

PREQUALIFICATION COMMITTEE
MINUTES – DECEMBER 6, 2010
9:00 A.M. EDT

The following Committee members attended the meeting:

Tiffany Mulligan	Director of Economic Opportunity and Prequalification; Chair and Non-Voting Member
Karen Macdonald	Prequalification Engineer; Committee Secretary and Non-Voting Member
Tony Hedge	Director of Accounting; Voting Member
Mark Miller	Director of Construction Management; Voting Member (Recused himself from voting on second and third agenda items)
Joe Novak	Crawfordsville District Construction Director; Voting Member
Jim Stark	Deputy Commissioner of Capital Program Management; Voting Member
Troy Woodruff	Deputy Commissioner of Operations; Voting Member
John Wright	Director of Highway Design; Voting Member

Also in attendance:

Mike Rowe	Prequalification Auditor, INDOT
Frederic Bartlett	Prequalification Research Analyst, INDOT
John Leming	Prequalification Research Analyst, INDOT
Ted Cuson	Vice President, Superior Construction Company, Inc.
Bob Parker	Burke, Costanza, and Cuppy, LLP
Richard O'Connor	President, RQAW Corporation
Nicolas C. Nizamoff	Stuart & Branigin
Stephen Christian	Stephen J. Christian & Assoc./American Council of Engineering Companies (ACEC)

Marvin Burns	Janssen and Spaans Engineering, Inc.
Joan Widdifield	Contract Administration, INDOT
George Dremonas	Director of Legal Services, INDOT
Anne Rearick	Director of Bridge Design, INDOT
David Holtz	Deputy Commissioner of Design, Project Management, and Technical Support, INDOT
Trevor Mills	Project Management, INDOT
Randy Strain	Staff Engineer, Bridge Design, INDOT
Jim Reilman	Construction Management, INDOT
Gabe Paul	Attorney, Legal Division, INDOT
Mark Ahearn	Chief Legal Counsel and Deputy Commissioner, INDOT
Mahmoud Hailat	Staff Engineer, Bridge Design, INDOT
Will Wingfield	Public Information Officer, Office of Communications, INDOT
Chelsea Kirk	Post Tribune
Ben Ciravolo	Indiana Attorney General's Office
Jennifer Jansen	Attorney, Legal Division, INDOT
Tommy Nantung	Pavement, Materials, and Construction Research Manager, INDOT
Brad Minnick	LaPorte District Construction Engineer, INDOT
Steve Hauersperger	LaPorte District, INDOT
Bill Meeks	LaPorte District, INDOT
Angie Fegaras	LaPorte District, INDOT
Don Leonard	LaPorte District, INDOT
Tony Zander	Concrete Engineer, Office of Materials Management, INDOT

The Committee reviewed the following agenda items:

1. Adoption of October 7, 2010 meeting minutes
2. Superior Construction Co., Inc. (Superior) – Follow-up on the issue of cracking and closure of Martin Luther King Jr. bridge over I-80
3. RQAW Corporation (RQAW) – Follow-up on the issue of cracking and closure of Martin Luther King Jr. bridge over I-80

PREQUALIFICATION COMMITTEE MEETING
OPEN SESSION
DECEMBER 6, 2010

Ms. Mulligan, Committee Chair, called the meeting to order at 9:04 a.m. EST. She facilitated introductions of all individuals present. All Committee members were present, with the exception of Greg Kicinski. Although Mark Miller attended the meeting, he recused himself from voting on items 2 and 3.

Ms. Mulligan explained the Committee meeting procedures: a representative from INDOT presents the issue first, the contractor is allowed to respond, then Committee members and the audience may ask questions.

1. Adoption of October 7, 2010 Meeting Minutes

Ms. Mulligan called for consideration of the meeting minutes from the October 7, 2010 meeting.

Mr. Woodruff moved to adopt the meeting minutes from the October 7, 2010 meeting. Mr. Stark seconded the motion. All members voted in favor. Ms. Mulligan stated the minutes would be posted on the website.

2. Superior Construction Co., Inc. (Superior) and RQAW Corporation (RQAW)- Cracking and closure of Martin Luther King Jr. bridge over I-80

Ms. Mulligan introduced the agenda items on Superior and RQAW. Agenda Items 2 and 3 are combined as one discussion. The issue was the excessive cracking and closure of the Martin Luther King Jr. (MLK) bridge that was constructed six years ago. This issue has carried over from the September 2, 2010 and October 7, 2010 Committee meetings. She introduced Mr. George Dremonas, Director of Legal Services at INDOT.

