

PRIME CONTRACTOR PREQUALIFICATION AND
PERFORMANCE EVALUATION

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ABSTRACT

The South Carolina Department of Transportation (SCDOT) has noticed a reoccurring problem with contractors performing poor quality work on highway projects. This problem is resulting in additional expense to the Department as well as an inconvenience to the residents of South Carolina. It is obvious that proactive action must be taken to correct this problem before it puts any additional burden on the Department.

The Clemson University Civil Engineering Graduate Department was asked by SCDOT to create a performance-based prequalification procedure that takes past performance into account when prequalifying prime contractors. This new procedure was created by first conducting an extensive literature search to determine the general trend of DOTs across the nation. In addition to this literature search, a symposium was held to allow contractors, SCDOT personnel, and employees from various aspects of construction to provide input on the considerations that should be included in a new prequalification process.

The result of this research is a new procedure that can accurately predict the capability and capacity for a contractor to produce quality highway projects. It is believed that if this new prequalification procedure is implemented and used properly, the quality of work on SCDOT projects should drastically improve.

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CHAPTER I

INTRODUCTION

The quality of highway projects in South Carolina is a major issue within the SCDOT. Some SCDOT projects are being completed late, over budget, unsafely, and/or not in accordance with the plans and specifications. According to the Alabama Building Commission, the need for prequalification of bidders on public works projects at the state level has become apparent due to the number of projects which have been marred by substandard quality, devastating late completion, or cost overruns (Kramer, 2002). Some owners feel that, as a result of the Competitive Bid Law, they are required to accept the lowest bidder regardless of contractor qualifications (Kramer, 2002). Currently SCDOT has no process in place to make contractors accountable for the quality of work delivered on highway projects. While focusing highly on quality, an improved process is needed to reward contractors for high quality work and at the same time, penalize contractors for poor quality work on highway projects. Through extensive research, the research team determined that the best way to address this problem is through a contractor performance evaluation which links project performance to annual prequalification.

Problem Statement

For years, the public owner has been faced with many obstacles in an attempt to make sure that projects are completed successfully. For the project to be deemed successful, it must meet all parameters set forth in the contract documents. Generally, these parameters include schedule requirements, budget requirements, and quality

standards. Prequalification of bidders is the process by which the owner analyzes the potential contractors based on certain criteria, before allowing them to participate in the competitive bidding process (Kramer, 2002).

The SCDOT is required by law to prequalify prime contractors before they can bid on state highway construction projects. The SCDOT desires a quality and performance-based prequalification procedure that rewards contractors that produce quality highway construction projects. The quality of their performance on SCDOT projects during the past year must be a major factor in the annual renewal of their prequalification. The SCDOT hopes that the implementation of a performance-based prequalification process on highway projects will minimize additional costs and burden to the department. In addition to these benefits to the department, a performance-based prequalification procedure will also offer benefits to the contractor. The main benefit can come in the reduced risk of contractor bankruptcy and less competition.

Objectives and Scope of the Research

The overall objective of the research is to develop a prequalification methodology that will allow the SCDOT to effectively evaluate the capability and capacity of a contractor to successfully undertake and complete quality highway projects. This prequalification will take place through the use of a performance-based evaluation system. The result of this research is a rating system to help determine qualification for construction contract awards. This system had to be sufficiently comprehensive to identify possible problems with bidding contractors, and, at the same time, relatively straightforward enough to facilitate implementation.

The procedure will be in accordance with the *SC Code of Regulations, Sections 63-300 through 63-306*. The following objectives were identified in this study:

1. Research and identify other states actions at prequalification,
2. Identify the criteria that best measures the contractor's performance of the quality of work in place,
3. Establish a methodology for measuring these criteria,
4. Host a symposium to allow other agencies to provide input on these criteria,
5. Develop a procedure to evaluate the contractor's performance based on these criteria,
6. Develop a way to link a contractor's performance to annual prequalification,
7. Identify criteria that best measures DOT personnel performance on highway projects,
8. Develop a procedure to evaluate the DOT personnel's performance based on these criteria.

CHAPTER II

RESEARCH METHODOLOGY

To gather the information needed for the Prime Contractor Prequalification and Performance Evaluation, several methods were used. First, a formal research committee was formed to help give direction during the research stage of the project. Next, a literature search was conducted to determine what research had already been performed on this topic, and to see the approaches that other states were taking on the same problem. Finally, a symposium was held at Clemson University to gather input from Contractors and SCDOT personnel from all regions of the State, as well as South Carolina Asphalt Paving Association (SCAPA) and Federal Highway Administration (FHWA). From this symposium, an extended research committee was formed for the purpose of gathering input from all aspects of the construction world. This chapter presents in detail the results from each of the research methods listed above.

Research Committee

To help ensure that the research team was meeting the research objectives, a research committee was established of both SCDOT officials and contractors performing work for the SCDOT. This committee represented various aspects of SCDOT including resident engineers, district engineers, research staff, and the SCDOT Legal Department. Table I lists the members that composed the research committee.

This committee was very helpful in guiding the research team and reviewing the work produced by the research team. Periodic meetings were held for approximately two

Table I. Members of the Research Committee

Name	Organization
Lansford Bell	Clemson University
Terry Swygert	SCDOT
Scott Fant	Sloan Construction Company
Greg Peck	SCDOT
Irvin Anderson	Clemson University
David Glenn	SCDOT
Steve Gwinn	SCDOT
Charles Eleazer	SCDOT
Gene Ellison	Cherokee Construction Company
Deborah Durden	SCDOT Legal
Steve Ikerd	Federal Highway Administration

hours each during which work currently underway was discussed. During these meetings, the research committee critiqued drafts of the reports and provided input on corrections that should be made to meet the expectations of SCDOT. In addition to the frequently scheduled meetings, the research committee was in contact with each other by email.

Literature Search

A literature review was conducted to gather information in the area of prequalification and performance evaluation. This search provided insight into the actions that other states were taking concerning this topic. To enable the literature search to get underway, it was divided into four smaller searches. First, information was obtained from the internet addressing other States approaches to prequalification. This

information was obtained from each of the State's Department of Transportation. The majority of these other States were contacted through links on the Federal Highway Administration website (www.fhwa.dot.gov/webstate.htm). This search of other states approaches to prequalification resulted in a general trend. Of the 28 states that were included in this study, it was determined that SCDOT's current approach was in line with most other states. The majority of these state's contractor prequalification processes are based on the contractor's ability to obtain a performance bond. However, there is a growing trend toward a performance-based prequalification system. In addition to searching other DOT's websites, general internet searches were conducted by searching various topics. These searches were conducted by searching various words such as "Prequalification", "Performance Evaluation", and many other combinations of these words.

Next, National Cooperative Highway Research Program (NCHRP) reports were researched to examine new techniques that have been introduced to the highway construction industry. These reports, specifically NCHRP report 10-54, "Quality-Based Performance Rating of Contractors for Prequalification and Bidding Purposes" (Minchin, 2000) provided much insight in the area of performance evaluation. Additional action was taken to obtain a copy of NCHRP report 10-61, "Best-Value Procurement Methods for Highway Construction", however due to ongoing research for this report, the research team was unable to obtain a copy.

The third source of information was from student research for thesis' and dissertations. Specifically, Jeffery Scott Russell's dissertation submitted to Purdue University in December 1988 provided additional information on the topic. This

dissertation titled, “A Knowledge-Based System Approach to the Contractor Prequalification Process”, analyzed the contractor prequalification process and the relevant decision parameters for this process. At the time of Mr. Russell’s research, it was determined that little research had been performed on the topic of contractor prequalification. The reason to the lack of research was due to the fact that owners either do not want to expend their resources to perform prequalification or else they lack the expertise and understanding of how to perform this process effectively (Russell, 1988). The result of Mr. Russell’s research was a Knowledge-Based system, which uses a database to determine if the contractor should be eligible to bid on a project.

Lastly, peer reviewed articles were reviewed to look at new aspects of prequalification. One of these journal articles was titled, “Implementing a Design/Build Prequalification System” (Potter, 1995), and discusses the public sector’s attempt to develop a method and determine appropriate prequalification criteria for the owner to use in evaluating potential design/build project teams. This method allows an owner to identify the differences between teams competing for the same contract. The research determined that the most vital step in producing a quality project is selecting the team with the most qualified personnel (Potter, 1995). Another journal article was titled “Analysis of Client-Satisfaction Factors in the Construction Industry” (Ahmed, 1995) and focused on the factors that clients perceive as being the most important when dealing with contractors. This report states that clients are most likely to be satisfied when their perception of the delivered services meets or exceeds their expectations (Ahmed, 1995). However, several positive experiences can be tarnished by just one bad experience (Ahmed, 1995). In this article, it was identified that there is a direct relationship between

customer satisfaction and six elements. These elements were determined to be time, cost, quality, client orientation, communication skills and response to complaints.

Symposium

When implementing a new procedure such as this, it is very important to obtain “buy in” from the contracting community. To ensure “buy in” from the South Carolina highway contracting community, a statewide symposium was held at Clemson University. The purpose of this symposium was to allow highway contractors, SCDOT personnel, Federal Highway Administration, and South Carolina Asphalt Pavement Association personnel to have input on how a performance-based prequalification procedure should be structured and implemented. In addition to the contractors and SCDOT personnel, two legal professionals and a representative from the Kentucky Transportation Cabinet were in attendance. 28 people were in attendance for the event. Table II lists the participants that attended the symposium.

