Summary Minutes Of The
AASHTO Virtis Opis Task Force Meeting
June 10, 2010   Portland, OR

Table of Contents

General Information – Meeting of the BRIDGEWare Task Force

Date: Thursday 8:00 AM – 5:00 PM

Participants:

BRIDGEWare Task Force

AASHTO	Jim Ramsey	Project Manager	BRIDGEWare
SCOJD	Dan Buhler	Manitoba DOT	
V/O Task Force	Tim Armbrecht	Illinois DOT	Chair
	Beckie Curtis	Michigan DOT	
	Dean Teal	Kansas DOT	
	Bryan Silvis	Virginia DOT	
	Tom Saad	FHWA V/O Liaison	
Contractor	Jeff Campbell	Baker	
	Jim Duray	Baker	
	Herman Lee	Baker	

Guest: Jeff Olsen, Montana DOT and Opis User Group Vice President

BRIDGEWare Task Force not in attendance due to concurrent Pontis Task Force Meeting:

AASHTO	Wendy Gagnier	Project Manager	BRIDGEWare
Pontis Task Force	Mike Johnson	CalTrans	Chair
	Scot Becker	Wisconsin DOT	
	Paul Jensen	Montana DOT	
	Francois Ghanem	New York DOT	
	Wade Casey	FHWA Liaison, DC	

Note Taker: Bryan Silvis

Meeting opened at 8:00 AM

General Discussion

The Task Force assigned a note taker; reviewed the prior minutes and approved them. They adjusted the scheduled times for certain meeting items to accommodate a presentation to the Oregon DOT. The Task Force added items to the agenda as described herein.

Financial Overview and Work Plan Summary
Update on Phase 13 (FY 2009)

The Contractor noted that FP7 and FP8 were the only active Fixed Price tasks and they had stopped charging to Time and Materials tasks July 1, 2009.

Update on Phase 14 (FY 2010)

The Contractor noted the estimated/actual costs were very close. They also added FP 11, 17 and 18 in March. There is very little money left for Time and Materials tasks. The Contractor has assessed work/expenditures for June, made appropriate decisions on required tasks and will be monitoring the budget carefully.

Update on Virtis/Opis Licensees (FY 10)
Product Report

The Task Force decided to expand the Product Report to include the Super-Site option for Michigan and decided to remove the Opis Participant Agencies.

Service Unit Report

The Task Force included Virginia and Oklahoma enhancements to the Service Unit Report. The Task Force clarified other budget items in the report. They

decided not to include donated service units.

Support and Maintenance Report
Incident and support summary
The Task Force reviewed the Incident Report.

Progress on Bug Resolution
The Contractor presented the Bug Resolution Report and noted that they anticipate not being able to resolve all bugs submitted by the end of the last calendar year prior to release of Version 6.2. Further, they reported that the resolution of some of the bug fixes would require the assignment of more experienced staff. The Contractor presented a list of nine such unresolved items including additional items assigned to BridgeTech. BridgeTech is working on the issues and has received a number of emails. Currently the Contractor has no mechanism to enforce resolution fully. Beta testing effectively cut-off fixes for the nine unresolved bugs. The Task Force considered Beta testing specifically for any of the nine that were determined to be easy fixes, but decided against it due to a poor history with shortened Beta testing periods.

The Task Force reviewed IssueNet ID 8386 and determined it is a Kansas preference, not a bug, lowering the count to eight. The default setting should be included in the "General Preferences" enhancement discussed under the Miscellaneous Topic.

The Task Force achieved consensus that a one-time exception would be given to the requirement that all bugs submitted by the end of the calendar year are to be resolved prior to release of the new version. The Task Force made this decision based on the declining curve in the Defect History Chart. The chart represented the first full cycle of tracking as completed. The Task Force recommended withholding the retainage until the Contractor completed the work. The Contractor would include all the fixes for unresolved bugs in a fall patch. The Task Force discussed additional language to use for classifying bug fixes.

Enhancement List Update
The Contractor updated the enhancement list per the scrub and short listing performed at the Beta TAG meeting. The Beta TAG indicated that the group would continue mining for Maintenance items from earlier dates than the items reviewed at the Beta Tag meeting. The Contractor will continue to distribute the enhancement list to the Users in PDF and html format as done in earlier years.

Update on 6.2
Progress and Schedule Review
The Contractor discussed the status of 6.2 Beta Bug

Fixing and the Proposed Testing Schedule.

Beta Testing Update
To date, testers submitted 92 incidents during 6.2 Beta testing of which developers were still working on only 10. The Contractor expressed concern that comparing the number of incidents to incident type may be indicative of higher levels of testing in some areas than others. Their area of biggest concern is truss enhancements. The TAG has already distributed a survey to the Beta Tag to determine status and ensure everything is tested.