Mr. Dremonas recapped the issue. He stated he wanted to correct misconceptions from the last meetings. He stated that for this meeting INDOT will table discussion of possible

remedies to fix the problems with the bridge. He stated there are newly discovered cracks. He also stated that the Office of Bridge Design withdraws the previous recommendation to suspend Superior and RQAW for one year and instead recommends to suspend both Superior and RQAW until each company submits a QA/QC plan and INDOT approves the plans.

Mr. Dremonas showed a Powerpoint presentation while recapping the cracks found; diagonal shear cracks on the girders, longitudinal cracks on the girders, vertical cracks in the girders at the pier, and deck cracking.

Mr. Demonas stated there are some misimpressions or myths about this issue that he will debunk:

- Myth #1 is that INDOT is enforcing a warranty. The truth is this is not about a warranty. This is about a latent (hidden) defect in the structure. The contractor is still responsible for a defect as specified in Standard Specification 107.22, which indicates that INDOT may hold a contractor accountable for a latent defect regardless of when it was discovered.
- Myth #2 is that INDOT approved the concrete mix for the girder. The truth is that the inspection, checking, and testing by INDOT does not relieve the contractor of responsibility. INDOT approves mixes that are within a specified range.
- Myth #3 is that INDOT approved the girder. Again, the inspection, checking, and testing by INDOT does not relieve the contractor of responsibility.
- Myth #4 is that the bridge does not need to be demolished. The truth is that salvaging the bridge is not an option. A band-aid solution does not work because there are too many problems. Even if it could be fixed, INDOT would have to do extra maintenance (epoxy injections) over the life of the structure.
- Myth #5 is that the repairs to the bridge will last forever. The truth is that INDOT does not want the extra maintenance and monitoring of the bridge that comes with repairs. The repair materials will erode over time.

Mr. Dremonas stated there are so many different problems with the MLK bridge, including shear, longitudinal, vertical, deck, thermal, freeze/thaw, and Delayed Ettringite Formation (DEF) cracking. INDOT might consider an epoxy fix in some cases but not for the MLK bridge. He stated there are practical considerations from INDOT's Research and Development and Purdue University. Replacement is the right thing to do.

Mr. Tommy Nantung; INDOT's Pavement, Materials, and Construction Research Manager; discussed additional types of cracks that were found after reporting at the last Committee meeting on October 7, 2010. Thermal cracks were found inside the concrete girders and are generally caused by cooling down the beams too quickly during the manufacturing process. These cracks are perpendicular to the surface. Freeze and thaw cracks have been found

in the flange of the girders. They can be found on the surface of mature concrete members and are due to lack of air entrainment. DEF cracks were found more than one-half inch from the surface in the girders and are generally attributed to curing the concrete at a higher temperature than recommended during fabrication.

Mr. Nantung stated there are too many problems with the structure today, and it has only been in service for six years. He compared the cracks in the structure to cancer, hypertension, high cholesterol, and diabetes in a six year old child. He stated that the child may not die, but the child would need to be monitored regularly for the rest of his or her life.

Mr. Nantung stated that INDOT has to insure the safety for the traveling public. 130,000 vehicles per day travel under the MLK bridge. If the cracks shift and concrete breaks, pieces could possibly fall on vehicles under the bridge. It is a safety concern for the public.

Mr. Nantung stated that epoxy injection can be used only on cracks greater than 0.02 inches. We cannot wrap all girders with epoxy. Water will remain inside the girder. The consequence is that the cracking will get worse. He also stated the girders used lightweight concrete. They will continue to have DEF.

Ms. Anne Rearick, Director of Bridge Design, stated that the design does not meet American Association of State Highway and Transportation Officials (AASHTO) code:

- The appropriate truck load was not applied to the sidewalk.
- The stress in the top of the girder was not below $6\sqrt{f}'c$.
- More care should be taken in the design of bridges that are not ordinary.
- The fillet load was omitted.
- The duct weight was omitted.
- The designer is required to check the load on the bearing pad. It was omitted in the design.
- The pedestrian weight on the sidewalk was omitted.
- There were shear design inconsistencies and the analysis method used was inappropriate for checking the design.
- Validity of the use of temporary supports was not sufficiently documented.
- The design computations do not show evidence of having been checked. Some pages were checked. INDOT requires the designer and checker to initial each page of design computations.