During the symposium, a few guest speakers were selected to provide information on their areas of expertise. Gene Ellison represented the Carolina’s Association of General Contractors and spoke briefly about SCDOT’s need for a performance-based prequalification system from the contractor’s point of view. Frank Smith, of RPC&R Law, and Deborah Durden, a representative of SCDOT Legal, were there to present potential issues that could arise due to current legal rules and regulations in South Carolina. Robert Lewis of the Kentucky Transportation Cabinet was in attendance and made a presentation which discussed in detail the Kentucky Transportation Cabinet’s logic and reasoning behind their system. Mr. Lewis’ was invited to the symposium to present KyTC’s new performance evaluation system. In addition to presenting KyTC’s

new system, Mr. Lewis shared some insight on Kentucky's need and desire to have a performance-based prequalification system for contractors. In addition to these topics,

Table II. Participants in Attendance at the Symposium

Attendee	Organization
W. C. Berry	SCDOT
Scott Fant	Sloan Construction
David Herderon	South Carolina Asphalt Paving Association
Deborah Durden	SCDOT Legal
David Henderson	Construction Resource Managers (West)
Edward Back	Clemson University
Steve Page	Construction Resource Managers (East)
Steve Ikerd	Federal Highway Administration
Gene Ellison	Cherokee Construction Company
Ben Whetstone	C. R. Jackson Construction
Steve Sease	S & S Construction
Lansford Bell	Clemson University
Greg Peck	SCDOT
Frank Smith	RPC & R Law
Charles Eleazer	SCDOT
Stan Allen	Thrift Brothers Construction
Randy Green	Construction Resource Managers (West)
Mike Sanders	SCDOT
Lee Neighbors	SCDOT
Irvin Anderson	Clemson University
Steve Gwinn	SCDOT
Stan Bland	SCDOT
Herb Cooper	SCDOT
David Glenn	SCDOT
John Davis	Triplett-Peek Construction
Charles Matthews	SCDOT
Robert Lewis	Kentucky Transportation Cabinet
Janeen Putman	Clemson University

other issues such as implementation barriers and the impact this system will have on Kentucky's contractors were discussed.

At the symposium, attendees were divided into four breakout groups to allow for more intimate discussions on topics such as other States' efforts regarding prequalification,

performance elements, incentives and disincentives, and other areas related to implementation of a similar performance evaluation in South Carolina. In addition to these general topics of discussion, several specific topics were covered in the breakout sessions. The objective of the first breakout session was to address the following topics:

1. How should a contractor evaluation and prequalification system in South Carolina be structured?
2. What elements should be included in this process?
3. How should a system executed by contractors to evaluate SCDOT be structured?
4. What elements should be included in this process?

The second breakout session occurred after Robert Lewis's presentation of the Kentucky Transportation Cabinet's performance-based prequalification system. This breakout session was intended to discuss and critique all aspects the Kentucky Transportation Cabinet's system. The following is a list of the topics discussed in this session:

1. What are the strong elements of their system?
2. What are the weak elements of their system?
3. What portions of their system are unacceptable?
4. What needs to be added to their system for it to effectively meet the needs of SCDOT?
5. What implementation barriers will be faced and how can they be overcome to make a system such as this work in South Carolina?
6. How should SCDOT proceed with a trial implementation?

The breakout groups generally consisted of five attendees, one facilitator, and were composed of a combination of employees from different organizations. The information from these breakout sessions was recorded on flipcharts. All ideas or comments were

recorded. Once the symposium was over the flipchart data was transferred to an electronic document. By composing these groups of employees of different professional backgrounds, this allowed for more opinions to be expressed. The summary of the data recorded from the breakout sessions can be seen in Appendix E.

The symposium was a great success and yielded much information on the topic of performance criteria. It lasted eight hours and allowed the research committee to gather input and opinions from several different sides of the highway construction industry. The two breakout sessions were scheduled to last approximately 30 minutes each, but the participants had so many opinions and recommendations that both of the sessions ran over on time. These documents were then distributed to everyone that attended the symposium and once again the attendees were allowed to add new ideas or to expand on existing ideas. Once the document was critiqued by the attendees, the corrections were made and then this document became one of the main sources of information used to create a Performance Evaluation Questionnaire for SCDOT.

During the symposium the participants showed a great deal of interest on the topic of prequalification. By conducting this symposium the opportunity was available to form an extended research committee. This extended research committee was composed of all the participants of the symposium. As ideas were considered and new drafts were composed, they were sent to the participants to be critiqued. The extended research committee is currently conducting a trial implementation of this new performance-based evaluation system. The results of this trial implementation were not available at this time.

CHAPTER III

PREQUALIFICATION

In general, prequalification is the process of reviewing information submitted by the contractor that allows a governing body to determine if the contractor is eligible to perform certain types of work (Minchin, 2000). Prequalification has been described as the determination of the responsibility of each contractor to satisfactorily undertake and complete a certain construction project before the issuing of plans, specifications, and proposals (Minchin, 2000). According to Jeffery Russell, prequalification is the screening of contractors by a project owner, according to a given set of criteria, in order to determine their competence to perform the work associated with a given project (Russell, 1988).

Prequalification is needed to help prevent unexpected problems that may occur during construction. This is done by limiting the bidding to contractors who have been proven to be capable of performing the work. This is usually based on the contractors work experience and/or financial capacity. It is generally easier and more ethical to eliminate the contractor before a bid has been submitted than to wait until the contractor has been declared the low bidder. The topic of prequalification has received very little research considering that it is one of the first things that an owner can do to help ensure the project is completed successfully (Russell, 1988). Two of the reasons for this are that owners normally rely on the surety companies to undertake this task, and many owners are in such a hurry to have the project complete that they do not feel that it is worth the extra effort that must be expended (Russell, 1988). Previous research shows that, on

average, prequalification accounts for about 1% of the total cost of a project, however, the benefits have often been outstanding (Russell, 1996).

While different States choose different methods to qualify contractors for work in their State, most States have similar requirements. In addition to prequalification, all States require the contractor to submit a performance bond (Minchin, 2000). Most states require contractors to submit a performance bond for the entire project amount; however, this is not the case for all states (Minchin, 2000). In the event that the State does not require the contractor to undergo some qualification procedure, qualification is strictly based on the contractor's ability to submit a performance bond. The logic behind this approach is that if a surety company is willing to issue a bond for the contractor, then that is sufficient proof that the contractor is capable of successfully completing a given project (Minchin, 2000). This process normally works well because the surety company requires the contractor to submit an extensive financial report and considers many other factors before granting the request for bonding. However, unlike state DOTs, there is a financial incentive to the surety for correctly evaluating the contractor's capabilities.

Occasionally, States qualify contractors based on their ability to become licensed (Minchin, 2000). While this does tell something about the contractor's construction knowledge, it tells very little about the contractor's ability to deliver a completed project. In many instances licensing requirements are strictly a way of collecting tax dollars and are not indicative of contractor experience. Due to the large amount of variation in licensing requirements and regulations, this is not considered an effective qualifying method (Minchin, 2000).

Advantages of Prequalification

Prequalification of contractors is not intended to remedy all problems that exist in construction, but it clearly does have some advantages. If the contractor is not deemed competent and sufficiently responsible to take on the project, there is not a chance of this contractor receiving the contract, or any other contract of this nature. Likewise, this ensures that any contractor selected to work on highway projects is capable of completing the project. Occasionally, contractors do have the ability to become bonded, even though they are not qualified for the work. The implementation of a performance-based prequalification procedure will allow these contractors to be eliminated before they are awarded a contract they cannot successfully complete. Another advantage is that prequalification reduces the number of contractors bidding on a project from a large number of parties from all disciplines, to a smaller number of parties that are all specialized in the same area. By reducing this selection to a smaller number of competent contractors, the costs associated with bid solicitation are decreased. In addition to cost, the time required to select a contractor is also decreased due to the smaller number of choices. Lastly, and possibly the most important advantage to a prequalification process is that it removes the bias to accept the lowest bid. In the past, rules and regulations required the Department to award the contract to the lowest responsive bidder regardless of experience or qualifications. A prequalification procedure will ensure that the lowest bidder is qualified to perform the work required for the project.

In addition to the owner, a prequalification process also has benefits to the contractor and the surety company. An effective prequalification procedure can allow

contractors to optimize their rate of return on projects. This is because a prequalified contractor should be familiar with work that is required for the project, therefore he/she should not be expending resources on work they are not capable of performing effectively. When all bidders have been prequalified, the contractors are assured that most bids represent realistic costs to complete the work, therefore this prevents unqualified contractors from introducing unrealism into the bidding process. Since prequalification reduces the size of the playing field, each contractor has a higher probability of being awarded the contract. The main advantage to the surety company is the reduction of risk. By prequalifying the contractor, the odds of the contractor performing unsatisfactory work are decreased, thereby minimizing the chance that the surety company will have to cover the performance bond.

Disadvantages of Prequalification

As expected, anything that has advantages will not come without disadvantages, and this holds true with a prequalification procedure. Since a performance-based prequalification system would require the contractor to complete time-consuming paperwork, some well-qualified contractors may feel that it is not worth the extra time and energy and take their expertise to the private sector. This could result in higher contract prices and lower participation from the more experienced contractors. To properly benefit from this procedure, additional screening meetings will need to be held with the contractor and the DOT. This is an additional burden to the contractor, as well as a greater workload for the DOT. Since the contractor would have to be qualified by a team of individuals, it is difficult to make a decision without having a biased opinion or

introducing a subjective point of view. While it appears that most of the disadvantages are because of additional workload on the DOT officials, there is also one main disadvantage for the contractor. This prequalification could limit the contractor's ability to expand into new areas of construction. Since this process ensures that selected contractors would be well experienced in a particular area of construction, newcomers to that area of construction would never be awarded the contract. This would result in a small number of contractors that always get the contract for that particular type of work. There are also high costs associated with developing and implementing a prequalification procedure that is based on past performance. With this development process comes the burden of creating a questionnaire that covers all of the required topics but at the same time minimizes the subjectivity. As mentioned earlier, since the playing field is reduced, there is a chance that the project will have a higher markup.

