

September 10, 2006

Release No. 34-54122; File No. S7-11-06, RIN 3235-AJ58

Mr. Chairman and Honorable Commissioners:

The SEC is soliciting comments to help itself understand the extent and nature of public interest regarding the task of evaluating and assessing internal control over financial reporting (404). The SEC states the purpose of this solicitation is to “address the needs and concerns of public companies, consistent with the protection of investors.” In mid-2006, the SEC Director of Enforcement publicly stated “The goal that securities regulators and self-regulators share with the many able compliance staff in this room – we all want to prevent, detect and correct compliance problems – indeed finding them and correcting them before they can blow up to harm investors is our primary goal.” This is the third submission to support you in reaching the *protection* objective, your paramount goal?

Foreword

By design, the [first](#) response to your concept release covered laying the keel of this ambitious quest to meet the intent of 404 and establish *protection*. The startup launch is a task suite engineers call “The Front End.” The [second](#) response, directed by The Front End findings, listed several disconnects between your stated task action strategy for reaching your stated goal and what natural law allows. The SEC should not consider the list as criticism but brute-facts illumination. Engineers, to a man, consider informed warnings about impending collisions with natural law as acts of friendship. Engineers expect to be ignored, as the SEC does to perfection, but ignoring natural law has little to recommend it in goal-seeking mode. Project triage is performed constantly by natural law - no exceptions, no mercy, no remorse. Have you noticed that every attempt to defy natural law ends up affirming the omnipresence and omnipotence of the law targeted? Perhaps the SEC thinks it is exempt?

This submittal discusses the methodology appropriate and proven successful to the task of “internal control over financial reporting” to the end of stakeholder protection paramount. It will show how natural law is leveraged to reach and hold the protection objective. Having a career in the design of control systems of wide variety, makes it easy to see the internal control design task for this mission as altogether future-centered and endless. The requisite farsighted, forward-looking orientation inherent for protection means the applicable professional standard of care is tort’s “foreseeability.”

Fortunately, the design of internal control for an organization’s financials ranks near the trivial end of technical difficulty. The transactions are composed from simple algebra and Boolean logic expressed in an objective grammar – an algorithm. Task complexity observed in the operational reality derives not from transactional analysis for financial reporting, but from incongruent goals between the regulated/regulator coalition and the requisites of stakeholder protection.

In the second submittal, the role for SEC to establish congruent goals and appropriate methodologies to reach them was discussed. In harmonious conditions, you are responsible only for coherent definition of protection. The methodology employed to reach and husband the goal is up to the regulated. Therefore, this offering describes the best available technology for the regulated to use – presuming alignment of the regulated/regulator coalition with stakeholder protection paramount. The “foreseeability” standard of care that should be monitored contemporaneously, regardless of damage scores, good or bad, is the benchmark.

At the current rate of advance in engineering foresight competency, fueled by affordable massive computer power, tort’s “foreseeability” standard of care for professionals is rapidly escalating. To this day, engineering is the only discipline that translates advances in computer power into competency expansion as fast as new chips get to market. It is the elephant in the coalition room.

To protect the SEC, it is necessary first to provoke awareness of the factors, far removed from your control, that matter to your future. When awareness is established, the task is to build knowledge. The initial milestone for the SEC to accept is that initiative in method mismatch conditions is counterproductive, not commendable. You must halt thinking that 10 pounds more of proficient hindsight and investigative techniques is equivalent to what one pound of pragmatic foresight can deliver. You cannot expect the current scene, where you claim stockholder protection as your turf at the same time stakeholder damages mount to record levels, to remain stable indefinitely. When deception goes on for years and years, verisimilitude wears thin. The delightful days of yore when things moved slowly, predictably and the damage detected was both insurable and below the threshold of Congressional action, have gone. You will not survive indefinitely by defending the status quo.