Ms. Rearick stated that the analysis of the structure performed by INDOT determined that the exterior beams are overstressed by eighteen percent. INDOT believes that excessive cracking has allowed for stresses to be redistributed. She stated that ultimate strength is based on equations derived from experimental data. Because it is not possible to know or control how all loads are placed on a structure, INDOT follows AASHTO code which incorporates factors of safety.

Ms. Rearick presented a chart showing load to capacity. The loads on the structure as designed are already greater than AASHTO standards. The effects of adding DEF, freeze-thaw, and thermal cracking caused additional problems.

Ms. Rearick stated that Superior and RQAW talk about the bridge being safe, but INDOT feels the structure is closer to failure. Expected maintenance on a structure is to rehabilitate the structure with a deck overlay in twenty years. The bridge deck should last at least forty years before replacement. Her office recommended the bridge be replaced. She stated that INDOT believes Superior and RQAW are responsible for the defects in the bridge.

Ms. Rearick stated that the load rating done by RQAW shows the bridge has deficiencies.

Ms. Rearick stated that she received the Simpson, Gumpertz and Heger (SGH) report on Friday afternoon, December 3, 2010.

Ms. Rearick stated that her office recommends the one year suspension be tabled and that Superior and RQAW's prequalification be suspended until they submit QA/QC plans and the plans are approved by INDOT.

Mr. Mark Ahearn, INDOT's Chief Legal Counsel and Deputy Commissioner, asked if replacing the bridge is a question that the Committee should be considering.

Mr. Dremonas stated the Committee should consider the recommendation to suspend Superior and RQAW until QA/QC plans are approved by INDOT.

Ms. Mulligan stated that Superior and RQAW now have the opportunity to respond.

Mr. Bob Parker, legal counsel to Superior, read an excerpt from Commissioner Cline's October 7, 2010 letter and stated that Superior was asked to test the structure and report to INDOT. Mr. Parker stated it is irresponsible for the Committee to decide to replace the structure today. He stated that Ms. Rearick spoke about the real world as opposed to the theoretical world. There are no life safety issues with the bridge. The only new issues brought to the Committee today are material issues, such as freeze thaw, DEF, and thermal cracking. Purdue has not finished the analysis and Superior has offered to assist in this. Superior has offered to photograph the structure. There has not been sufficient investigation and analysis of the materials. The sampling of the materials is what is driving this.

Mr. Parker stated the precaster's temperature reports did not comply with standard temperature requirements. Superior has been stonewalled by the precaster. He stated he

expressed their frustration to Mr. Dremonas about the precaster. He stated he offered to participate in information exchange with attorneys for the precaster and have had no response from them. The incomplete investigation is not due to foot dragging by Superior and RQAW.

Mr. Parker stated that the participation by SGH has been very helpful in this investigation. He pointed out that INDOT refers to SGH as experts, but they also design projects; they are real world people.

Mr. Parker stated there are three issues: deck cracking, longitudinal cracking, and flange cracking. He referred to a report sent to Ms. Rearick and Mr. Dremonas, addressing the cracking. The deck cracking can be repaired by milling off the top of the deck and placing an overlay. The longitudinal cracking does comply with AASHTO standards. He stated that Superior and RQAW have explained to INDOT that their analysis is flawed, but they have not heard back from INDOT. He stated the longitudinal cracking does not affect safety; however, there may be a durability issue. The cracks are wide enough to do epoxy injection. Mr. Parker stated the reasons for the flange cracking are still undetermined. He stated it is irresponsible to suggest otherwise.

Mr. Cuson stated that there are no new longitudinal cracks. He stated that INDOT missed the boat by not asking the right questions of Purdue.

Mr. Nick Nizamoff, legal counsel to RQAW, asked who if anyone is at fault for this bridge. RQAW and Superior have provided quality work for years. The issue that INDOT is presenting today is the competency of Superior and RQAW. The measured crack widths were wrong and it was confirmed by INDOT inspectors and the Purdue testing. He stated they fundamentally disagree with the initial JSE report of why the problems happened. He stated there was only a five percent discrepancy in design once all parties looked at the design. There were no design errors from RQAW. He stated that replacing the structure may be done to appease public perception. The cracking on the structure is due to a manufacturer's defect and is not RQAW's fault. The whole basis for suspension is unnecessary. He stated that RQAW agrees to provide a QA/QC plan. They would like thirty days to provide it.

