite foreman is typically the first line of supervision within the management structure of a construction company



A-4 QUALITY CONTROL

The foreman is responsible for ensuring that the workmanship and construction materials used meet quality standards and for recommending methods of improvement.

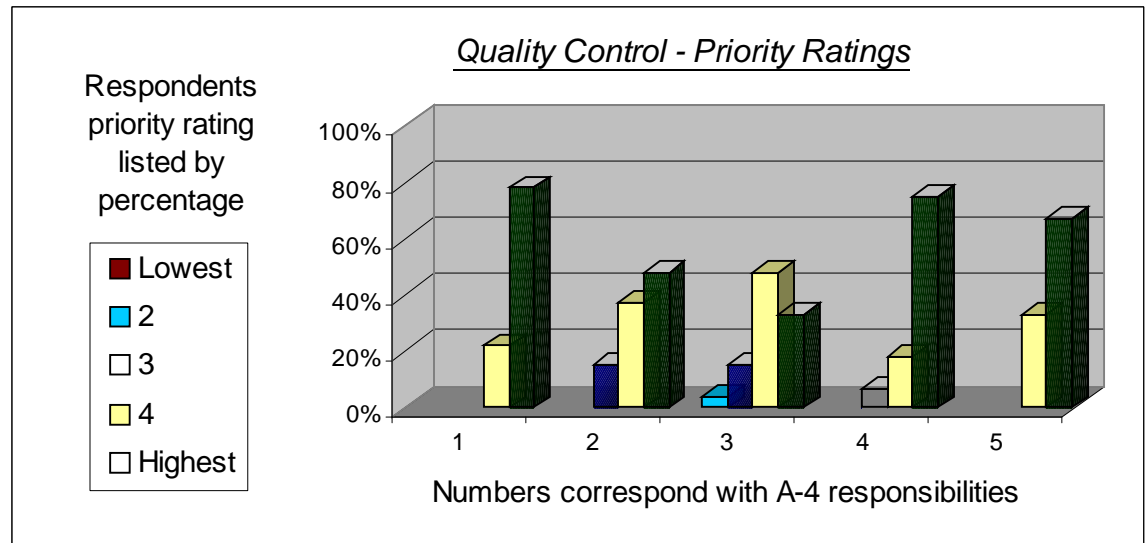
1. Oversee the execution of the work, ensure adherence to specifications and blueprints
2. Know how to access and interpret applicable codes
3. Be aware of approved/ quality tested materials and building practices
4. Visually inspect completed work, list deficiencies and ensure they are corrected
5. Understand his role and responsibilities when working with inspectors



Quality control assures that required standards of performance and construction practices are maintained



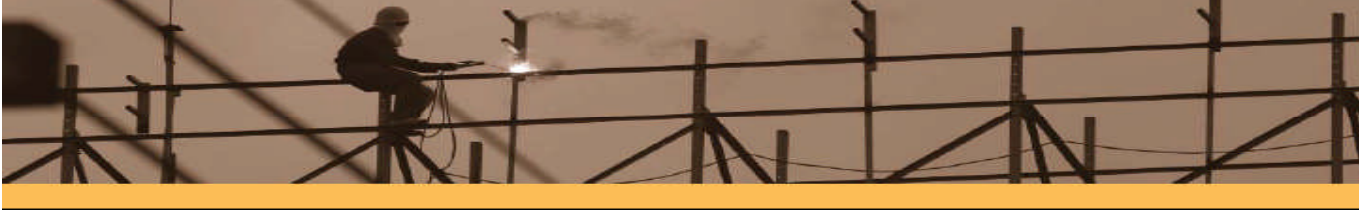
PROFILE OF QUESTIONNAIRE RESULTS ON QUALITY CONTROL



RESPONDENTS COMMENTS ON QUALITY CONTROL

➤ Superintendent is primarily responsible for these things.

➤ All items - should be provided with some training to allow understanding of the various methods available and the advantages /disadvantages of each.



A-5 ADMINISTRATION

The Foreman is required to keep accurate records, write reports and document schedules, estimates and other administrative responsibilities as set out by the employer.