CHAPTER IV
INTERESTING APPROACHES TO PREQUALIFICATION
TAKEN BY OTHER STATES

When researching the current trends in prequalification the first step was to collect prequalification applications from various states. Once these applications were collected, they were reviewed and their procedures were compared. Most of these instructions are between 5 and 20 pages and contain information such as the general purpose, definitions, deadlines for application, bonding information, renewal information, insurance requirements, and subcontractor information. In addition to the instructions, most applications included an extensive section of questions for the contractor to answer. These questions were related to contractor experience, previous construction projects, financial information, bonding, equipment inventory, liquidated damages payouts, breach of contract information, prequalification denial, debarment, and key personnel information. Many of the questionnaires were somewhat subjective and intended to be answered with simply a yes or no response. Table III presents a summary of the interesting aspects of other states prequalification applications that were reviewed for this report. Table IV lists some of the research team's comments when reviewing these applications.

Table III. Interesting Aspects of Prequalification Procedures in Other States

State	Interesting Point
Alabama	Requires project info and contract amount for last 30 projects or five years.
Arizona	New firms can only be prequalified for five times their net worth.
California	Only asks type of work, bonding, and equipment questions.
Colorado	Projects over \$500,000 require CPA approval, under \$500,000 does not.
Connecticut	To be considered, contractor must have engaged in business under the name seeking approval for a minimum of one year.
Delaware	Prequalification strictly based on ability to be bonded.
Florida	Very extensive equipment section, requires construction record last three years.
Georgia	Prequalification not required for projects less than \$500,000; requires three letters of recommendation if contractor has not performed work for DOT in the last five years.
Indiana	For projects over \$1,000,000, financial statement must be approved by CPA. For projects \$200,000 to \$1,000,000, financial statement must be reviewed by CPA.
Kansas	Includes financial questionnaire, experience questionnaire, out-of-state contractor questionnaire.
Maine	Prequalification not required if project is less than \$150,000.
Michigan	CPA audited financial statement for prequalification over \$200,000. Bank and account information for prequalification up to \$200,000.
Missouri	Each contractor must be prequalified for each type of work to be performed.
New Hampshire	Requires 100% contract bond if low bid exceeds \$25,000. If prime contractor is debarred, the term of debarment will last 36 months.
New Jersey	Very good prequalification procedures, lots of equations.
New York	Required for projects \$10,000 or more, or when advised by DOT.
Oregon	Similar format as most with more emphasis on contractor's experience.
South Carolina	Prequalification required for anyone acting as prime contractor. Contractor not eligible if ever failed to complete a SCDOT project.
Utah	Lists equations to determine the prequalification amount. Two prequalified contractors can merge and bid on one project. Contractors wishing to bid on heavy highway projects in excess of \$500,000 must be approved prior to prequalification.
Virginia	This application includes two sections. One for the contractor and one for the contractor's CPA. Due to its complexity, it also contains a checklist.

Table IV. The Research Team's Comments About These Prequalification Procedures

State	Comments
Alabama	Must show GC license when bid exceeds \$50,000.
Arizona	Contains both qualitative and quantitative questions.
California	Only concerned with type of work and qualitative info.
Colorado	Instructions are very detailed, many qualitative questions.
Connecticut	Instructions explain everything in detail, 48 pages.
Delaware	Mostly composed of financial information.
Florida	Very concerned with finances, equipment, and organizational structure.
Georgia	Includes a section for contractor and a separate section for subcontractor.
Indiana	Contains an extensive qualitative experience section.
Kansas	Includes an experience section as well as a quantitative financial section.
Maine	Requires contractors to become prequalified every three years. Even mix of qualitative and quantitative questions.
Michigan	Very concerned with experience of key personnel.
Missouri	Very limited financial section.
New Hampshire	A joint qualification rating is offered so two or more contractors can merge and work on one project.
New Jersey	Prequalification based on a performance evaluation system.
New York	Mostly concerned with recently completed projects.
Oregon	Extensive experience section.
South Carolina	Very detailed questionnaire, a heavy focus on quantitative info.
Utah	This state lists a formula to determine the maximum prequalification amount.
Virginia	Requires contractors to be prequalified, regardless of contract amount.

Systems Utilized in Other States

Many states take an approach to prequalification similar to that of SCDOT. This approach is generally broad and is not based on an evaluation of past performance. They focus heavily on the following:

- Financial statement of the contractor including equipment inventory
- Years in business and years experience as a general contractor
- Details on major projects completed
- Experience of personnel
- Failure to complete projects
- Disqualification or failure to be prequalified
- Contactor's ability to become bonded.

In a recent survey conducted by the Federal Highway Administration, it was determined that, of the states that replied to the survey, there were 12 states that do not currently have a formal contractor prequalification process. Many states such as California do have an indirect prequalification process which is provided through contractor licensing and bonding requirements (www.fhwa.gov). In rare instances, public hearings may impact the contractor's ability to receive an award of contract. Currently the state of Mississippi has no formal prequalification procedure, however, they do reserve the right to implement such a process on special projects or specialty items (www.fhwa.gov). The state of New Mexico also has no formal contractor prequalification procedure required for bidding on projects. However, New Mexico does have a qualification system which is only for the purpose of registration and to determine bidding capacity (www.fhwa.gov).

In the same Federal Highway Administration survey, 34 states admitted to having a formal prequalification process for the purpose of bidding on future projects (www.fhwa.gov). Of these 34 states, all but 7 agreed that contractor performance was a key element in the determination of non-responsive bidders or in the adjustment of ratings. Of these 7 states Alabama, Colorado, and Connecticut say that the only criteria used to determine a non-responsive bidder is financial standing (www.fhwa.gov). Only a few of these 34 states admitted to having a performance-based prequalification procedure. Some of the states with such a procedure were New Jersey, Kentucky, Maryland, Missouri, and Utah (www.fhwa.gov).

While most states have experienced problems with contractor performance in the past, only a few states have taken action by creating new and innovative techniques to solve these problems. Many states have decided that the implementation of a performance-based evaluation system could drastically improve the quality of work on highway projects. Most of the performance evaluation systems reviewed in the literature offer incentives for high-quality performance and also have penalties for poor-quality work. Many of these incentives are in the form of increased bidding capacity on highway projects. Most states feel that offering an incentive for performing quality work gives the contractor motivation to complete the project to the best of his/her ability (www.fhwa.gov). At the same time, they feel that penalizing contractors for poor quality work will encourage them to perform their best (www.fhwa.gov). Of the states that have implemented similar systems, the following states have implemented systems that the research team feel are worthy of acknowledging:

- Missouri
- Maryland
- Utah
- New Jersey
- West Virginia

The states listed above have implemented innovative approaches at prequalification. This chapter will go into detail and explain the unique aspects of these states prequalification processes.

Missouri

In January 1998, the Missouri Highways and Transportation Commission (MHTC) replaced their outdated, subjective performance evaluation system with a new questionnaire rating system (www.modot.state.mo.us). This new rating system was developed with input from the contractors, and was designed to emphasize the main areas of the MHTC Specifications (Minchin, 2000). The questionnaire is divided into sections that correspond to the specifications. For each division there is a question that is assigned to each of the following categories: Quality, Prosecution and Progress, Contract Compliance, and Safety. Each category is weighted differently based on importance to the project. Once the evaluation is complete, the contractor receives a rating, which is a weighted average based on the amount of the contract. The ratings are one of the following five categories: Outstanding, Above Average, Average, Below Average, and Unacceptable. To determine the category ranges, first the annual data for all contractors are recorded and fitted to a normal distribution. The average rating is assigned to the

plus- and minus-one standard deviation range. Above average is considered between plus-one and plus-two standard deviations. Any rating above plus-two standard deviations is considered outstanding. Similarly, the remaining two ratings, below average and unacceptable, are assigned to the other side of the normal distribution.

Missouri offers a stepped discipline process for dealing with unsatisfactory performance. The first year that a contractor receives an Unacceptable rating, the firm is placed on probation. A second Unacceptable rating places the firm on suspension for one year. A third Unacceptable rating debars the contractor from bidding as a prime contractor for a period of 3 years. At any time if the disciplined contractor achieves an average rating in all categories, the firm is reinstated to good standing and the previous history is cleared (www.fhwa.gov).

Maryland

The Construction Section of each district in the State, on an annual basis, rates all contractors who have performed work in their district (Minchin, 2000). However, Maryland does not relate this grade to a bid limit in any way (www.mdot.state.md.us). The project engineer who was assigned to the project rates the contractor. The ratings for the contractor are collected for each district in which they performed work and are averaged. This gives the contractor a grade for the entire state. This grade ranges between zero and one and is based on the following nine criteria:

- 1) Competence of Personnel

- 2) Public Relations
- 3) Quality of Work
- 4) Overall Administration
- 5) Cooperation
- 6) Adherence to Safety Practices
- 7) Sub-Contractors
- 8) Equipment
- 9) Contract Time.

Each of these factors has been broken down into several smaller sub-factors and is given a grade between 1 and 10. This grade is then multiplied by its weight factor to determine a numerical grade between zero and one. Once the grade is tallied the contractor is given a letter grade from A to F.

This numerical grade is combined with the grades from the past three years to determine a four-year average. This average allows the contractor to receive a more stable grade over a longer period of time. The individual grades are compared to the averages and then checked for trends. The individual project data are then plotted against these trends to check against biases against the district or Project Engineer. At the end of the year, the contractor receives a "Report Card" that informs the contractor of its grade.

This evaluation system provides an incentive to the contractor for maintaining a good grade. If the contractor starts the project with an "A" grade, the contractor can request another evaluation after 3 months have passed. If the contractor receives another "A" grade, the contractor is rewarded by having the 5% retainage for that project waived.

If the contractor is the low bidder and has a “D” grade, that contractor is called to attend a meeting with the DOT officials. The DOT officials then have the right to reject the contractor’s bid or have the contractor explain the grade. If the DOT officials decide to allow the contractor to carry on with the project, the retainage can be raised to as much as 10%.

Utah

The Utah Department of Transportation has implemented a new procedure that allows the Project Engineer to evaluate the contractor (Minchin, 2000). The evaluation is made up of 76 questions pertaining to contractor project performance. The questions cover the topics of schedule performance, project management, reporting and documentation, Disadvantage Business Enterprise compliance, quality of work installed, and subcontractor performance. To minimize the amount of subjectivity, the project engineer must choose between “Yes”, “No”, and “NA” for the answers. Each question is weighted equally and is worth one point. The contractor’s score will represent the amount of positive responses recorded by the evaluator. The Department is also considering adding a Project Difficulty Factor that takes into account the difficulty of the project.