Ms. Mulligan stated that the floor is open for questions.

Mr. Dremonas stated that it is unfortunate that Prestress Services is not present at this meeting.

Ms. Rearick stated that Purdue has done what they were asked to do, which was to look for DEF. Purdue has done more than sixty tests. She understands more samples may be needed. She asked what tests are needed and who will pay for it. Purdue has gone over and above to provide the testing. She stated that the capacity of the beams may be affected with more samples taken. Ms. Rearick stated there is a cumulative effect with all types of cracking added together.

Ms. Rearick stated the June 6, 2010 JSE report was not the basis for INDOT's recommendation. We believe there is a problem based on INDOT's analysis. The QA/QC plan is being requested because the design was documented as checked by a competent engineer. She

stated that all of the engineers involved in the review of this issue did not agree that there was only a five percent overload. She stated she has not seen the final analysis from SGH.

Mr. Nizamoff stated that in a meeting with Superior, RQAW, INDOT, JSE, and Purdue, there was a five percent difference in analysis, not a five percent overload. He stated that his understanding is that a five percent difference in analysis is no different than the normal. Different designers will come up with different answers. It is matter of professional judgement.

Mr. Nizamoff asked for extra time for RQAW to put together the QA/QC plan before a suspension is in place. He stated that there are latent defects due to manufacturing errors, not design or construction errors. He stated that suspension of RQAW and Superior is fundamentally unfair. The responsibility should fall on the manufacturer.

Ms. Rearick stated that at the meetings with RQAW and later SGH, they were trying to recreate the design. INDOT did not get a full set of the design computations from RQAW.

Mr. Nizamoff stated that since the original design, RQAW has moved.

Ms. Rearick stated that the reason INDOT is recommending a QA/QC plan is because of the design omissions and lack of documentation of the design.

Mr. Parker mentioned that in the last paragraph of SGH's report, they think that a decision to replace the bridge would be premature at this time.

Mr. Cuson stated that at the time of construction of the bridge, Prestress Services was the only certified supplier in Indiana. It made sense to go to the Indiana plant to make the beams. He stated that Prestress Services will not return his phone calls. The supplier should be accountable for what's going on.

Ms. Mulligan stated that action by the Committee will be in the form of a recommendation to the Commissioner. Before any suspension would take place, the parties have the right to appeal.

Mr. Dremonas stated that the report from SGH did not address increased maintenance efforts and costs. He stated that latent defects are contractual responsibilities.

Mr. Cuson asked if the QA/QC plan should apply to design-build projects only or all contracts.

Mr. Holtz stated it should include design-build.

Mr. Wright asked what should the percentage of air entrainment be and what was measured in the samples.

Mr. Nantung replied that it was designed at 5.5 percent with a range of 1.5 percent to eight percent. We did not test for percentage of air entrainment because we would damage the

girder in order to get a big enough sample. There should be small bubbles. We saw no bubbles which leads to the conclusion that either the bubbles were too big or not there at all.

Mr. O'Connor asked if Purdue's final report will address DEF, thermal cracking, freeze-thaw cracking, etc.

Mr. Nantung replied yes.

Mr. O'Connor asked if INDOT anticipates that DEF is a factor.

Mr. Nantung stated that he believes DEF is present.

Mr. Stark asked Mr. Dremonas to clarify the recommended action.

Mr. Dremonas replied that the recommended action is to suspend Superior and RQAW until QA/QC plans are submitted and approved by INDOT.

Mr. Fred Bartlett, INDOT Prequalification Research Analyst, stated he would offer his perspective. He had been involved in prestressed manufacturing for thirty years. He was also a founding member of a design firm. He has had damaged beams that they repaired with epoxy injection. He advised not to tear down the structure. He suggested pursuing avenues of repair.

Ms. Mulligan stated that the Committee is here to consider action regarding the companies' prequalification status. There will be other meetings to determine what will be done on the bridge.

Mr. Woodruff moved to recommend to the Commissioner to suspend Superior and RQAW until QA/QC plans are submitted and approved by INDOT.

Mr. Wright seconded the motion.