It is a simple matter for the SEC to show there is no problem here – to demonstrate the efficacy of the authority and powers granted to it to attain the assigned goal to *protect* stockholders. Attenuate the flood of corruption. As you are the regulator of record, simply proceed to regulate the flow of scandal downward. Just demonstrate how this or that act by the Commission caused the following recorded step reduction in fraud. Otherwise, when the scale of stakeholder damage keeps growing on your watch, decade in and decade out, it is not wise to parade your armamentarium on the media.

### Introduction

There are but two categories of method - one family rooted in hindsight and one latched on investigating forward in time. These two classes of method are endowed by nature with mutually exclusive work contexts. Since both method domains once used informed judgment to reach outcomes, it was appropriate for the rule of law to use its subjective methods of assessment and attestation for both practice domains. This is parsimonious because *any* subjective link in the chain from start to release renders the whole chain subjective. Any.

Authoritative subjectivity is also key to control of both domains by institutional process – which itself can only engage the hindsight class of task actions, including consequence management. This hierarchical control manifests at the time of system release, when management pulls rank over engineering to make binding decisions – as in Morton Thiokol over Roger Boisjoly in NASA's Challenger disaster and the scene repeated intact with a different cast of players for the loss of Columbia.

What the engineers have done in expanding the competency of their methods, encompassing 404, is to leverage intelligence amplification (IA) to the degree necessary to eliminate subjectivity in assessing the design product at release. For most design projects, and the span of issues covered keeps increasing, the entire chain from start to release can be transparent. At release, there is nothing subjective available for the legal process to attach and engender conflict. In transparency achieved, designer personality is absent and authority is impotent. This means, exactly, that the gatekeepers must install and apply a second standard of care for assessing engineering foresight distinct and separate from the institutional standard of care based on obedience to authority. The longer this second benchmark is ignored in due process, the more watchdog and gatekeeper authority will erode. When trial lawyers discover that the new distinction in professional standards of care gives them a windfall advantage in litigation, and they will, gatekeepers will lose their status quo option. With transparency attained, pulling rank bringeth plague.

### Status quo

It is tempting to examine the historical record of SEC effectiveness as investor protector. The trillions in stakeholder damage recorded on your watch speak in all the languages. The corruption and scandal flooding the media has proven impervious to SEC ritual activities. Don't bother associating your vast crisis response forces with enhancing protection. All the King's forces never saved Humpty Dumpty and all the regulatory post mortem litigations never saved a stockholder. In principle, it is the same endless drama of damage wreaked by ordinary institutional process on the victims of Katrina. In these conditions, the damaged stakeholders will not remain docile indefinitely.

As there is no way you can prevent to specifications by hindsight, there is no way hindsight can protect stakeholders. To the engineer, claiming responsibility for a goal your methods cannot attain is deception with scienter. Facing an armada of rules, future-centered goals transmute to unobtainium. The success of your strategy to have it both ways depends upon an endless supply of passive stakeholders and unenlightened trial lawyers. If either group gains the necessary wisdom about contemporaneous transparency, however, the circus of deceptions is over.

Transparency is protection is design is operationalized pragmatic foresight

When you include prevention in a goal, you have in that stroke eliminated rule-based approaches. There is no such thing as prevention, anticipation, preemption and protection with an opaque (subjective) system predicated on hindsight. To protect to specifications, transparency is the keyword critical to success. It is the common denominator of any approach effective in preventing damage to stakeholders. All alternatives to transparency amount to a ritual rain dance dependent upon a rather large existing account of verisimilitude.

Transparency is the only path to protection city. There, in Oz, anyone can audit by any benchmark. With transparency, one can see what is going on in his own language to compare to what he thinks ought to be going on. The institutional definitions of transparency, and it takes an explosive disturbance to evoke one, clearly show opacity cloaked in rhetoric. As the SEC recently demonstrated in attempting to assemble a single benchmark, institutional definitions of transparency are always written by lawyers, contrived to support the status quo, and intentionally vague. What's worse, the transparency definition the institution is forced to espouse bears no resemblance to the definition of transparency it practices.