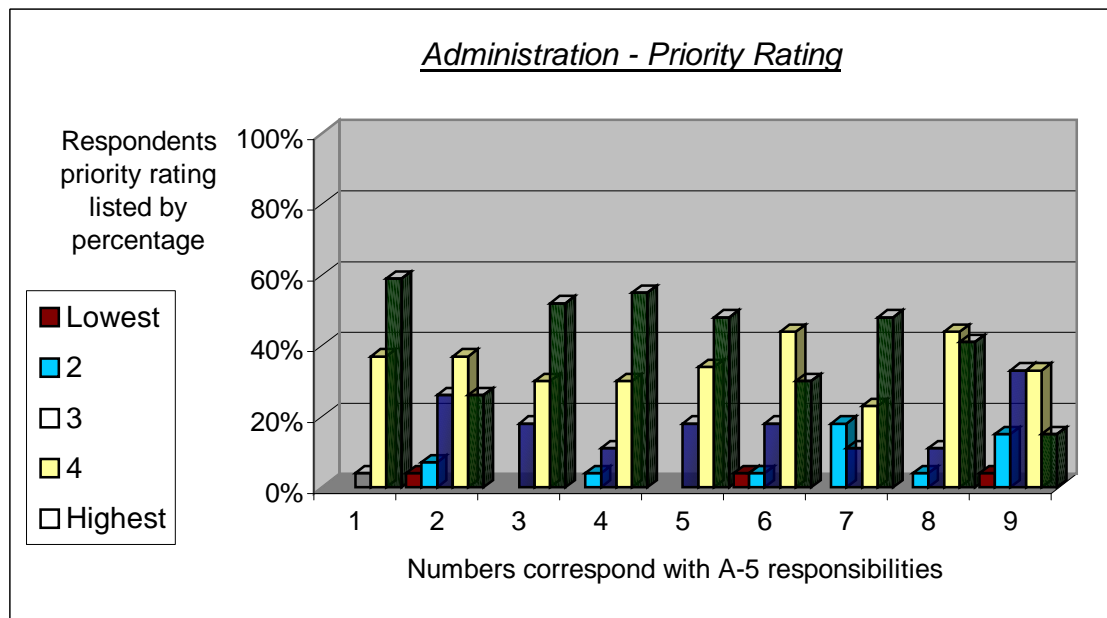
1. Understand how to document incident reports
2. Utilize scheduling methods such as critical path/ spreadsheets
3. Requisition materials and supplies/ field installation work packages
4. Maintain a Foreman's log or diary
5. Maintain reports on work production and progress
6. Complete quality reports/ production statistics
7. Use time cards to record late/early starts, delays and surrounding details
8. Record or document disciplinary actions
9. Write personnel recommendations/ hiring preferences



In a Foreman position the objective is to follow directions, complete the job using quality workmanship and finish on time.

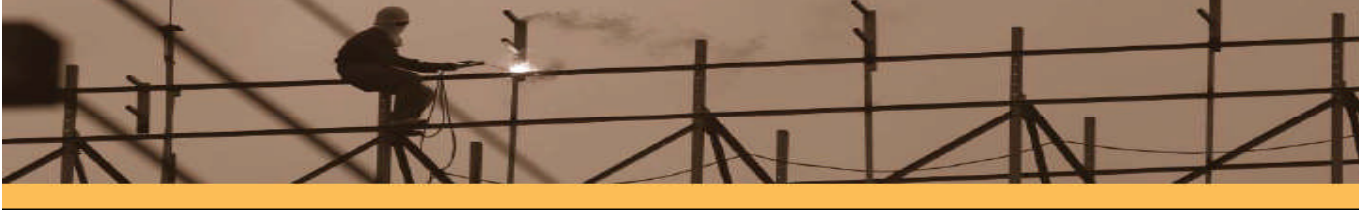


PROFILE OF QUESTIONNAIRE RESULTS ON ADMINISTRATION



RESPONDENTS COMMENTS ON ADMINISTRATION:

None



B. KNOWLEDGE, COMMUNICATION SKILLS and ATTITUDE

The crew foreman is the first line of management in the structure of construction company authority, responsibility and decision-making. His job requires exceptional people management skills, knowledge of construction methods, materials and equipment, a positive and motivational attitude and good communication skills.