The evaluation takes place at predetermined times throughout the project. By performing the evaluations in this manner, UDOT hopes to improve the contractor’s

communication skills while allowing the contractor to improve perceived areas of weakness.

New Jersey

New Jersey has implemented an evaluation process that uses an incentive plan to reward the contractor for above satisfactory performance, and also penalizes the contractor for below satisfactory work (www.state.nj.us/transportation/). The performance evaluation is based on a 5-point system with 5.00 being the best score and 1.00 being the lowest score. The contractor is evaluated first to determine an initial rating. This rating is determined by the resident engineer every six months, the dates of the evaluations are January 1 and July 1. If the contractor scores below a 3.00, a corrective action plan must be submitted to the Department to explain what type of corrective action will be taken to resolve the issues causing the low rating. The contractor then has a chance to correct the problems before the next evaluation period. At the time of the next evaluation, if the contractor fails to bring his rating up above the 3.00, the contractor will be suspended from bidding in the current type of work that caused the unsatisfactory rating.

At project completion the interim ratings are combined to determine a final rating for the entire project. This final rating is used to determine what incentive, if any, the contractor will receive. The incentive will be a monetary payment based on the overall bid amount of the project. This payment will range from 0% for a final score of 3.00, to a 5% bonus payment for a perfect score of 5.00.

West Virginia

In West Virginia a new program has been established in an attempt to improve the quality of work on highway projects (www.wvdot.com). This new program is called the West Virginia Contractor's Licensing Law to Support Quality Construction. This program requires that contractors first have a license issued by the Secretary of State before they are eligible to become prequalified. This license will be based on the following criteria:

1. Payment of Bills
2. Payment of Taxes
3. Payment of Worker's Compensation
4. Adherence to Davis-Bacon pay scales
5. Experience in the type of work licensed.

CHAPTER V
THE KENTUCKY TRANSPORTATION CABINET'S
CONTRACTOR EVALUATION SYSTEM

While conducting the literature review, it was determined that The University of Kentucky had created a very comprehensive performance-based prequalification procedure for the Kentucky Transportation Cabinet. This procedure considered more parameters than most other states and was the most the only one to include an evaluation of DOT personnel. After meeting with the research committee and presenting the findings of the literature review, it was determined that KyTC's format was most similar to what was needed for SCDOT. After this decision was made, the research team adopted the KyTC's procedure and focused completely on altering it so that it best fit the needs of SCDOT. The following chapter will discuss in detail the findings of the KyTC's performance-based prequalification procedure.

The performance of contractors in highway construction is a significant area of interest to all highway departments. With a high focus on quality, an improved process is needed to reward contractors for quality work and to penalize them for poor quality work on construction projects (Hancher, 2001). This is a summary of The University of Kentucky's efforts to create a quality-based annual prequalification process and to develop a means for evaluating the performance of the contractors for their work with the Kentucky Transportation Cabinet (KyTC). While conducting this study, the University of Kentucky had the following objectives:

1. identify the primary elements of performance that indicate the quality of the work achieved by contractors on the KyTC construction projects,
2. develop a process for measuring these elements,
3. develop a quality performance evaluation system for contractors' performance on KyTC construction projects,
4. develop a data collection and reporting system,
5. develop a method for utilizing the contractor quality performance evaluation system in the Cabinet's annual contractor prequalification process.

Under the current prequalification process used in Kentucky, any in-state contractor, or foreign contractor with a Certificate of Authority, may file an Application for Certificate of Eligibility to become prequalified. To be prequalified the contractor must complete the entire application, which is broken into the following sections:

1. Type of Work Requested
2. Equipment Available:
 - a) Owned or Leased Under Purchase Agreement
 - b) Leased Only
3. Experience Questionnaire:
 - a) Major Contracts Awarded in Past 3 Years
 - b) Active Certificates of Eligibility
 - c) Principle Officers, Managers and Superintendents
4. Financial Data:
 - a) Accounting Questionnaire
 - b) Organizational Information
 - c) Financial Statement
5. Applicant's Determination of Financial Capacity / Transportation Cabinet's Determination

In addition to the prequalification portion there is also a performance evaluation portion. The performance evaluation form has two sections with the first section weighing approximately three times as much as the second section. The first section contains 10 questions related to the primary work requirements and working relations on the project. The title of this section is “Contractor Work Performance” it addresses topics such as contractor quality of work, job closeout activities, meeting of contract dates, and several other aspects of contractor work performance. The second section has seven questions and is related to the contractor’s personnel, equipment and organization on the project. The title of this section is “Contractor Project Management and Administration”. It addresses topics such as project technical staff, project craft workforce, jobsite housekeeping, and several other aspects of contractor project management.

All projects are evaluated by the Resident Engineer at least once per year and at the end of the project. To minimize the amount of subjectivity in the evaluation, the responses are limited to a range from one, which implies unacceptable performance, to five which implies excellent performance. The average rating is four and anything less than this value is considered substandard. The use of this rating scale allows the contractor’s performance to be quantified by a single value through a series of calculations. Each year, the prime contractor is assigned an annual performance rating that is a summary of their performance on all projects on which they worked during that year. This annual performance rating is calculated by determining a weight for the work performed by the contractor (based on the ratio of cost of work performed to the total cost of the project) and multiplying it by the performance rating for that project.

As mentioned above, the KyTC's system also allows the contractor to evaluate the KyTC on their cooperation with the projects for the year. This evaluation is composed of 16 questions that address the topics of quality of project documents, reviews and approvals, response to requests, interaction with all parties involved with a project, personnel assigned to project, inspection, conflict resolution, payments and change orders. This evaluation is performed by the Project Manager for the prime contractor at the end of the year and at the end of the project. The rating scale is much like the one used for contractor evaluation. The results of these evaluations are used by the districts and central office to address problems perceived by the contracting community. Although these evaluations are optional, the Cabinet anticipates significant contractor participation in the rating system.

CHAPTER VI

CURRENT SCDOT PREQUALIFICATION PROCESS

Currently the SCDOT requires that all persons, firms, or corporations that are interested in bidding as the Prime contractor for construction work on highway projects must be prequalified prior to beginning the project (www.scdot.org). No bids will be considered except for those persons, firms, or corporations that have been prequalified. This prequalification is based on a number of factors predetermined by SCDOT including the following: a verified showing of experience, a responsibility record, and the amount and type of equipment available. Before the prequalification can take place the applicant must submit a sworn statement to the SCDOT. This statement must be submitted on the required form provided by the SCDOT and must address all topics included on the form. The sworn statement requested by the SCDOT shall show the following:

1. The experience of the applicant in handling the character of work in which it desires to become an eligible contractor;
2. Description of the equipment owned or leased by the applicant;
3. List of references giving names of responsible persons having knowledge of the applicant's character, experience and capabilities;
4. Such other information as may be called for in the Department's form.

Contractors that are applying for prequalification for the first time must file their statements a minimum of seven days before the date on which they desire to become qualified for bidding. After all of these requirements have successfully been met, the SCDOT will consider the applicant for qualification. If the applicant is approved for

qualification, the contractor will receive a Prime Contractor's Prequalification Certificate, which is proof that the contractor has been prequalified. This certificate will contain the date issued and the date of expiration. In addition to this certificate, the contractor's name will appear on the SCDOT's prequalified list, which is a list that contains all the names of contractors eligible to submit bids for SCDOT projects.

Contractors who have failed to complete a project for the SCDOT in the past will not be allowed to become qualified as eligible. However, this does not ban the individual from serving as an employee of another eligible contractor. The Department has the right to disqualify any contractor whose conduct shows incompetency or irresponsibility at any time without notice. Any contractor who performs unsatisfactory work, or whose progress on a SCDOT project is not up to expectations will not be allowed to perform additional work for the SCDOT. All information pertaining to SCDOT's current prequalification process can be seen in the SC Code of Regulations, Chapter 63, Article 4, Sub-article 1, Prequalification of Bidders, R63-300 through R63-306.

CHAPTER VII
PROPOSED SCDOT CONTRACTOR PERFORMANCE-
BASED PREQUALIFICATION PRECEDURE

The major goal of this research project was to develop a performance-based prequalification system that allows SCDOT to evaluate the performance of contractors performing work on highway projects in South Carolina. This evaluation process will be summarized annually by assigning a numerical rating to each contractor. The numerical rating from this evaluation will then be used to prequalify contractors for future SCDOT projects. Due to the complexity of some SCDOT projects, more complex projects will require a higher score to allow contractors the opportunity to submit bids.

The following procedure was developed by the research team at Clemson University to help mitigate the problems that are currently experienced by SCDOT. After examining many different states approaches at prequalification it was determined that the Kentucky Transportation Cabinet's procedure was the most comprehensive and well suited to meet the desire of SCDOT. This decision was made based on the extensive parameters that are considered in KyTC's process. Once it was determined that KyTC's system was the most comprehensive, it was adopted and altered to best meet the needs of SCDOT.

To determine what aspects should included in SCDOT's new procedure, the first step was to identify what parameters that need to be included to accurately define a contractor's performance. In addition to identifying these parameters, additional research

was performed to identify the elements which can be used to define these parameters. The data was collected at the symposium during one of the breakout sessions. Table V is a summary of these parameters and the elements used to evaluate these parameters.