The makers of fiber optics for communicating data have worked out clear and exact definitions of transparency – because they had to. If the input signals go the specified distance with fidelity, transparency has been achieved. If the signals arrive corrupted, as far as the fiber's use for communications is concerned, the line is opaque. In no way is transparency of financials different than transparency of optical fibers. There must be non-subjective stop rules.

My personal experience in 2006 working on internal control transparency for the factory, while management was cooking the books at the corporate level, has cured me about loose definitions of transparency. Not only must Chairman Cox win the various debates about transparency, he must champion a non-subjective definition. Only transparency can reduce the option field of the regulated sufficient to put the SEC back in control (fraud prevention). Ride the opaque horse and the rest doesn't matter.

Eventually, the SEC will understand that non-transparent “internal control over financial reporting” is the symbol of its regulatory dysfunction. The SEC conveys the impression it actually believes “more transparency” is, somehow, not functionally opaque. In the 1980s, when transparency was still technically impractical, subjective practices were a necessary expedient to deliver the financials. It is a much different scene today, when full transparency can be delivered at lower cost than business as usual. The risk for the SEC is that stakeholders, growing more aware that such transparency is achievable and practical, will eventually disown blue smoke and mirrors. The supreme risk is that trial lawyers will realize transparency can easily be leveraged through the wormhole of tort, to produce windfall conditions.

The narcotics of cost

Experience has shown that a goal-seeking method delivering transparency, especially for mission profiles such as protection, is always the least costly process. There are many reasons why that is the case. Anytime a project to achieve the goal of protection is done right, cost is *never* a factor. After the first week doing The Front End, the savings from uncovered duplication and waste self-funds the project. This deliverable of engineering foresight is easy to demonstrate. Would protection-centered projects be self-funding at the SEC? You bet.

Transparency is synonymous with the standard engineering requisite of design called “scrutable connectivity.” The design process has to be scrutably connected to natural law to goal-seek with parsimony. A most convenient attribute of transparency, once your perceptual reference has been adjusted, is that it is continuously validated by daily experience.

From the sanctuary of natural law, the backbone of scrutable connectivity is the algorithm. All algorithms are inherently transparent, composed from the universal language of mathematical physics. A handy parallel is sheet music. The written language of music is also global and the composition set down with that language leaves no question about the intent of the composer. Interpretations of the musical composition are free to flourish but the composition itself is not open to debate.

Transparency is also the critical success factor for protection husbandry. Only a transparent process can be intelligently upgraded to meet emerging disturbances. Scrutable connectivity to natural law is the only viable platform of husbanding transparency. No other basis has a universal language (mathematical physics) and global acceptance as immutable and incontrovertible – with time in the equations. It is only in the universal language of natural law where the independency and morals of the designer and validator are immaterial. What would be the benefit, e.g., to challenge the laws of motion and energy for a pendulum or gyroscope?

The SEC does not have to understand the machinery of engineering foresight to benchmark the system transparency it can deliver. It is a simple matter to obtain independent validation of a transparency-making methodology based on natural law. The toolbox for building stakeholder protection, transparency, is organizationally neutral. After the hierarchy has what it really wants, however, transparency is considered a menace. It is.

Engineering foresight devises a system that automatically computes a movie, frame by frame, moving forward in time. It is the equivalent of reviewing a video of a past event, where you can only run the tape back and forth in past time. For the movie generated by natural law, you can run the scenario to and fro in future time – where protection is graded. This computationally rich process, manifest in the “futurecasts” now provided by the weather bureau, is rapidly advancing in competency. Professional weathermen make forecasts; futurecasts are made by machine. The futurecast rolls the weather map forward in time – you make your own local prediction. This is the principle of the self-regulating system. You can compare the rolling futurecast with the actual to establish the efficacy of the simulation. In the application for internal control, unlike the weather, comparing predicted to actual finds discrepancies in both sides. The error could be in the model or the instrumentation on the actual.