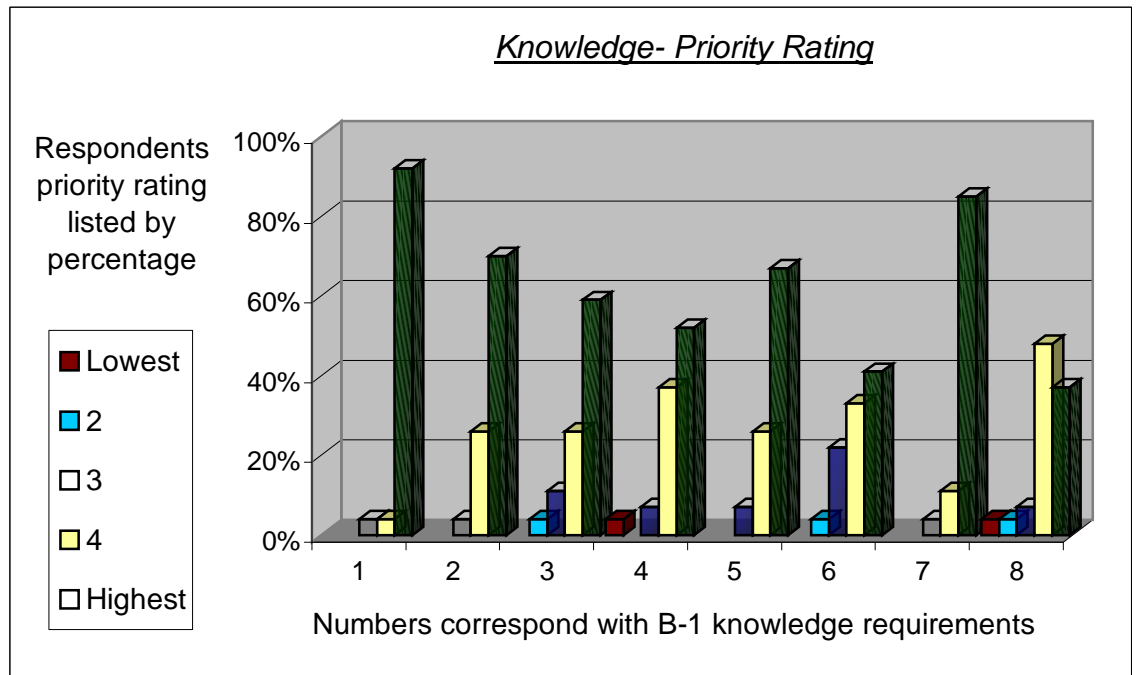
B-1 Knowledge:

The foreman must know how to coordinate and control work schedules, equipment and safety on the job site in order to facilitate quality work on time and on schedule.

1. Know the craft he manages
2. Know and understand company policies and safety programs
3. Know how to manage change orders and as-builts
4. Understand the company's written and posted chain of command
5. Be familiar with and know how to interpret applicable codes, OH&S Act and environmental issues
6. Be familiar with responsibilities associated with Workers' Compensation Board
7. Know how to read/ follow blueprints and specifications
8. Understand the scope of other construction trades

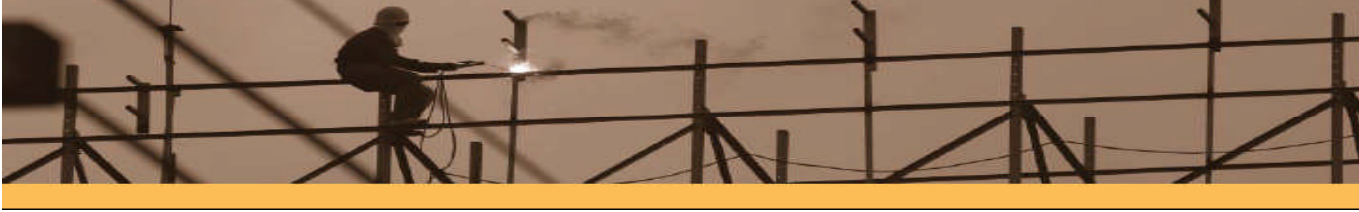


PROFILE OF QUESTIONNAIRE RESULTS ON KNOWLEDGE



RESPONDENTS COMMENTS ON KNOWLEDGE

- Also should have some knowledge of all other trades on the project, whether they are under his control or not.