Table V. Summary of Contractor Evaluation Parameters and Criteria

Evaluation Criteria	Evaluation Based on the Following:
Financial	Balance sheet References (bank and trade) Verification of non-highway backlog
Management	Public relations Communication/partnering Personal qualifications
Performance	Project evaluation rating Quality Milestone completion Environmental compliance Claims history Failure to meet specifications Frequency of rework Frequency of late completion Number of claims submitted Frequency of liquidated damages
Equipment	Value of equipment Type of equipment Amount of equipment
Safety	Workman's compensation modifier rate Number of job site accidents Number of safety violations
Existing Qualification	Prequalification within specific areas License of specific types of work License of certifications in other states

Performance-based Evaluation Process

The contractor will be evaluated on each active project at least once a year or on completion of the project. Evaluations except for one at the end of the project will coincide with the partnering workshops on the project. The contractor's evaluation will be performed by the resident engineer assigned to that project. The evaluation will be composed of two sections. The first section is titled, "Contractor Performance" and focuses on the contractor's performance, project management skills, personnel, equipment, and organization on the project. This section consists of 22 equally weighted questions and allows the resident engineer to assign a rating to each question from "1" to "5", with a "1" being extremely poor or unacceptable and a "5" being outstanding performance exceeding project requirements. Any question earning a 1, 2, or 5 will require the resident engineer to include a comment. By requiring a comment for questions earning these responses, the SCDOT hopes to eliminate problems that may arise during the appeals process.

The second section will be titled, "General Comments" and will give the resident engineer an opportunity to comment on the contractor's strengths and weaknesses. This section will not account for any of the weight of the Total Evaluation Rating, it is simply for the resident engineer to express any thoughts that were not covered in the first section. After each question space has been provided for the resident engineer to comment on anything related to that question. While these comments will not be used to help determine the evaluation rating, they are there simply to help explain the Resident Engineer's decision. A copy of this contractor's performance evaluation form can be

seen in Appendix B. Instructions for completing this contractor's performance evaluation can be seen in Appendix A.

To allow an incentive to the contractor for outstanding performance, it was determined that an excellent score would be "4" and a score of "5" would be assigned to areas that deserve an outstanding response. To reward contractors for outstanding performance, the evaluation system will be based on a four-point scale. The use of this type of scale will result in a maximum possible score of 125%. This 25% increase is the result of earning a "5" on the four-point scale. Since the system is based on a four-point scale, the result is a $5/4$ or 125% as the rating on that project. The use of this format will allow the contractor's performance evaluation to be linked to maximum bidding capacity in the future, if this is pursued in future research projects. An adjustment factor will be applied based on project difficulty.

If the contractor is performing multiple projects in the state simultaneously, each project rating shall be multiplied by an adjustment factor to account for the different project's weights. This adjustment factor will be calculated by dividing the individual project contract amount by the total amount of all contracts being performed by the contractor on Highway projects, in the state of South Carolina. This is simply a weighted average. After each project rating is adjusted by the adjustment factor, the rating shall be referred to as the Overall Contribution (OC). This Overall Contribution is the contribution that each project makes toward the Annual Evaluation Rating. Once all of the project ratings have been adjusted, the Overall Contribution for each project can be added together to determine the Annual Evaluation Rating (AER). This rating will be expressed as a numerical value ranging from one to five and will be measured on a four-

point scale. In addition to the numerical value, the rating shall also be expressed as a percentage.

This Annual Evaluation Rating shall be used to qualify contractors for bidding on future projects. This will be done by assigning a minimum Annual Evaluation Rating for each project. The more complex the project is, the higher the minimum rating shall be. For the contractor to become eligible to bid on that project, their Annual Evaluation Rating shall be no lower than the one assigned to that project. For example, bridge work may require the contractor to have a higher rating than clearing and grubbing. The minimum Annual Evaluation Rating needed to bid on certain projects will be based on the complexity of the project. This minimum rating assigned to each project will be determined by the SCDOT.

New contractor's, who have never performed work for SCDOT, will not be assigned an Annual Evaluation Rating (AER) until they have been evaluated on a SCDOT project, and will not be restricted in bidding.

Appeals Process

The following paragraph lists the necessary steps that the contractor must complete in order to appeal an Annual Evaluation Rating. This appeals process was developed by the research committee with the assistance of Deborah Durden, a representative of SCDOT Legal.

The contractor may appeal the Annual Evaluation Rating ("AER") within 15 days of receiving the rating. The appeal must in writing and submitted to the Director of Construction ("DC"). Upon receipt of the appeal, all the rating data on which the AER was based will be transmitted to the contractor. The DC, or his designee, will meet with

the contractor to discuss the data within 30 days of receipt of the appeal. Within 15 days after the meeting, the DC will issue a written decision to uphold or modify the contractor's AER.

If the contractor is not satisfied with the Director of Construction's decision he may appeal to the SCDOT Executive Director within 30 days of the date of the written decision of the Director of Construction. If a timely request for review is filed, the SCDOT Executive Director or her designee will review the application and all pertinent justification and other material submitted by the contractor as well as other available information. The Executive Director will furnish the contractor with a written final agency decision following the review.

A contractor may seek relief from the decision of the Executive Director concerning the Annual Evaluation Rating by requesting a contested case hearing before the Administrative Law Judge pursuant to S.C. Code Section 1-23-600 and the rules of procedure for the Administrative Law Judge Division. The request for a hearing must be made within 30 days of receipt of the Executive Director's decision.

Mathematical Calculations Explaining the Contractor's Rating

This section explains the mathematical calculations that were used to determine the contractor's Total Annual Evaluation Rating. Table VI lists the contractor's scores for each of the 22 equally weighted questions on the contractor's performance evaluation for Projects 1 and 2. These two sections of the table are independent of each other and represent the scores for two projects that were completed by the same contractor in the same year.

Table VI shows that the contractor had an average score of 3.59 for its performance in Project 1. The same contractor scored an average of 4.14 for its performance in Project 2. To convert these scores to percent, the average scores were divided by 4.0 and multiplied by 100 to account for the four-point grading scale. This results in the percentages of 89.77 and 103.41 for Projects 1 and 2, respectively.

Table VI. Evaluation of Projects 1 and 2

Project 1		Project 2	
Question	Rating	Question	Rating
1	5	1	5
2	4	2	4
3	5	3	5
4	3	4	3
5	2	5	5
6	3	6	4
7	3	7	5
8	5	8	5
9	4	9	4
10	3	10	4
11	2	11	4
12	4	12	3
13	5	13	5
14	2	14	4
15	5	15	3
16	4	16	4
17	3	17	3
18	4	18	5
19	1	19	4
20	5	20	3
21	3	21	4
22	4	22	5
Average	3.59	Average	4.14
Percentage	89.77	Percentage	103.41

Since this contractor has performed two projects in one year, the two scores need to be combined to get a single score that represents the contractor's overall performance for that year. This is done by using a weighted average based on each project contract amount in relation to the total amount of all SCDOT contracts performed by that contractor for that year. Table VII lists a summary of the contractor's evaluation scores, in both numerical values and percentage, as well as the contract amount for that project.

Table VII. Summary of Projects 1 and 2

	Project 1		Project 2	
Contract Amount	\$7,000,000		\$5,000,000	
Annual Rating	3.59	89.77%	4.14	103.41%

Table VII shows that the contractor earned a score of 3.59, or 89.77% for Project 1, which had a contract amount of \$7,000,000. For Project 2, which had a contract amount of \$5,000,000, the contractor earned a score of 4.14, or 103.41%.

Table VIII shows how much each project accounts for based on the weighted average discussed above. This table shows that the total annual dollar amount of all contracts being performed by the contractor for SCDOT is \$12,000,000. Since Project 1 has a contract amount of \$7,000,000, that project accounts for 58.33% of the total dollar volume that the contractor completed for that year. This is determined by dividing the individual project contract amount by the total contract amount performed for that year. The same technique was used to determine that Project 2 accounts for 41.67% of the work performed by that contractor for the same year.

Table VIII. Weighted Averages of Each Project

Total Annual Dollar Amount	\$12,000,000
Project 1, Percentage of Work	58.33%
Project 2, Percentage of Work	41.67%

Table IX shows how the individual project scores are adjusted by the individual project weights to determine a single score for that contractor for that year. This table shows that the contractor scored an annual score of 3.59 for Project 1 which is worth 58.33% of the work being performed by that contractor for that year. To determine the overall contribution that this project makes toward the Annual Evaluation Rating, the Annual Grade, 3.59, must be multiplied by the project weight, 0.5833 or 58.33%. This results in an Overall Contribution of 2.09 for Project 1. When the same calculations are performed for Project 2 an Overall Contribution of 1.73 is calculated. Once the Overall Contribution is calculated for each project, the Overall Contributions are added together to determine an annual Evaluation Rating for that contractor. For this example, the Annual Evaluation Rating was calculated to be 3.82 or 95.48%. This rating directly reflects the performance of that contractor for a single year on all projects completed for SCDOT.

Table IX. Calculation of Annual Evaluation Rating

	Annual Grade	Project Weight	Overall Contribution
Project 1	3.59	58.33%	2.09
Project 2	4.14	41.67%	1.73
	Annual Evaluation Rating		3.82 95.48%

CHAPTER VIII
PROPOSED SCDOT PERSONNEL PERFORMANCE-
BASED EVALUATION PROCEDURE

During the early meetings with the research steering committee, the idea of creating an evaluation system, which allows contractors to evaluate DOT officials for their participation on highway projects, was discussed. The research steering committee decided this evaluation system would provide input to the DOT for quality improvement activities. To aid the research, the Kentucky Transportation Cabinet's Department of Highways evaluation was reviewed. To speed along the process, it was determined that the Kentucky report was very comprehensive and met the needs of South Carolina Department of Transportation, therefore their format was adopted as a starting template.

Procedure

At the end of each year and/or at the end of the project, a representative of the prime contractor, perhaps the project manager, will be asked to evaluate the performance of the SCDOT on the project and submit the evaluation to the Director of Construction. The results of the evaluation will be recorded and checked for patterns. However, at the present time, the impact of these evaluations is not known.

These evaluations will be used by the districts and the central office to determine if quality improvements are needed, if personnel training is needed, topics for discussion at annual meetings with the contractor associations, and for personnel evaluation or other uses as deemed appropriate.