On the path

Knowledge building for goal definition provides the opportunity to determine up front whether or not the goal will be satisfied by replication and therefore rule-based operations. If repetition is appropriate to the characteristics of the goal, standard institutional practice will work just fine. If there is any doubt that replication will suffice, however, automatic institutional ideology must be displaced on the spot. What this displacement means organizationally is that running the project is not assigned to (controlled by) the hierarchy. Your plague with 404 is, exactly, the inevitable result of a mismatch of means appropriate to stated ends. On that score, we have a superabundance of examples identical to the 404 botch job and have no use for more. The SEC’s breathtaking staff turnover rates are aggravation enough.

There is a strict milestone choreography to attaining goals set in future time. To win the prize of protection, you must get natural law on your side. Get it right and natural law wields the hammer. You don’t go on to the next phase building transparency until the trigger milestone is reached. Project initialization consists of getting the right goal defined in progressively concrete terms, vertically and horizontally coherent. It logically breaks down the mission from general abstract functions to physical functions to tangibles. All deviations from this sequence lash your project to the Tree of Woe. Meeting performance-based specifications, scenario by scenario, conveys no meaning and requires no interpretation.

For those projects, such as protection, deemed to be lying outside the dots of replication, it is necessary to classify goals as to one shot battles or continuing husbandry. If the goal is not one and done, as in 404, provisions for appropriate husbandry must be made from the start. The key to effective husbandry is maintaining the internal self-regulating benchmark. Created during design, the dynamic model of what ought to be stays embedded in the system for life, acting as the benchmark for what is.

#### Validation for Dummies

To evaluate engineering foresight you don't get an expert opinion of the designer. You get his product and the proving ground used to affirm the specifications were met. With transparency, independent validation can be done by anyone conversant with the mathematical physics of natural laws. He can follow the configuration, the parameterization, and run the scenarios. He can attest to the real-world baseline and verify the backbone transfer function assembled for dealing to and fro with the future.

After reviewing the scrutable connectivity, the expert runs the scenarios on the proving ground himself with whatever variations he wishes. In order to disqualify the work product, the examiner must find material deficiencies in configuration, parameterization, scrutable connectivity to natural law, or the algorithms than drive the system to and fro in time. If the evaluator cannot show the work has significant errors in configuration and parameterization, the designer has no further duty to prove the system.

For every system, stakeholder protection performance is validated by stakeholders – friend or foe. When perpetrators, intentional or not, cannot thwart protection and its husbandry, the plane of prevention will be sufficiently close to the workface so that the machinery running to detect discrepancies cannot distinguish among intentional, accidental or error. If the plane of detection is so far displaced from the workface that corruption and fraud become specific targeted programs of investigation, the plane is too far removed to prevent or protect.

#### Parsimony reprise

The question at hand, taking project costs into account, is – Can internal control over financial reporting be rendered transparent? The answer is that, except for the portion always in rendering because of incessant change, transparency can be delivered using less resources than the current disjointed combination of automatic, manual and subjective. Transparency in financial reporting brings opportunities for efficiency to many peripheral activities. Transparency is the soul of collaboration. It removes the great obstacle of distrust right on the launchpad.

In practice, doing the engineering “front end” on internal control specifications finds so many errors, gaps and crossed purposes that savings of ongoing waste pays for the transparency project in a few days. The organizational heartburn with transparency is that it eliminates subjectivity, thus eroding the chain of command. True. The great conflagration between objective and subjective now going on between the strategy of military technology driven by engineering foresight and the traditional military control hierarchies provides a preview of coming attractions.

#### A menagerie of lags

The critical success factor for the SEC is to get a grip on the lags in the system of which it is a part. The reason for acute lag consciousness is that asynchronous lags drive otherwise viable systems to instability. Yes, the SEC can fail its mission directly by mismatching methods to issues. However, even if you are duly diligent in following your orders, you can fail just the same by lag mismanagement. In brute fact, many of your failures are caused by your aggressive indifference to lags. One of the SEC lags is adjusting to the engineering foresight standard of care. You think engineering design is irrelevant to your sphere when it is, in fact, the core process of system regulation. When method moves on while you atrophy in place, you assume risk.