B-2 COMMUNICATION SKILLS

The foreman occupation requires skilled planning, time, cost and quality control. He must also possess the leadership and communication skills necessary for efficient and safe operation of work and crews.

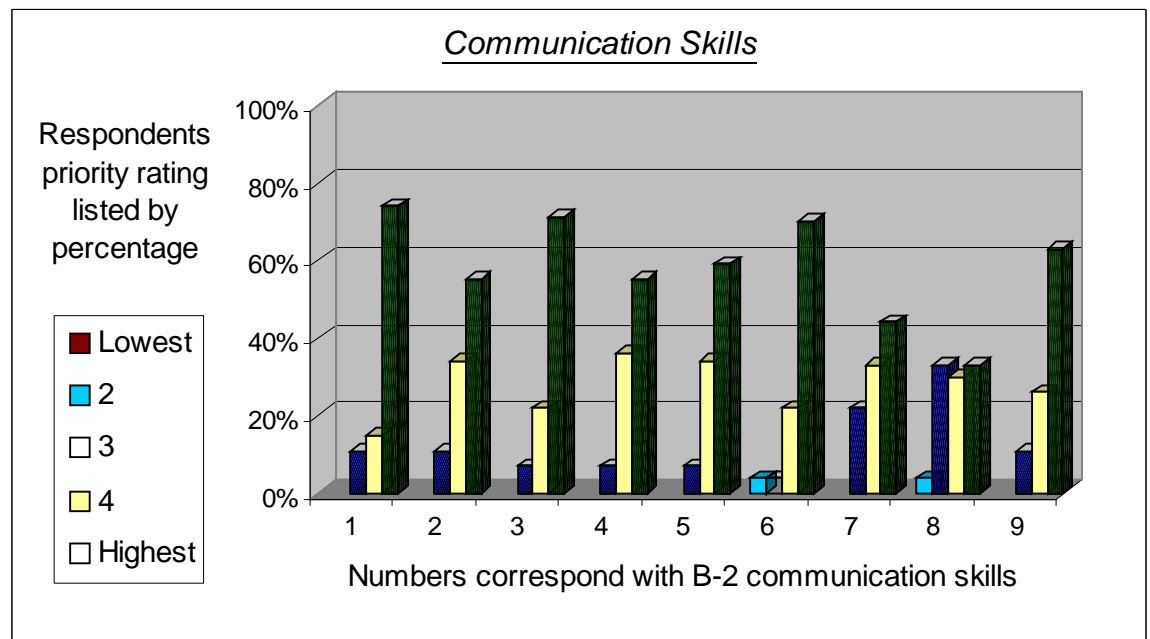
1. Ability to plan pre-job, weekly, daily assignments
2. Ability to apply good problem solving and conflict resolution practices
3. Communicate effectively and with good comprehension
4. Ability to manage differences and diversity at the worksite
5. Posses the ability to coach, council and motivate crewmembers
6. Is skilled at organizing and delegating work and managing overtime control
7. Ability to handle administrative duties of the position including document control
8. Have the ability to effectively use computers and other required technology
9. Can skillfully follow time control guidelines to enable efficiency, coffee breaks and starts and stops



While a person can be elevated to the position of job site foreman due to his/her technical skills, he/she may lack the necessary “people” skills to get the job done.

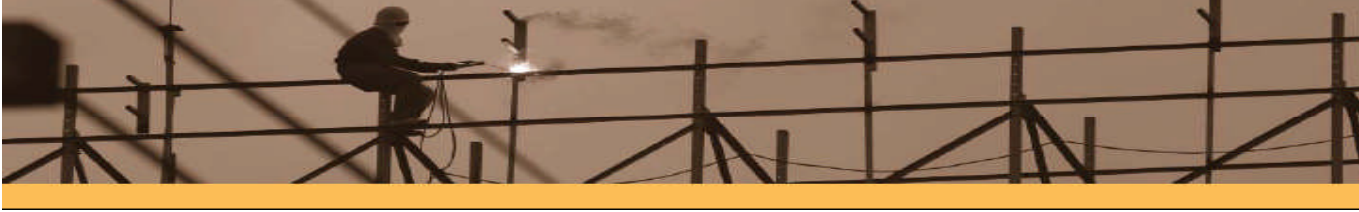


PROFILE OF QUESTIONNAIRE RESULTS ON COMMUNICATION SKILLS



RESPONDENTS COMMENTS ON COMMUNICATION SKILLS

- Some would better apply to levels higher than foreman.
- Also must work effectively and efficiently with others in the management team to finalize many of the cost and safety controls.