Questionnaire

The questionnaire is composed of 15 questions covering many factors such as the quality of project documents, reviews and approvals, responses to requests, interaction with all parties involved with a project, personnel assigned to project, inspection, conflict resolution, payments and change orders. When developing these questions, special care was taken to minimize subjectivity as much as possible. This questionnaire is attached as Appendix D.

CHAPTER IX

SUMMARY AND CONCLUSIONS

A major area of interest for all highway departments is the performance of the contractors performing work on their projects. In the highly competitive construction industry, the owner's primary objective is to obtain the most value for the money. This value can be measured in numerous ways such as the quality of the work performed, impact on the public, the safety record on the project, or even the length of time required to complete the project.

The main goal of this project was to develop a performance-based prequalification procedure for prime contractors performing work for the SCDOT. To initiate the research a literature search was conducted to determine what methods were being used by other Departments of Transportation. This search concluded that several different methods were being used, but the main problem was minimizing subjectivity in the evaluation. To solve this problem, the evaluation with the least subjectivity, which was developed by the University of Kentucky, was carefully examined and modified to meet the needs of SCDOT. Once implemented, this new procedure will allow SCDOT to identify contractors who are performing unsatisfactory work and eliminate them from bidding on future projects, and in combination with future research projects, reward better performing contractors by granting them a higher bidding capacity.

In addition to the prime contractor evaluation, a second evaluation will take place to allow the contractor to evaluate the performance of the SCDOT on each highway project. It was determined that since the performance of the contractor will be evaluated,

it is only fair for the performance of the SCDOT be evaluated as well. The results will be used by SCDOT for quality improvement activities at the district and central office level.

While performing the research required for this report, the research team determined that the performance-based prequalification procedure that the Kentucky Transportation Cabinet had recently implemented was the most comprehensive in the nation. The research team at Clemson University determined that adopting this procedure as a template would be the ideal starting point in the creation of a similar procedure for SCDOT. Once adopted, the weak elements of the KyTC procedure were identified then altered to meet SCDOT's needs. The combination of this template with the additional information gathered from the experienced attendees at the symposium will result in a procedure that will proactively eliminate future problems for SCDOT.

The symposium at Clemson University provided much insight on how the KyTC's procedure could be altered to meet the needs of the SCDOT. Breakout sessions allowed the participants to express their opinions as to what criteria should be included in a new prequalification procedure. These breakout sessions were composed of professionals from all aspects of construction, and allowed them to provide input and help define the major needs of SCDOT. Once these needs were recognized, the essential elements of the performance-based prequalification procedure were identified by the research team. With help from the extended research committee, which was composed of the participants from the symposium, drafts of the procedure were critiqued and corrections were made accordingly. The result of this research is a performance-based prequalification procedure which analyzes the prime contractor's organization in both a quantitative and qualitative manner.

Now that this new evaluation process has been created, the research team at Clemson University and the SCDOT feel that they have the most complete performance-based prequalification procedure in the nation.

APPENDICES

Appendix A

Instructions for Completing the SCDOT Contractor Performance Evaluation

Overview

The South Carolina Department of Transportation requires that the performance of every contractor be evaluated on every project. To ensure that the evaluations are performed in an objective and consistent manner, each contractor's evaluation must be completed on the required form set forth by the Department.

Scope

All contractors shall be furnished a copy of the completed Contractor's Performance Report for every project for which work has been performed. For projects exceeding twelve months in duration, evaluations will be completed annually at the project partnering session. In addition to these evaluations, the contractor will be evaluated upon completion of the project.

For projects with less than twelve month duration, evaluations will be completed at the end of the project.

Responsibilities

At the Pre-Construction Meeting, the Resident Engineer shall provide the contractor with a blank copy of the Contractor's Performance Report. This will be done to give the contractor insight on the performance requirements needed to score a satisfactory score on the evaluation.

The Contractor's Performance Report will be completed by the Resident Engineer assigned to that particular project at a project partnering session. The final evaluation will be completed upon completion of all required activities, to reflect the quality of the contractor's performance.

Once the contractor's evaluation has been completed, the evaluation must be signed and dated by the Resident Engineer. After the Resident Engineer signs and dates the evaluation it will then be sent to the District Construction Engineer for his/her review. After the District Construction Engineer signs and dates the evaluation, then it will be entered into an electronic database on the SCDOT website.

Directions for completing the Contractor's Performance Report

All information specific to the particular project shall be completed by the Resident Engineer before the evaluation can take place.

The performance evaluation consists of two sections. The first section is titled, "Contractor Performance" and focuses on the contractor's performance on the specific project as well as the contractor's Project Management skills, personnel, equipment and organization on the project. The second section is titled, "General Comments" and gives the Resident Engineer an opportunity to comment on the contractor's strengths and weaknesses. This section carries no weight in the evaluation. The Resident Engineer shall complete both sections for all evaluations, and all questions should be completed or marked "N/A" if the topic is not relevant.

Each question consists of a topic and a section for the Resident Engineer to list their response. The Resident Engineer shall choose the response which best describes the contractor's performance. The response shall range from "1" to "5" with "1" being the lowest rating and "5" being the highest rating.

Time Requirements

For "end-of-project" evaluations, the Resident Engineer has fifteen (15) business days to submit the Contractor's Performance Report to the District Construction Engineer. The District Construction Engineer will then have fifteen (15) business days to review the report and have it sent to the Director of Construction for the appeal application.

An annual summary of the response to each question on the evaluation will be sent to the contractor at the time of annual prequalification.

Appeals Process

The contractor may appeal the Annual Evaluation Rating ("AER") within 15 days of receiving the rating. The appeal must be in writing and submitted to the Director of Construction ("DC"). Upon receipt of the appeal, all the rating data on which the AER was based will be transmitted to the contractor. The DC, or his designee, will meet with the contractor to discuss the data within 30 days of receipt of the appeal. Within 15 days after the meeting, the DC will issue a written decision to uphold or modify the contractor's AER.

If the contractor is not satisfied with the Director of Construction's decision he may appeal to the SCDOT Executive Director within 30 days of the date of the written decision of the Director of Construction. If a timely request for review is filed, the SCDOT Executive Director or her designee will review the application and all pertinent justification and other material submitted by the contractor as well as other available

information. The Executive Director will furnish the contractor with a written final agency decision following the review.

A contractor may seek relief from the decision of the Executive Director concerning the Annual Evaluation Rating by requesting a contested case hearing before the Administrative Law Judge pursuant to S.C. Code Section 1-23-600 and the rules of procedure for the Administrative Law Judge Division. The request for a hearing must be made within thirty (30) days of receipt of the Executive Director's decision.

Comments

Each response that the Resident Engineer scores with a 1, 2, or 5 shall be accompanied by an explanation in the comments section of the evaluation.

Appendix B

South Carolina Department of Transportation
Contractor's Performance Report

Name of Contractor _____
 Contractor's Address _____
 City _____ State _____ Phone _____
 SC File Number _____
 County _____ PCN _____
 Project Number _____
 Type of Work _____ Contract Amount _____
 Start Date _____ Finish Date _____
 Evaluation Date _____

Contractor's performance to be evaluated by the Resident Engineer

Part 1-Contractor Performance

1. Workforce/Work Zone Safety

- 5. ***Safety program, exceeds project requirement.***
- 4. ***Met all project requirements with minimal need for DOT direction.***
- 3. ***Met all project requirements with periodic DOT direction.***
- 2. ***Met all project requirements with constant DOT direction.***
- 1. ***Failed to meet all project requirements and required constant DOT direction.***

Comments:

2. Traffic Control/Public Safety

- 5. ***Traffic control program exceeds project requirements.***
- 4. ***Met all project requirements with minimal need for DOT direction.***
- 3. ***Met all project requirements with periodic DOT direction.***
- 2. ***Met all project requirements with constant DOT direction.***
- 1. ***Did not meet project requirements, accepted with reduced compensation.***

Comments:

3. Timely Completion

- 5. Project requirements completed *before* contract dates.
- 4. Project requirements completed by *all* contract dates.
- 3. Project requirements completed, but *late for some* contract dates.
- 2. Project requirements completed, *but severely late for some* contract dates.
- 1. *Continually and severely late* for all contract dates.

Comments:

4. Environmental

- 5. *Exceeded* requirements of the project, providing *extra effort* to improve surroundings.
- 4. *Met* all project requirements with minimal DOT direction.
- 3. *Met* all project requirements with periodic DOT direction.
- 2. *Met* all project requirements *but required constant* DOT direction.
- 1. *Did not meet* all project requirements *and required constant* DOT direction.

Comments:

9. Field Closeout Activities

- 5. Completed job closeout activities *within 15 days*.
- 4. Completed job closeout activities *within 30 days*.
- 3. Completed job closeout activities *with minor delays but no liquidated damages*.
- 2. Completed job closeout activities *with delays and some liquidated damages*.
- 1. Completed job closeout activities *with major delays and liquidated damages*.

Comments:

6. Office Closeout Activities

- 5. Completed job closeout activities *within 30 days*.
- 4. Completed job closeout activities *within 90 days*.
- 3. Completed job closeout activities *with minor delays but no liquidated damages*.
- 2. Completed job closeout activities *with delays and some liquidated damages*.
- 1. Completed job closeout activities *with major delays and liquidated damages*.

Comments:

7. Coordination and Cooperation with other Contractor(s), Sub(s) and Utilities

- 5. Interaction was *outstanding* throughout the project, and was a *strong contribution* to the success of the project.
- 4. Interaction was *timely and satisfactory* throughout the project.
- 3. Interaction was *adequate, but slightly impeded* the success of the project.
- 2. Interaction was *poor and caused periodic problems* for the project.
- 1. Interaction was *the cause of constant problems and strongly impacted the success* of the project.

Comments:

8. Coordination and Cooperation with DOT and other government personnel

- 5. Interaction was *outstanding* throughout the project, and was a *strong contribution* to the success of the project.
- 4. Interaction was *timely and met the needs* of the project.
- 3. Interaction was *adequate, but slightly impeded* the success of the project.
- 2. Interaction was *poor and caused periodic problems* for the project.
- 1. Interaction was *the cause of constant problems and strongly impacted the success* of the project.