To keep current on competency, you must be proactive. Engineers have no reason to inform society of the significant advances being made. The Federal Reserve chairman, on August 30, 2006, announces to the public that productivity is up and the financial analysis experts don't know why. All their hindsight indicators point to a lower productivity result. Engineers privately smile at the announcement.

By having their systems speak for themselves, the usual good-deed punishments are avoided. Once the benefits of zero-subjectivity are experienced, no engineer will ever stop short of transparency again. Getting it right means no residue of the designer identifiable by the evaluator. You buy the next cell phone functionality totally clueless and indifferent as to the innovators of the feature. The stream of engineered artifacts feeding the public addictions is your proof that the standard of care for engineering foresight has reached zero-subjectivity grade. The only place in society where competency of engineering foresight, the standard of care, is scrutinized in a neutral context is tort law. It is the only wormhole enabled by society for connecting the realm of engineering foresight to institutional process.

For example, the advances now being made with unmanned vehicles for the military services are enabled by reliable and transparent information complexes. Because of the transparency, engineers can now “force” collaboration among systems to direct appropriate resources to appropriate targets in real time. Engineers can exhibit the dynamics of unmanned fighters in combat mode with manned weaponry – showing, of course, that the manned vehicles have no chance to win. In principle, what is now being done with transparency by DARPA is directly applicable to internal control over financial reporting. The Army cannot issue a revision to its strategy manual before the technology that forced the revision has been superseded by the next generation of technology. Fixing the lag mismatch resorts to emotional appeals to unseat the Secretary of Defense.

The US Navy went through the hierarchical trauma caused by engineering progress in the 19<sup>th</sup> century with steam-power. The prototype ordered by the Navy was so successful in sea trials, the Navy immediately put it in mothballs. It was decades later, when steam powered commercial vessels ran circles around the wind-powered ships of the Navy, that the conversion to a steam-powered Navy was begun in earnest. It was never about cost. To this day, it is always about hierarchy.

The SEC is facing the same lag scenario with transparency rendered practical. The time is not far off when the boiler room gang wrestling with internal control in some listed is going to, quietly, attain the protection goal. Many toolbox vendors are already “there” with the necessities. If the SEC did a DARPA, you would be swamped with contestants. Like the Navy, you will not be able to defend your now-inferior methods forever. Fail to respect the lags and you will destabilize.

The operational reality

Business as usual cannot be aligned with the protection mandate, by force or otherwise. The hindsight criteria management uses to evaluate and make decisions are revealed in the internal control system it designs to meet its purposes. The assurance management wants is business as usual – instant, effortless, limbic decision making. You can do due diligence on protection or defend business as usual. You cannot do both. You will never be able to reduce the flow of corruption by protecting business as usual ahead of protecting the stakeholders

The great illusion performed by the coalition to narcotize the public is that it's all just a matter of honest citizens choosing an ethical pathway – as if the trail of virtue leading to the Promised Land was known and it was, behold, blazed by business as usual. Because protection is a future-centered objective and business as usual is anchored to hindsight plus crisis response, all attempts to protect using business as usual must fail. Any watchdog system that functions to close “loopholes” deemed unworthy only after five or more years of unimpeded wreckage on defenseless stakeholders is an insult to intelligence. To associate a system of *protection* with the inane loophole-closing/reopening cycle is an insult to dementia.

What we have in the 404 cauldron here is the deliberate choice to retain opacity in the financials to protect business as usual first. As long as the regulatory process examines “foreseeability” only after the damage is inflicted, even though the audit is retrospective, the expressed intent to prevent stakeholder damage is betrayed. Back when transparency was impractical or undoable, opacity had to be accepted as an unavoidable risk in doing business. All the honorable motives and value systems surrounding transparency could be espoused with impunity.