The Contractor indicated that they reduced the run times for long span bridges by half between the Beta 1 and Beta 2 versions and they anticipate cutting that time in half again between the Beta 2 and Beta 3 versions.

The proposed testing schedule contained periods for Beta 3 and Beta 4 testing (if necessary). The Task Force expressed concern with the proposed Beta 4 testing occurring over the July 4th weekend.

Update on 6.3
The flow charts for reinforced concrete and prestress are complete. The Contractor anticipates completing the flow charts for steel LRFR next week and forwarding all flow charts to the Task Force at that time for review. There were be a two week turnaround time for comments.

Enhancements
Implement User Selection of the Specification Edition (TAG Meeting)
The Contractor reviewed the cost estimate for selection of the specification edition for rating requested by the Task Force at the May 2010 TAG meeting. The Contractor recommends that the specification versions start with the 4th Edition with 2008 interims and include all subsequent editions/versions. Not all engines can use all specification versions therefore; the developer will presort the available fields for the engine selected.

The Task Force questioned whether the user should make the selection from the Member Alternative Description (MAD) tab (as shown in the mockup) or the Control Options tab. The MAD tab is the only current location for rating method. This option should ultimately be accessible from General Preference's window and any location where you can select an engine.

The estimate did not include associating factors with specification editions and The Contractor asked whether default factors should be set up for each. Although the Task Force believed the majority of states would use the default factors, members cited a number of states using

modified factors for various reasons (e.g. permit wind loads, new version but want to use old factors, etc.). With a dependent relationship between versions and factors, the ability to override default factors would be required as well as the ability to set up a library to use as the default for factors and/or override all factors in files selected. The Contractor felt interdependency would increase cost, but not significantly.

Effective Flange Width Variation for Steel Beams

The V/O user interface is already capable of accepting varying effective flange widths. For girder systems, the splayed girder entry field for end effective flange width is enabled, but disabled for parallel girders. For girder line analysis, the default setting enables the field. Brass engines do not support varying girder spacing or effective flange widths for girder systems. The Virtis Standard engine uses the minimum. Opis LRFD and Virtis LRFR engines support varying effective flange widths for both girder lines and systems. Mockups for steel LRFR should include this ability.

Slab System – variable slab thickness and rebar patterns

Currently V/O analyzes slabs as girder lines only (i.e. one-foot strips). The software can analyze variable slab thickness and rebar patterns by means of multiple slab line models. The Task Force previously directed the Contractor to investigate whether they can make the software to change the slab thickness and/or rebar pattern transversely across a slab. If feasible, the Task Force asked them to estimate the cost. The Contractor has considered this previously and had produced an estimate. The Contractor needs to update the estimate.

The estimate for the R/C Slab System enhancement submitted for the April 2009 Task Force meeting adds capabilities for a system approach to analysis which already includes full description of the reinforcing in the slab, but slab thickness cannot vary across the width of the superstructure (e.g. difference in thickness due to widening). Moving to a full 3-D analysis could accommodate this work; however, the solution should consider this work for incorporation into the R/C Slab System enhancement work.

NSG/LRFR – Add Computation of Shear and Moment DF

The estimated costs for this work increased to accommodate the additional options for computation of distribution factor shown in Note 4 (Option 1 is the current method; 2 and 3 are new capabilities). The current method uses one distribution factor for both moment and shear per span (with Brass believed to use one per structure). An amendment to the contract would be required to FP17 of the FY 2011 Work Plan if implemented.

The Task Force discussed the scheduling affects of the amendment; which engines the Contractor would change to and whether the Contractor would use the same controller for LFR as for LRFR. The Task Force further discussed if they were interested in extending these options to LFR.

Engine Selection If Default Not Available

FP5 in the FY 2011 Work Plan removes the BRASS engines from V/O in Version 6.3. This estimate is for the cost of formalizing linkages to bring it back in as a 3rd-party engine.

FP5 includes three options for importing an engine selection (BRASS) that is not present in the import database. These options cover the range of sending all engine files to the Consultant to generating a message that the engine does not exist (requiring the agency to switch and run when returned). The budget hours/cost for FP7 is a rough estimate and includes two options for implementation. The estimated cost includes the highest price option for both FP5 and FP7. The Task Force will need to make decisions on both sets of options once the FP7 estimates are refined.

Updates to the engine definitions (specific name instead of number) will likely be required to ensure the intended engine is used. Agencies would need to ensure that the intended engine version runs with the V/O version they are using.

Whether inclusion in the FY 2011 Work Plan requires cutting something else out needs to be determined, but some amendment will be required. This work requires action in the fall before the next Task Force meeting.

