

Summary of WSRcg Opinions
Implementation of a Federally Mandated Family Services System
Testified 2014, Special State Tribunal
Worked with State Government's Counsel

During January 2013, WSRcg was selected to be a consultant, and then a software failure expert witness to review and analyze specific aspects of the alleged Child Support Services, Foster Care, and Court system project failure. To do so, among other things, we spoke with counsels re their needs, and reviewed/analyzed the project contract, amendments thereto, and the Statement of Work (SOW). WSRcg reviewed project Work Plans/WBS/Progress Reports, key deliverables, contract amendments, logs of test results, and issues logs, and also performed appropriate witness interviews and reviewed the histories of similar systems already developed by Federal mandate in other 'like' states. The South Carolina system was being developed and integrated by one of the world's largest systems integrator/developers [hereinafter "INT"].

Some of the questions counsel asked us to answer and opine on were:

- Did INT meet the development schedule for reaching the mid-point in Systems Testing by 9/15/2012? What were main reasons for the delay? Can INT recover from the delay and meet the deadlines stipulated in schedule?
- Is INT able to submit a reliable, achievable and professional resourced schedule in its Corrective Action Plan at this time for delivering a suitable, high-quality, maintainable, and "production-ready system"? If not, why not?
- How much longer will it take INT to deliver the system contracted for, and how long would it take another contractor to deliver the system and at what cost?

The State terminated the contract with INT after our 1st report. We were asked to submit a new report addressing our opinions to the termination as well:

Opinion 1: INT did not meet the amended contract schedule. The INT caused the delay in part due to failings in the conduct of their work, and in part due to earlier failings that manifested themselves during System Testing. At the time the State terminated the contract, the completion date lay well beyond the statewide-implementation date of 9/18/2013. In our opinion, the delay was caused by multiple failings in INT's planning, management of, conduct and performance of the project:

- Inability to properly **estimate work effort and schedule**.
- **Poor project management**.
- Unwillingness and/or **inability to properly staff team** with qualified and skilled individuals and control turnover and knowledge loss.
- Failure to conduct and manage **proper requirements analysis**, and to prepare and update reliable and complete requirements documentation.
- **Abandoning proper industry best practices** and their own promised system development methodology for design and programming work.
- Failure to perform proper, complete and reliable testing.
- **Inability or unwillingness to communicate and react fully and honestly** regarding project progress, project status, product quality, the impact and risks associated with INT's failures to perform as promised and as necessary as listed above, and the known or anticipated delays of current and upcoming key critical milestone dates.

Opinion 2: As a result of INT's failings, System Testing proceeded at a very slow pace. System Testing revealed a large number of basic defects in foundational capabilities (that should have caught in earlier tests), and functionality gaps caused by INT's failings in software development practices. INT further exacerbated the delay in System Testing by employing tactics that seemed to have been **designed to give the false appearance that the software was of sufficient quality and to deflect blame for delay away from INT.**

Opinion 3: It is impossible to determine reliably the true status of the project at the time the State terminated the contract, nor how long it would have taken INT to complete it. INT's software is "low quality." That low quality and the types of defects and functionality gaps in the software discovered so late in the development cycle meant that end-to-end business process testing in the context of the planned State-Focused Test (SFT) or the User Acceptance Test (UAT) would have been mired in significant defects, problems and delay. Indeed the cost, schedule and effort to fix the defects and functionality gaps during SFT and UAT, without full automated regression testing, would have been **orders of magnitude more, and years longer** than if those found and were remediated earlier using good project and defect prevention and removal practices.

Opinion 4: At the time the State terminated the contract, INT was in no position to submit and/or estimate a Corrective Action Plan due to the incompleteness and significant failings and incompleteness of requirements analysis, gathering and documentation, software development, and testing. To be credible, a Corrective Action Plan would have required a whole new approach and commitment to implement proper systems development practices; to re-staff the project; to rework, redevelop and redo parts of INT's work that were weak. INT would have had to first acknowledge the true causes of the project's low-quality software and delay, and then commit to making significant improvements in the performance of the project. During 2013, INT did not demonstrate the **ability or willingness** to do either, and therefore was in no position to issue a credible or reliable Corrective Action Plan at the time the State terminated the contract.

Opinion 5: INT has not demonstrated the **ability or willingness** to complete the project in a reasonable amount of time. INT's ad hoc, reactive, and uninformed project planning, execution and management had not worked – and would not work towards developing a suitable, maintainable system in the foreseeable future, if the same approach continued. The State had ample and reasonable grounds to lose confidence in INT's ability and willingness to make the improvements in its performance needed to complete the project with sufficient quality and within a reasonable amount of time. Due to INT's lack of ability and willingness to correct its performance it was **not a viable or prudent option to continue** the project with INT.

Opinion 6: Some portion of the INT's deliverables may be relied upon to carry forward the project with a different team or consultants that exhibit the ability and willingness to perform the work in a proper and professional manner. The new team or consultant will need to investigate INT's deliverables in some detail to determine an appropriate continuation point, and to decide which deliverables to carry forward. It is likely that the problems infused in the software cannot be properly remediated without an extensive amount of additional work and rework. Development work for certain portions of the system may need to be rolled back to an earlier phase to create the system development artifacts that are missing, wrong, poorly documented, or were poorly/wrongly constructed by INT. While a new team or consultant will develop its own estimates after determining an appropriate approach and starting point, industry-accepted estimation models can provide a supportable, logical and reliable framework to estimate the effort and time required to complete the project.

Results: This termination was warranted. Judgement for State Government for a net \$39 million.

Related article: <http://www.thestate.com/news/politics-government/politics-columns-blogs/the-buzz/article13940351.html>