To protect the head shed no matter what, the conditions of professional license holding stakeholder protection paramount also include safeguards to prevent the PE from achieving that goal, especially in a dysfunctional institutional setting. If the PE is carrying news of another impending institutional failure up the ladder, as required, he is given legal protection only when he stops well short of informing stakeholders and disappears – as I did earlier this year in due diligence. The experience of engineer Roger Boisjolly frantically trying to prevent the Challenger launch to disaster was a brutal wake-up call to the engineering profession. He was destroyed for going public when he saw the decision system in place had failed to protect the still-alive crew. Although identical business as usual conditions were prevailing to set the stage for Columbia, no engineer put his neck out attempting to prevent the disaster. So much for institutional lessons learned.

Knowing how much regulators and the regulated worship at the altar of checklists, a list of wedge issues is provided for your convenience to milestone your continuing quest to protect investors. Of course, this stuff works at home too.

- Avoid all amalgams of means and ends. For each issue, choose one or the other.
- Avoid all attempts to defy natural law.
- Issue by issue, distinguish hindsight goals from foresight goals.
- Foresight goals must be circumscribed by a set of individual design basis events. Dots.
- Do not charge an institution to obtain results rules of engagement cannot induce. Do not ask an entity to do that forbidden by its ideology.
- Inform your stakeholders of the truth concerning the goal-seeking limits of your charter. Conduct your affairs as if you understand the limits and the associated transfer of responsibility for protection to the regulated.
- Do not support a standard of care for foresight that includes subjective elements. Lock informed judgment equal to whim. The record of intuition is terrible.
- Define transparency and place it paramount. You will restore lost trust no other way.
- Specify the self-regulating system as the signature of the goal. The self-regulating system is best at detecting fraud in the seed stage. It is also the essence of husbandry.
- Rules and analysis are for hindsight. Natural law and synthesis are for foresight. Their work contexts are mutually exclusive. When the spouse declares “I don’t care how you do it, but ...” you are squarely in foresight mode. Congress, some day, may say the same to you.
- For future-centered goals, include husbandry targets.
- Keep up with engineering foresight competency. It is rapidly inflating over a broad spectrum of applications. For a preview of coming attractions, monitor the sequence of events driven by engineering foresight as it impacts the US Army command structure. Ignore our progress at your peril.

## Summary

While it may appear this professional commentary is alien and immaterial to the SEC regulatory domain, the source is the internal control factory where I labor to fill the jars of 404 compliance - as management directs. The SEC can easily verify the assumptions here by reviewing the discussion group threads on the internal auditor’s (IIA) website ([theiia.org](http://theiia.org)) – open to the public. My duty to alert and warn the SEC of the brute facts flows from the conditions of license of my PE, not the guild guidance of internal auditing. There is an enormous amount of money at stake. We think quantity does matter.

The central message is that the means you chose to regulate internal control over financial reporting (404) are worse than ineffective towards the stated ends of protecting investors. While you have everyone busy cultivating the rules garden, you shield the fact that – for the objective of stakeholder protection – the harvest of hindsight will not and cannot protect the future of stakeholders from damage. Your collision is with natural law, not personalities. Do as you wish.

#### Bonus miles

One of the unexpected benefits of providing professional commentary to the SEC is the spontaneous feedback received from various compliance practitioners who have resonated in part with the message. The private notes contain accounts of personal intercourse with regulators and the listed concerning institutional fraud and corruption. Criticism received centers on my assumption that watchdog regulators are upright institutions holding the moral high ground - far removed from the wholesale abuse by business as usual you know very well from your own overloaded corruption reporting system. The well-documented horror stories provided by reliable “informers” dealing with various SEC offices, however, are painful reminders that institutional ideology shows no respect for the amount of damage inflicted. Thanks to your public comment system, the deductions gleaned from POSIWID have been corroborated with more data points than I needed to collect. Everything received, so far, is a glove fit to the appraisal. Natural law is like that.

William L. Livingston, PE