Comments:

9. Partnering

- 5. Interaction was ***outstanding*** throughout the project, and was a ***strong contribution*** to the success of the project.
- 4. Interaction was ***timely and met the needs*** of the project.
- 3. Interaction was ***adequate, but slightly impeded*** the success of the project.
- 2. Interaction was ***poor and caused periodic problems*** for the project.
- 1. Interaction was ***the cause of constant problems*** and ***strongly impacted the success*** of the project.

Comments:

10. Public Relations

- 5. Interaction was ***outstanding*** throughout the project, and was a ***strong contribution*** to the success of the project.
- 4. Interaction was ***timely and met the needs*** of the project.
- 3. Interaction was ***adequate, but slightly impeded*** the success of the project.
- 2. Interaction was ***poor and caused periodic problems*** for the project.
- 1. Interaction was ***the cause of constant problems*** and ***strongly impacted the success*** of the project.

Comments:

11. Claims/Litigation History

- 5. ***No claims, Notices of Intent (NOI), or litigation*** on this project.
- 4. Only had ***NOIs*** and ***all settled through partnering***, and caused ***no delay*** in project.
- 3. Had ***Claims denied in SCDOT claims process or, Dispute Review Board*** and caused ***no delay*** in project.
- 2. Had ***Claims denied in SCDOT claims process or Dispute Review Board*** and caused only ***minor delays*** in project.
- 1. ***Had Claims not upheld in litigation, and caused significant delays in project.***

Comments:

12. **Quality of Work** (including work performed by subcontractors)

- 5. **Exceeded** project requirements, and required **no rework** at SCDOT direction.
- 4. **Met** project requirements, and required **only minor rework** at SCDOT direction.
- 3. **Met** project requirements, but required **moderate rework** at SCDOT direction.
- 2. **Met** project requirements, but required **extensive rework** at SCDOT direction.
- 1. **Did not meet** project requirements, accepted with **reduced compensation**.

Comments:

13. **Quality of Work** (excluding work performed by subcontractors)

- 5. **Exceeded** project requirements, and required **no rework**.
- 4. **Met** project requirements, and required **only minor rework**.
- 3. **Met** project requirements, but required **moderate rework**.
- 2. **Met** project requirements, but required **extensive rework**.
- 1. **Did not meet** project requirements, accepted with **reduced compensation**.

Comments:

14. **Project Supervisory Personnel**

- 5. **Demonstrated extraordinary skill** and **present to direct others as needed**.
- 4. **Demonstrated necessary skill** and **present to direct others as needed**.
- 3. Skill and/or availability **periodically** hindered the meeting of project requirements.
- 2. Skill and/or availability **often** hindered the meeting of project requirements.
- 1. Skill and/or availability **constantly** hindered the meeting of project requirements.

Comments:

15. Project Technical Staff

- 5. *Demonstrated outstanding skill* and *present to direct others as needed*.
- 4. *Demonstrated excellent skill* and *present to direct others as needed*.
- 3. Skill and/or availability *periodically* hindered the meeting of project requirements.
- 2. Skill and/or availability *often* hindered the meeting of project requirements.
- 1. Skill and/or availability *constantly* hindered the meeting of project requirements.

Comments:

16. Project Craft Workforce

- 5. *Demonstrated outstanding skill* and *present as needed*.
- 4. *Demonstrated excellent skill* and *present as needed*.
- 3. Skill and/or availability *periodically* hindered the meeting of project requirements.
- 2. Skill and/or availability *frequently* hindered the meeting of project requirements.
- 1. Skill and/or availability *constantly* hindered the meeting of project requirements.

Comments:

17. Project Organization

- 5. *Enhanced work performance* to meet project requirements, *contributing to the success* of the project.
- 4. *Enabled all work performance* to meet project requirements.
- 3. *Occasionally hindered* work performance to meet project requirements.
- 2. *Frequently hindered* work performance to meet project requirements.
- 1. *Constantly hindered* work performance to meet project requirements.

Comments:

18. Project Submittals

- 5. *Exceeded* project requirements and contributed to the success of the project.
- 4. *Timely, accurate* and in *accordance with project requirements*.
- 3. *Usually* timely, accurate and in accordance with project requirements.
- 2. *Frequently late, inaccurate*, and *not* in accordance with project requirements.
- 1. *Constantly late* with *corrections required*, and *seldom* in accordance with project requirements.

Comments:

19. Equipment quality and condition

- 5. Provided *types* and *quantities* of construction equipment in good working condition that *exceeded* project requirements, and repairs *never caused delays*.
- 4. Provided *appropriate types* and *quantities* of construction equipment in good working order that met the project requirements, and repairs *never caused delays*.
- 3. Provided *appropriate types* and *quantities* of construction equipment that met the project requirements, but required *some* repairs *that caused minor delays*.
- 2. Provided equipment *substandard* in productivity and efficiency requiring *frequent repairs* that caused delays in the project.
- 1. Provided *inadequate* equipment requiring *constant* repair, sacrificing the quality of the work, *and/or causing significant delays*.

Comments:

20. Jobsite Housekeeping

- 5. *Exceeded* project requirements and contributed to *jobsite safety* and *productivity*.
- 4. *Met* all project requirements with *minimal DOT direction*.
- 3. *Met* all project requirements with *periodic DOT direction*.
- 2. *Substandard* requiring *frequent DOT direction*.
- 1. *Inadequate* requiring *constant DOT direction*.

Comments:

21. Project Management

- 5. Project Management skills were *outstanding* throughout the project, and were a *strong contribution* to the success of the project.
- 4. Project Management skills were *excellent* throughout the project.
- 3. Project Management skills were *adequate, but slightly impeded* the success of the project.
- 2. Project Management skills were *poor and caused periodic problems* for the project.
- 1. Poor Project Management was *the cause of constant problems* and *strongly impacted the success* of the project.

Comments:

22. EEO, Davis Bacon Act, and DBE compliance

- 5. Exceeded project requirements for conformance to current rules and regulations.
- 4. *Met* all project requirements with *minimal DOT direction*.
- 3. *Met* all project requirements with *periodic DOT direction*.
- 2. *Substandard* requiring *frequent DOT direction*.
- 1. *Inadequate* requiring *constant DOT direction*.

Comments:

Part Two – General Comments

1. Areas of contractor performance needing improvement:

2. **Areas of performance in which the contractor excelled:**

3. **Additional remarks about the contractor's performance on the project:**

Rated by:

Resident Engineer: _____ **District:** _____
Signature: _____ **Date:** _____

Reviewed by:

District Construction Engineer: _____
Signature: _____ **Date:** _____

Appendix C

Instructions for Completing the SCDOT Personnel Performance Evaluation

Overview

The South Carolina Department of Transportation requires that a Contractor's Performance Report form be completed for every contractor on its construction projects. To support its goal for continuous quality improvement, the SCDOT is requesting that each contractor complete an evaluation of the performance of the Department of Transportation on each project.

Scope

Every contractor may submit a Department of Transportation Report for every project for each area in which work has been performed. Evaluations will be completed at the end of the project. After the evaluation is completed it will be submitted to the Director of Construction.

The performance evaluations will be used by the Department to handle any problems that may arise concerning quality improvements needed, personnel training needed, topics for discussion at annual meetings, and various other uses that are deemed appropriate.

Responsibilities

The contractors shall be provided with a blank copy of the Department of Transportation's Performance Report form, prior to starting the project. This report may be submitted by the contractors upon completion of the project.

Instructions

The performance evaluation shall be completed by a designated representative of the contractor. All questions shall which are applicable to the project shall be answered. If a question does not apply to the project, it shall be marked "N/A" meaning that question is not applicable.

Each question consists of a topic, five (5) descriptors, and a section in which comments can be written in. The evaluator is asked to choose the descriptor that best suits the performance of the Department for that particular question. The numerical rating will be used to calculate the performance rating. The evaluator will also have the option to list any comments that they feel necessary to explain the score.

Appendix D

SCDOT Personnel Performance Evaluation

Name of Contractor _____
 Contractor's Address _____
 City _____ State _____ Phone _____
 SC File Number _____ RCE _____
 Type of Work _____ Contract Amount _____
 Start Date _____ Finish Date _____
 Evaluation Date _____

Evaluation of the DOT performance on this project by the contractor

Part 1 – DOT Performance

1. Quality of Plans and Proposals (including Addendums)

- 5. *Exceeded* contractor requirements *without contractor follow-up* and *in a timely manner*.
- 4. *Met* contractor requirements with minor *need for clarification*.
- 3. *Met* contractor requirements with *moderate contractor follow-up for clarification*.
- 2. Required *extensive contractor follow-up for clarification*.
- 1. *Unsuitable* for contractor's requirements.

Comments:

2. Pre-Construction Submittals Approval (Including shop drawings)

- 5. *Always* approved and returned in a timely manner *without follow-up* required.
- 4. *Approved* and returned in a timely manner with *minor contractor follow-up* required.
- 3. *Usually* approved in a timely manner, but required *moderate contractor follow-up*.
- 2. *Frequently late*, and required *contractor follow-up to maintain project schedule*.

- 1. *Constantly late*, and required *contractor persistence to maintain project schedule*.

Comments:

3. DOT-Provided Control Points, Right of Way, and Permits to Start Work

- 5. Timely and accurate *without corrections* required.
- 4. Timely and accurate *with few corrections* required.
- 3. Timely and accurate *with moderate corrections* required.
- 2. *Late* and required *continual revisions*.
- 1. *Extremely late*, and required *persistent contractor follow up to obtain correct information*.

Comments:

4. Response to Contractor Requests

- 5. *Always* addressed in a timely manner.
- 4. Addressed in a timely manner.
- 3. *Periodically not* addressed in a timely manner.
- 2. *Frequently not* addressed in a timely manner.
- 1. *Constantly not* addressed in a timely manner.