The Task Force discussed various utilities to switch engines either during or after migration including popups during/after import, script development, and General Preferences options. Some agencies may choose to hold on to a previous version of V/O specifically to keep the BRASS engine for some duration. There was disagreement on what the current agreement with BRASS was concerning timeframes for the continued use of the engine.

Longitudinal Reinforcement Rating – Option 2

The Contractor already covered the data base change required for this enhancement under FP20. The enhancement would be included in Version 6.3, but possibly be ready for the fall patch to 6.2. The Task Force will discuss the patch content after the User Group meeting.

Miscellaneous Topics

Critical bug discussion (follow-up from TAG meeting)

The Task Force reviewed the contents of the draft V-O Issue Policy covering bug classification, resolution, and notification forwarded in her 6/9/10 email. The draft incorporated content and language from Transport. Header III intentionally refers to the Technical Support Site not the VI Site. Sorting the General Bug tab by buckets would be beneficial as the tab contains extensive information and is difficult to search effectively. During the meeting, members made some minor revisions to the draft, which the Task Force will forward to The Contractor and/or post on Groove.

Lunch Break at 12:15 PM
Resumed at 1:00 PM
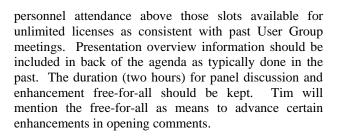
User Group Discussion

Discuss enhancement voting

Enhancement voting will be separated into extensive (to be incorporated in the work plans) and votable (money specifically designated for enhancements). This will provide direction for long-term planning and allow the User Group to let the Task Force know what they want to address in lieu of big-ticket items.

The Task Force discussed whether a presentation on box-girder bridge-rating using MIDAS software was an appropriate topic. Presentations from competing software developers are not appropriate except from the standpoint of third-party engines working within Virtis Opis. The presentation would need to focus on integration with V/O (extracting data from and returning it to the database).

Additional presentation topics suggested are as follows:
- New bug classification (Beckie).
- Montana DOT templates and spreadsheet for report location (Jeff Olsen).
- AECom's monitoring of a bridge site posted for 20 tons for Ill DOT (Dave Thompson) with Tim leading discussion on how states will handle.
- 90k 6-axle truck update (Scot).
- SCOBS summary on T-18 balloted items and effect on rating (Tim).
- Opis Sub/RCPIER comparison from Minnesota involving LFR/LRFR rating of 500 bridges for SV vehicles (Tom Cerbinski).
- Report on NCHRP 1278 involving comparison of LFR/LRFR for 1500 bridges (Jeff Campbell);
- An overview of AASHTO products and structure (Tom).

Host states are required to pay registration for personnel attendance above those slots available for unlimited licenses as consistent with past User Group meetings. Presentation overview information should be included in back of the agenda as typically done in the past. The duration (two hours) for panel discussion and enhancement free-for-all should be kept. Tim will mention the free-for-all as means to advance certain enhancements in opening comments.

Minute Summary of Virtis Opis - Atlanta

The Task Force reviewed the Atlanta minutes summary.

General Preferences (The Contractor review of TAG comments)

The Task Force gave approval for The Contractor to perform a mockup based on the comments received.

Discussion about migration to a 64 bit release

The Contractor estimates it will take 80 hours just to compile the source code. Once completed, the Contractor can estimate the costs to fix the errors they find as the errors relate to 64-bit capability. Although Users will be encouraged to move from 32 to 64 bit, the Task Force realizes a transition time will be necessary for them to maintain both. The Contractor indicated requirements for 3-D capability are similar to those for NSG where the software needs to write files to disk at a certain node threshold for virtual memory. Run problems involving long bridges and the new Specification checker are the primary driving force behind the need for extra capacity. The Task Force gave the Contractor direction to start TM1 after July.

508 compliance costs for FY11 work plan

There are no additional costs for Section 508 compliance for these tasks. Costs are included in the estimates.

Performance measures

The Task Force reviewed the performance measures agreed to at the Beta Tag meeting during the BRIDGEWare meeting held the previous day. The Contractor will put the measures in the strategic plan and reported on each year. (See BRIDGEWare meeting minutes for details.)

Specification updates

The preliminary estimates for the LRFD categorizes changes to Opis by size with a large change estimated to require 36 hours of work. The changes to Opis shown to update for the 4th Edition, 2009 interims, and 5th Edition, 2010, are estimated to cost approximately $75,000. In July, the Contractor should provide a refined LRFD and an updated LRFR estimate including costs for the recently approved changes by SCOBS.

The Task Force is looking to include the updates in a fall patch by contract modification. The Task Force should discuss specification updates in conjunction with the topic of User selection of the specification editions.