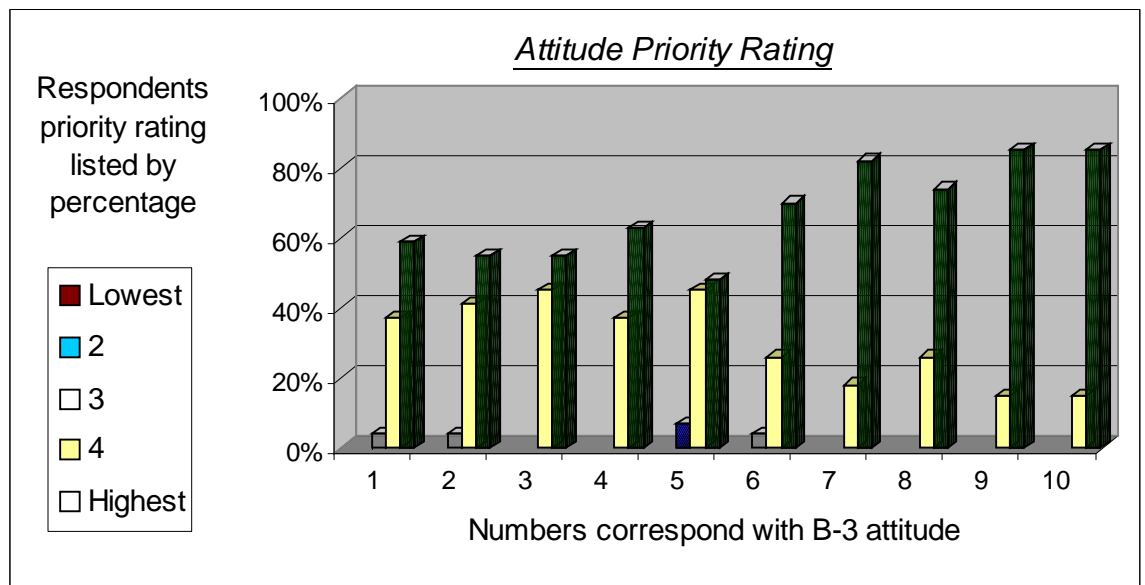
B-3 ATTITUDE

The foreman often acts as a go between for labour and management. It is therefore, necessary for him to have a positive outlook, perseverance and patience in order to promote teamwork and cooperation within the workforce.

1. Encourage job moral/ maintain a calm and positive attitude
2. Recognize and appreciate a job well done
3. Provide an atmosphere where crewmembers can ask questions and communicate issues/ concerns to avoid misunderstandings
4. Be ready to take on new challenges and learn
5. Adapt easily to change
6. Be a role model and lead by example
7. Have respect for crewmembers, provide positive re-enforcement and be a team player
8. Take responsibility for his actions and learn from mistakes
9. Be honest, professional and act with integrity and perseverance
10. Take pride in your work and that of your crew, and look forward to successful outcomes.