Mr. Novak asked if the Committee would consider giving Superior and RQAW thirty days to submit their QA/QC plans.

Mr. Woodruff stated that it may take thirty days or it may take six months. We want to do what is best for the public. We pay for a good product and we deserve a good product.

Mr. Novak stated that another option could be to reduce prequalification capacity; however, this is new for consultants.

Ms. Macdonald replied that for contractors we use an experience reduction factor, but we do not have that for consultants, although the capacity can be set to a specific amount based on a percentage.

Mr. Hedge asked if Mr. Novak is recommending the Committee reduce Superior and RQAW's capacity instead of a suspension.

Mr. Novak replied no, he is suggesting a reduction in addition to the suspension.

Mr. Stark stated that he is not sure a reduction makes sense. A suspension is a suspension, and it is in the best interest of INDOT and the public that we get the QA/QC report. If we allow someone to bid, we are doing the taxpayer an injustice.

Mr. Novak stated that the QA/QC plans may be submitted and approved with the net effect of no suspension.

Mr. Stark asked if Mr. Novak has a recommendation to reduce Superior and RQAW's capacity.

Mr. Novak moved to amend the motion to add a ten percent reduction, but he stated he is not sure how it would be applied to a consultant.

Ms. Mulligan stated there is a motion on the floor to suspend Superior and RQAW until QA/QC plans are approved and then apply a ten percent reduction to capacity to both companies.

Mr. Nizamoff asked about capacity and how the statute is applied.

Ms. Mulligan stated that INDOT prequalifies contractors based on the statute and administrative code and prequalifies consultants by policy. The Indiana Administrative Code rules on Prequalification of Contractors and Bidding can be found in 105 IAC 11. The policy on consultants is in INDOT's Consultant Prequalification Manual, with Section I pertaining to the Prequalification Committee. Ms. Mulligan stated that the Committee can recommend a reduction in a contractor's prequalification capacity in accordance with 105 IAC 11-2-3(k).

Ms. Macdonald stated that a contractor's capacity is based on an equation in the Indiana Administrative Code - ten times net current assets plus two times net fixed assets plus eight times net equipment assets, with some other limitations. The capacity is then reduced by an experience reduction factor. The experience reduction factor is set to thirty percent on a new contractor. She stated that for consultants, the capacity is based on two times wages and salaries.

Mr. Nizamoff stated that reducing their capacity should follow the rule making process.

Mr. Ahearn stated the Commissioner has a great deal of discretion in awarding contracts.

Ms. Mulligan stated the administrative code allows the Committee to make a recommendation to the Commissioner for contractors and Section I of the Consultant Prequalification Manual allows the same for consultants.

Mr. Ahearn asked about appeal rights.

Ms. Mulligan stated the recommendation would go to the Commissioner. If he approves and imposes the recommended action, Superior and RQAW will have fifteen days to appeal the decision.

Mr. Nizamoff stated that the process to approve the QA/QC plan may take time. He asked if his client would be treated in good faith and if RQAW would be affected during selections.

Mr. Ahearn stated the Committee cannot guarantee that selections will not be affected. Selections are at the discretion of the Commissioner.

Mr. Nizamoff stated he just wanted to know if his client's ability to do work will be affected.

Mr. Stark stated that the consultant selection process is a very open, fair process and many people are involved in rating a consultant's services; however, not everyone scores every project. The scoring reports are available for viewing after contracts are executed. The process is approved by FHWA.

Mr. Novak amended the motion to suspend RQAW and Superior pending submission of QA/QC plans and pending approval from INDOT to add that after the suspension is lifted, INDOT impose a ten percent reduction in capacity be placed on both companies.

Mr. Woodruff seconded the motion

All Committee members voted in favor.

Ms. Mulligan stated that both companies would receive a letter with the Commissioner's decision after the Commissioner had reviewed and acted upon the Committee's recommendation.

Ms. Mulligan asked if the Committee members are in agreement to hold the Prequalification Committee meetings on the first Thursday of every month through 2011.

All Committee members agreed.

Ms. Macdonald provided the schedule for the 2011 regular Committee meetings to the members. She stated she will send out the Outlook recurring event.

Mr. Stark moved to adjourn the meeting, and Mr. Hedge seconded. All members voted in favor of adjourning the meeting.

Ms. Mulligan adjourned the meeting at approximately 10:54 a.m.