Unlimited Consultant license

There have been multiple requests from Consultants for an unlimited license. New consultant/agency unlimited license options are under consideration and the Task Force received a draft proposal along with a PDF of other types of licenses to review. The justification for unlimited consultant licenses is questionable in that there are only four Consultants currently with license fees in the $20,000+ range. Members suggested that the requests for unlimited licenses are more concerned with ease of administration than cost.

A "nationwide" alternate was proposed for "X" number of licenses instead of site specific. Support would still come through the DOT (4 hrs per), there would be no price break, terms would not allow installation on unlimited PC's and machines could not be changed. However, the ability to review terms and conditions one time and ship to the company instead of the sponsor state may accomplish the intended purpose. This alternate would be more of an administrative change and not require a catalogue change (unlimited would).

AASHTO is not pushing a change, but responding to the request.

Work Plan
Amendment 2

The draft of Amendment No. 2 to the FY 2010 Work Plan was reviewed which reduced the scope of FP7 and added FP20, FP21 and FP22. The Task Force reduced the scope of FP7 by removing interim specification modification for a modified substructure load factor for "refined" analysis that Opis does not use. FP20 provides the option to ignore longitudinal reinforcement in BRASS LRFR rating and VDOT is funding it. FP21 implements longitudinal reinforcement rating in the Virtis LRFR engine.

The Oklahoma DOT requested and funded FP22. The task involves development of a DLL that a user can call from other programs to cause Virtis to perform a rating of a group of bridges for a set of vehicles. The new feature relates to the Service-Oriented Architecture. Oklahoma is responsible for testing to ensure the enhancement does not adversely affect any other previously Beta tested functions. The developer will build the features provided by FP22 on Version 6.2 and then incorporate the new features into 6.3. The Contractor will provide the new features in 6.2 to Oklahoma only unless the Task Force

approves the release of a service pack.

FP7 and FP20 are driving the need for contract modification, which includes both money, and time extension. There will be dual contracts both ending in June 2011. The final version will incorporate minor redistribution of budgets for Part 1 tasks. Amendment 2 was tentatively approval by the Task Force.

Future work plans (6.4 and 6.5)

The Contractor uses this is an ongoing placeholder. They will move it to the next agenda. The Task Force will discuss the 6.4 Work Plan, fall patch, any 6.3 issues and specification updates at the Interim Task Force meeting following completion of the User Group meeting.

BRASS-WyDOT Discussion

The Task Force discussed expiration dates for BRASS engines previously in the meeting. The Task Force will contact Wyoming concerning BRASS status after June 30th.

WisDOT Culvert Software Update

The Task Force postponed the discussion pending completion and distribution of the Beta for review. BRIDGEWare signed the contract with WisDOT last week and the V/O license sent for the prescribed duration. The culvert capability is in the upcoming Work Plan.

FHWA Update

Congress has provided funding for FHWA to add 4 new Bridge Safety Engineer positions in the headquarters bridge office (HIBT), and authorized funds for one-year contract to hire eight full-time consultant staff to support NBIS and load rating compliance reviews. In addition, three recently vacated HIBT positions will be advertised; a load rating, scour and bridge preservation engineer will be established and hired. The new hiring and restructuring is a result of the need for FHWA HIBT to address past OIG and GAO review findings and congressional requests stemming from the I-35W collapse. FHWA has agreed to provide greater oversight in the NBIS program, which includes increasing oversight of State Highway Agency bridge inspection, load rating, and bridge management programs.

There were presentations at the 2010 SCOBS meeting regarding the recently approved pilot programs in Maine and Vermont, which allow the States to increase GVW on the Interstate to 100,000 lbs. for a one-year trial period. FHWA is required to assess the economic impacts of the pilot program, as well as the impacts on highway safety, bridges, and pavements and prepare a report to Congress. The FHWA will have until 2012 to

conduct the analysis and complete the report. State Bridge Engineers are concerned that the impacts on the bridge network will be severe, at a time when funding to rehabilitate and replace structures is limited.

FHWA will be providing load-rating training (NHI LRFR 4-day course) in Jefferson City, next week, and in Ames, Iowa, in July.

Marketing/Training

The Task Force discussed marketing during the BRIDGEWare meeting held the previous day. (See BRIDGEWare meeting minutes for details.)

Michigan has requested five evaluation copies of Opis.

The Task Force recommended approving the request as Michigan is in the process of buying an unlimited license; the copies expire in 120 days and would require the user to uninstall the software before installing 6.2 in August.

Review Action Item list from this meeting

The Task Force completed the review.

TF Executive Session as needed

The Task Force saw no need for an executive session.

Adjourned at 4:35 PM