PROFILE OF QUESTIONNAIRE RESULTS ON ATTITUDE



RESPONDENTS COMMENTS ON ATTITUDE

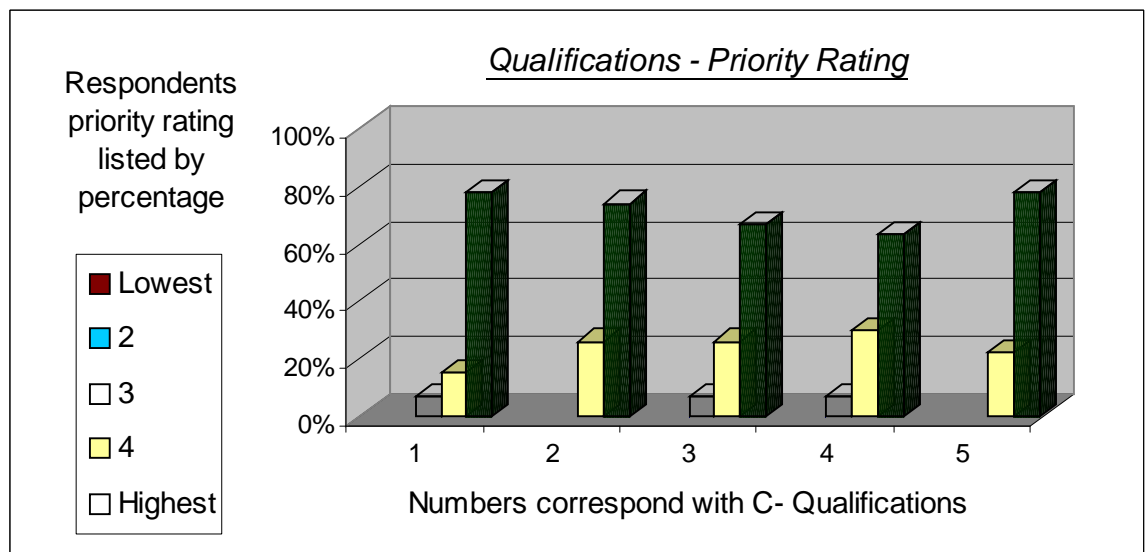
- Must share success with both crewmembers and members of the management team! (Best way to maintain a happy and talented crew).



C. QUALIFICATIONS

1. Formal foreman/supervisory training program
2. Construction Safety Training Systems
3. Current Standard First Aid Certificate
4. Leadership for Safety Excellence
5. 3 to 5 years experience as a qualified, competent tradesperson and familiar with other construction trades

PROFILE OF QUESTIONNAIRE RESULTS ON QUALIFICATIONS





RESPONDENTS COMMENTS ON QUALIFICATIONS

- Formal foreman/ supervisory training would be useful for general foreman and superintendents.
 - A foreman must be competent and qualified in his/her craft and should have familiarity with other crafts.
 - Should have good communication skills and should lead by example.
 - It is much easier to request particular skills of a person if you as foreman are familiar with that task and can recognize competent work.
 - Gold Seal or project management training would be helpful in the future.
- In the past we relied heavily on experience alone in selecting a foreman.
 - Foremen today need to be trained as well as experienced.
 - Additional training in other areas of management duties is of great importance and should be included as a separate training entity.
 - Example would be in cost control methods for example.



The role and responsibilities of a job site foreman require a broad range of knowledge, skills and experience in order to successfully manage and coordinate work, crews, material, equipment, safety and productivity on the jobsite



ACTION ITEMS

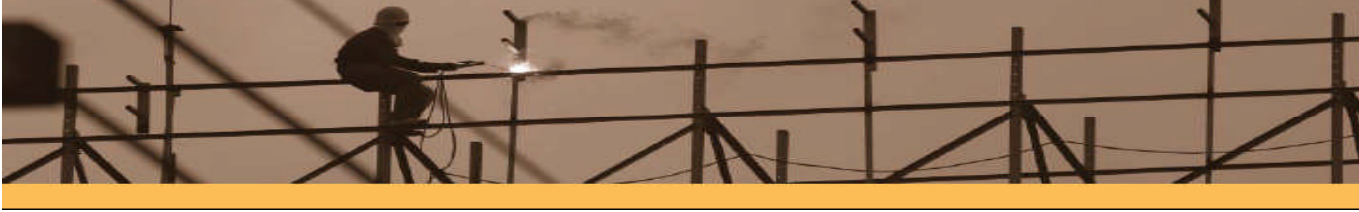
- With the information provided from this project develop a generic foreman training model first and then develop a trade specific model.
- To support industries need, the curriculum should be designed, promoted by industry and delivered by private and public trainers.
- Adapt to different trades and sectors within the industry' could be adapted to possibly homeowners, but would not necessarily apply to all industry sectors.
- Involve foremen creation of the training model. They are the end user and are in the field daily, having the most to benefit from the training.
- The model should be nationally recognized therefore, once the generic model is created, the National Construction Sector Council can follow through with the National Trade related recognition and pay for the license.