Comments:

5. Coordination and Cooperation with Utilities and other governmental agency personnel.

- 5. Interaction was *excellent* throughout the project, and was a *strong contribution* to the success of the project.
- 4. Interaction was *timely and satisfactory* throughout the project.
- 3. Interaction was *adequate, but slightly impeded* the success of the project.
- 2. Interaction was *poor and caused periodic problems* for the project.
- 1. Interaction was *the cause of constant problems* and *strongly impacted the success* of the project.

Comments:

6. Coordination and Cooperation with General Public (Motorists & Property Owners)

- 5. Interaction was *excellent* throughout the project, and was a *strong contribution* to the success of the project.
- 4. Interaction was *timely and satisfactory* throughout the project.
- 3. Interaction was *adequate, but slightly impeded* the success of the project.
- 2. Interaction was *poor and caused periodic problems* for the project.
- 1. Interaction was *the cause of constant problems* and *strongly impacted the success* of the project.

Comments:

7. DOT Supervisor Personnel (Resident Engineer & District Office Personnel)

- 5. Demonstrated *extraordinary skill* and were available to the contractor.
- 4. Demonstrated *adequate skill* were available to the contractor.
- 3. Skill and/or availability *periodically hindered* the contractor's progress.
- 2. Skill and/or availability *often hindered* the contractor's progress.
- 1. Skill and/or availability *constantly hindered* the contractor's progress.

Comments:

8. DOT Technical Staff (Project Engineers, Inspectors, Materials Personnel, etc.)

- 5. Demonstrated *extraordinary skill* and were available to the contractor.
- 4. Demonstrated *adequate skill* were available to the contractor.
- 3. Skill and/or availability *periodically hindered* the contractor's progress.
- 2. Skill and/or availability *often hindered* the contractor's progress.
- 1. Skill and/or availability *constantly hindered* the contractor's progress.

Comments:

9. Notification of Defective Work

- 5. Always ***Specific*** and addressed in a timely manner.
- 4. ***Specific*** and addressed in a timely manner.
- 3. ***Periodically unclear*** and/or ***not*** addressed in a timely manner.
- 2. ***Frequently unclear*** and/or ***not*** addressed in a timely manner.
- 1. ***Constantly unclear*** and/or ***not*** addressed in a timely manner.

Comments:

10. Inspector Interaction with Contractor's Personnel

- 5. ***Outstanding***
- 4. ***Effective***
- 3. ***Adequate***
- 2. ***Ineffective***
- 1. ***Negative and a hindrance to the project.***

Comments:

11. DOT's Conflict Resolution Process on this project (Formal or Informal)

- 5. ***Outstanding***
- 4. ***Effective***
- 3. ***Adequate***
- 2. ***Ineffective***
- 1. ***Negative and adversarial.***

Comments:

12. Final Inspection Process

- 5. Always ***Specific*** and consistently addressed immediately.
- 4. ***Specific*** and addressed in a timely manner.
- 3. ***Periodically unclear*** and/or ***not*** addressed in a timely manner.

- 2. ***Frequently unclear*** and/or ***not*** addressed in a timely manner.
- 1. ***Constantly unclear*** and/or ***not*** addressed in a timely manner.

Comments:

13. Contractor Payments

- 5. Always ***Timely***, accurate and in accordance with project requirements.
- 4. Timely, accurate and in accordance with project requirements.
- 3. ***Periodically not*** timely, accurate and in accordance with project requirements.
- 2. ***Frequently late, inaccurate, and not*** in accordance with project requirements.
- 1. ***Constantly late with corrections required, and seldom*** in accordance with project requirements.

Comments:

14. Approval of Change Orders

- 5. Always ***Timely***, accurate and in accordance with project requirements.
- 4. Timely, accurate and in accordance with project requirements.
- 3. ***Periodically not*** timely, accurate and in accordance with project requirements.
- 2. ***Frequently late, inaccurate, and not*** in accordance with project requirements.
- 1. ***Constantly late with corrections required, and seldom*** in accordance with project requirements.

Comments:

15. Payment of Change Orders

- 5. ***Timely***, accurate and in accordance with project requirements.
- 4. Timely, accurate and in accordance with project requirements.
- 3. ***Periodically not*** timely, accurate and in accordance with project requirements.

- 2. ***Frequently late, inaccurate, and not*** in accordance with project requirements.
- 1. ***Constantly late with corrections required, and seldom*** in accordance with project requirements.

Comments:

Part 2 – General Comments

1. Areas of DOT performance needing improvement:

2. Areas of performance in which the DOT excelled:

3. Additional remarks about the DOT's performance on the project:

Completed By _____
Contractor's Name _____
Telephone Number _____
Date _____

Appendix E

Summary of Symposium Data

Criteria for Contractor Prequalification by SCDOT

<u>Evaluation Criteria</u>	<u>Evaluation based on the following:</u>
<ul style="list-style-type: none"> • Financial 	Balance sheet References (Bank, Trade) Verification of non-highway backlog
<ul style="list-style-type: none"> • Management 	Public relations Communications/Partnering Personal qualifications
<ul style="list-style-type: none"> • Performance 	Project evaluation rating Quality Milestone completion Environmental compliance Claims Failure to meet specifications Frequency of rework Frequency of late completion Number of claims submitted Frequency of liquidated damages
<ul style="list-style-type: none"> • Equipment 	Value of equipment Type of equipment Amount of equipment
<ul style="list-style-type: none"> • Safety 	Workman's comp. modifier rate Number of job site accidents Number of safety violations
<ul style="list-style-type: none"> • Existing Qualifications 	Prequalification within specific areas License of specific types of work License of certifications in other states

Criteria for Contractor Evaluation by SCDOT

Evaluation Criteria**Evaluation based on the following:**

- | | |
|---|--|
| <ul style="list-style-type: none"> • Environmental | DHEC citations
Fish and Wildlife compliance
Army Corps of Engineers compliance
EPA compliance |
| <ul style="list-style-type: none"> • Safety on specific project | OSHA quarterly reports
OSHA violations
Incidents/100,000 work hours |
| <ul style="list-style-type: none"> • Traffic control | Weekly work zone inspection reports
QMAT work zone inspection reports
Frequency of SCDOT penalties |
| <ul style="list-style-type: none"> • Equipment utilization | Equipment downtime
Equipment maintenance records |
| <ul style="list-style-type: none"> • Timely completion | Completion of critical path activities
Amt. of liquidated damages on project |
| <ul style="list-style-type: none"> • Project Management | Subcontractor scheduling
Expediting
Supplier scheduling
Timely payment
DBE quarterly reports
On time submittals
Davis Bacon compliance |
| <ul style="list-style-type: none"> • Partnering/Public Relations | Timely notification of issues
Cooperation with utility relocations
Cooperation with SCDOT
Cooperation with other agencies |
| <ul style="list-style-type: none"> • Claims/Litigation History | Contractor's explanation of claims
Litigation outcome
Number submitted on project
Number dropped on project
Number resolved on project
Number pushed to litigation
Cost or schedule impact due to claims |

Criteria for SCDOT Evaluation by Contractors

Evaluation Criteria**Evaluation based on the following:**

- Responsiveness
 - Quick answers to questions
 - Timely submittal processing
 - Timely payments and quality measurement
 - Timely final payment/closeout
 - QA/QC tests
 - Approval of change orders

- Utility Coordination
 - Timely notification
 - Effective scheduling

- Personnel Qualification
 - Public Relations
 - Technical expertise
 - Experience
 - Confidence of decisions
 - Enforcement of requirements
 - Cooperation/Coordination
 - Jobsite visit frequency
 - Quality of decisions

- Contract Documents
 - Quality of design
 - Completeness and correctness
 - Clear scope definition

- Safety
 - Awareness/Communication
 - Enforcement
 - Training
 - Safety planning coordination
 - Work zone traffic control
 - Work zone inspections
 - Personal protective equipment

- Partnering
 - Commitment
 - Sensitivity to all parties
 - Follow up of action items
 - Feedback to other parties

- Related Issues and Concerns
 - DOT response to evaluation
 - At option of prime contractor
 - Access to job site
 - Right of way tracts cleared
 - Relocation of utilities

Strong Elements of the Kentucky System

- Level of Detail
- Comprehensive performance report
- Very objective (well defined)
- Defines the minimum requirements for each score
- Small manageable number of questions
- Appeal process
- Weighted system
- Good method for dealing with new contractors
- Reasonable length

Weak Elements of the Kentucky System

- Does not prequalify subcontractors (no capacity)
- Skewed to the high side (average score = 4)
- Not enough emphasis on performance (too much on equipment)
- Only impacts prequalification limit
- Does not identify equipment type (only identifies value)
- Long time lag between evaluation and benefits (10% per year)
- Does not include subcontract work being performed by prime
- No interim evaluation (only evaluated once at end of the year)
- Does not give prime credit for work performed by prime
- Unlimited category too broad
- No method to revoke qualification
- Time window too small, no rolling average
- Areas of qualification not published
- No feedback to surety
- Weak effect on contractor with high capacity
- Does not punish contractors producing poor quality work severely enough
- No verification of non DOT work
- Subcontract work being performed not reported

Implementation Issues

- Consistent training
 - SCDOT and Contractor personnel
- Changes in regulations
 - SCDOT Legal and Legislative liaison support required
- Gradual phase in (pilot program)
 - Create draft forms
 - Encourage feedback
 - Adopt appropriate changes

- Staffing
 - Redistribution of work loads among SCDOT personnel
 - Technology system issues
 - Automation?
 - Key party input
 - Appeal review board

Additional Concerns

Incorporating the claims history of a contractor into the evaluation process may be difficult because the claims may or may not be valid.

The rating scheme should perhaps be structured to limit what a contractor can bid per project rather than the total amount for all projects. More complex projects should require a higher rating.

While one of the strong points of Kentucky's system is its appeals process, it may need to be modified to make it less lenient.

There is a big concern about the need for a rating of SCDOT personnel. How will SCDOT take action? What purpose will the evaluation serve? Should it be optional?

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