SUMMARY OF QUESTIONNAIRE RESULTS

- Results show overall **safety** responsibilities listed to be a high priority to the foreman occupation with the highest rating placed on the identification and elimination of job hazards, review of accident trends and use of preventative measures where applicable.
- **Leadership and supervision** results show the highest ratings to be the communication of job details and requirements to the crew and work task assignments.
- A great deal of importance is placed on the facilitation of a positive work place and an atmosphere that encourages crew moral and productivity.
- Results show the **planning, scheduling and cost control** responsibilities of the job site foreman rate the prioritization of work requirements and individual tasks of highest importance and have little involvement with cost control.
- In response to **quality control** responsibilities the highest priority rating is given to overseeing the execution of the work and to ensure adherence to specifications and blueprints.
- The importance of visually inspecting completed work; listing deficiencies and ensuring they are corrected are also high priority.
- Results show responsibilities involving **administration** give the highest priority rating to understanding how to document incident reports, requisition materials and supplies and field installation work packages.
- Results show the importance of **knowledge** required for the job site foreman occupation to be of priority in the areas of knowledge of the craft he manages, the ability to read/ follow blueprints and specifications and people management skills.



SUMMARY OF QUESTIONNAIRE RESULTS (Continued)

- Results showed all of the listed **qualifications** for the job site foreman occupation to be highly important priorities.
- The highest ratings are placed on the need for formal supervisory training.
- Three (3) to five (5) years experience before becoming a foreman.
- A general understanding of other construction trades.
- Results showed most of the **attitude** requirements listed to be very important particularly the ability to be honest, professional and act with integrity and perseverance. The ability to take pride in your work and that of your crew, and look forward to successful outcomes also scored high on the list of priorities.
- Results show communication **skills** required for the foreman occupation rate the ability to plan pre-job, weekly and daily assignment to be of highest priority.
- Better SuperVision© has been identified as an industry recognized modular training vehicle for job site supervisors. Respondents have identified the need for a Foreman Skills generic and trade specific course.
- Presently there is no industry recognized formal Foreman Skills course available.

Questionnaire response rate – 75%





REPORT SUMMARY

The Project Objective as identified by the construction sector and supported by Human Resources and Skills Development Canada (HRSDC)

➤ to assist the non-residential construction sector to better meet the new skills and occupational requirements of the job site foreman-forewoman positions.

Project Expectation

➤ to provide the construction sector with a report based on the identified specific requirements of the job site foreman - forewoman position. Formal trade specific foreman training is presently not available in Nova Scotia.

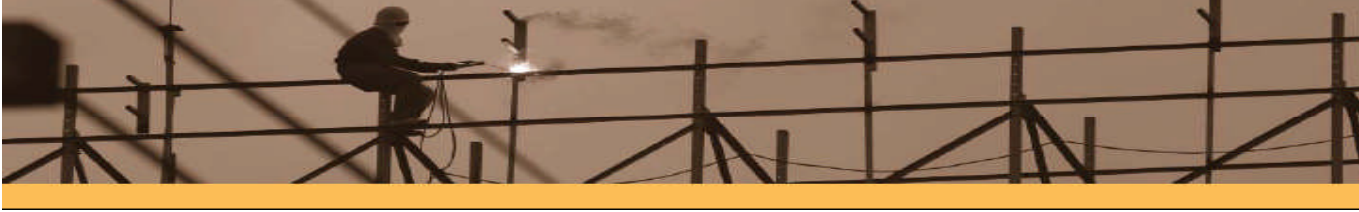
➤ Copies of the Foreman Skills questionnaire were distributed by mail to the NSCSC directors, member organizations, management and labour representatives and working foremen. Total distribution – Thirty six (36) Responses received 75%.

➤ NSCSC and industry representatives agreed that the project should be developed and recommended that a course outline be designed based on the responses from industry management and labour and working foremen.

➤ Simple modification of the basic course outline will be necessary to design modules to accommodate a specific trade within the Nova Scotia construction industry

➤ Industry support for this project is evident from the contacts made throughout Nova Scotia who volunteered information to assist in the development of this model. The volunteers also contributed time, travel and expertise.

➤ Employers have identified the need for this material and have indicated that while 60% of foremen are capable – they need 100% capable.



REPORT SUMMARY (Continued)

- In a Foreman position the objective is to follow directions, complete the job using quality workmanship and finish on time.

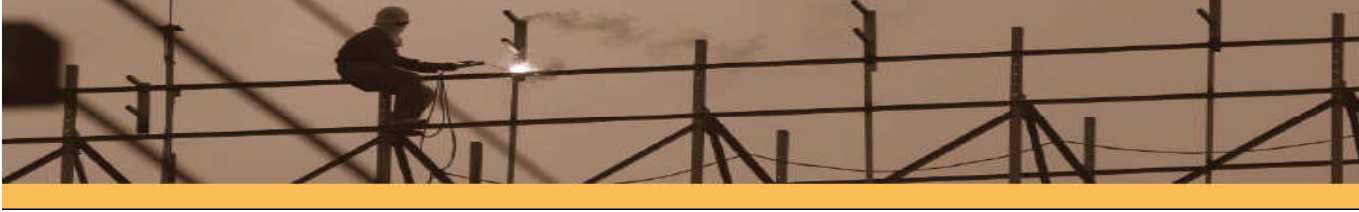
Initially a foreman's job description required the foreman to,

- give instruction to the job site trades people,
- ensure the work was completed in a timely manner.

In addition to general requirements, today's foreman has to,

- deliver clear and understandable instruction
- maximize worker output,
- problem solve and make informed decisions, mentor apprentices and assist inexperienced trades people,
- be very aware of OH&S regulations,
- have knowledge of new technology in order to give clear direction,
- record and report timely and accurate information to management using the latest technology.

- The NSCSC Foreman Skills sub-committee has recommended that industry representatives, government agencies and training institutions meet to review the Foreman Skills questionnaire responses and use these responses and recommendations to design a formal Foreman Skills modular course.



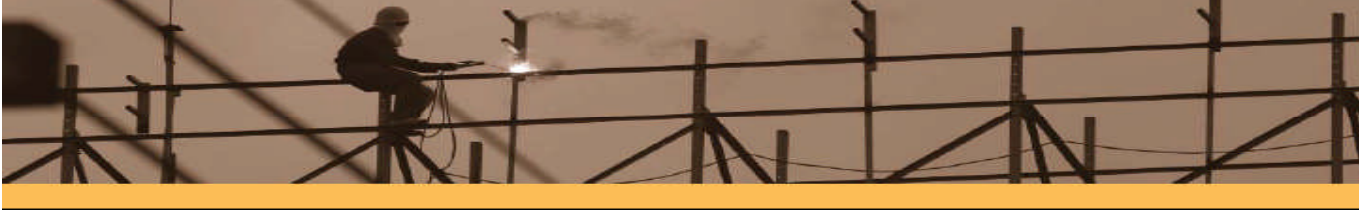
REPORT SUMMARY (Continued)

- The objective of a Foreman Course – Trade Specific and Foreman Course - Generic is to:
 - Give him/her a complete set of communication tools to work productively with job site trades people in order to achieve quality workmanship and on-time job completion.
 - Ensure all Foremen have a fully equipped safety tool-kit – that all mandatory courses are current and incorporate the latest technology.
 - Learn creative thinking, problem solving and decision making techniques.
 - Through group interaction participants will have the opportunity to share experiences and discuss ways the problems were, or could be, solved.
 - Incorporate law and liability modules.
 - Give the participant a sense of achievement upon successful completion of the material.

- As a prerequisite of HRSDC project funding, NSCSC will share the completed report with participating contributors, industry supporters, organizations, government departments and the national Construction Sector Council.



The ICI construction industry has clearly identified need to develop generic training curriculum that is capable of meeting the occupational and skills requirement for the jobsite foreman position, is supported by industry, is suited to the target audience and can be adapted to different trades and sectors within the industry.



REFERENCES

- Canadian Construction Association – Gold Seal Certification
<http://www.cca-acc.com/goldseal/index.htm>
- Cape Breton Island Building & Construction Trades Council
<http://www.cmb.ns.ca>
- Construction Labour Relations – Alberta Association (CLRA)
<http://www.clra.org>
- Construction Management Bureau
<http://www.cmb.ns.ca>
- Construction Owners Association of Alberta
<http://www.coaa.ab.ca>
- Construction Sector Council
<http://www.csc-ca.org/english/>
- Human Resources and Skills Development Canada
<http://www.canada.gc.ca/main>
- Mainland Nova Scotia Building & Construction Trades Council
<http://www.mainlandbuildingtrades.ca>
- Province of Nova Scotia Apprenticeship Training Division
<http://www.apprenticeship.ednet.ns.ca/index.shtml>

