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Science Fact And Legal Fiction

Why Including An Outside Science Coordinator In Your Litigation Team May Make More Sense Than You Think

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Environmental enforcement and toxic tort litigation has increasingly involved complex scientific and technical evidence drawn from multiple disciplines. To present at trial a successful attack on an opposing party's experts under *Daubert*, it is essential to begin building the foundation for that attack early. Evidence must be developed from an array of expert witnesses supported by underlying documentary evidence. Defense of such cases is expensive, and in-house counsel are searching for litigation management models that will provide the greatest return for their litigation dollar. In this article, we describe an innovative model that achieves this result.

To prepare for complex litigation involving scientific or technical evidence, the traditional law firm assembles a small army of associates, legal assistants and testifying experts to prepare a defense. Directed by the partner(s) who will conduct the trial, the junior lawyers gather mountains of documents, learn the facts and science, and interact with the experts to try to integrate information across disciplines. The trial team then develops a

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scientific theory of the case, and prepares for deposition and trial. This approach has fundamental drawbacks that limit its effectiveness. Relying upon junior lawyers who have only limited technical experience misplaces the responsibility of learning key information, integrating various scientific disciplines, identifying the critical "hinge" issues, and effectively deploying the scientific and technical evidence. Using the testifying experts to direct and inform case development is similarly problematic. Trial counsel will not want to expose an expert to examination beyond the scope of his or her expertise and will need to limit expert-to-expert communication to protect privileges, creating a "silo" effect with each expert understanding the case from the narrow perspective of his or her discipline. This approach also is expensive and may not be the most effective strategy for developing the strongest science-based arguments.

In two recent cases, our legal team added a senior "science coordinator" to work with trial counsel to develop a scientific theory of the case, find and retain experts, mine documentary information

to prepare for offensive deposition, interface with experts to produce expert reports that could be integrated to "tell the story" well, and generally assist in trial preparation. By structuring a defense team in this way, we achieved higher quality scientific evidence at a lower cost.

We used this approach in the defense of two New Source Review (NSR) enforcement cases filed against coal-fired power plants under the Clean Air Act. In both cases, the plaintiffs (EPA, state agencies and nongovernmental organizations) claimed that "excess" emissions of sulfur and nitrogen compounds from coal combustion at Midwestern power plants caused disease and mortality throughout the eastern United States, damaged forests and streams, and impaired visibility. Plaintiffs relied upon scientific and technical analyses from several disciplines, including pollution control engineering, air quality modeling, clinical medicine, disease epidemiology, soil science, water chemistry, plant toxicology and fisheries ecology.

A full discussion of these allegations is beyond the scope of this article. Suffice it to say that they were dramatically presented and facially compelling. Using the litigation model described here, however, we were able to uncover important flaws in the science underlying the plaintiffs' case, some of them well hidden. With help from the science coordinator (we used Ronald B. Outen, Ph.D. of Rockport, Texas), we integrated scientific knowledge from all these disciplines and developed persuasive evidence to defend against the government's allegations.

We organized the project around three

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stages of trial preparation - understanding the government's expert's proposed testimony, identifying and retaining countering defense experts, and preparing the attack on the government's expert's opinions. Throughout, the lawyers comprising the trial team worked closely with the science coordinator, sharing the workload and focusing the tasks to maximize efficiency.

To understand the nature and support for the claimed harm, the trial team immediately gathered background information on plaintiffs' experts. We obtained copies of the documents they considered and should have considered, as well as other relevant scientific publications. Under the direction of the legal team, the science coordinator evaluated plaintiffs' claims, identified key issues and identified potential defense witnesses.

By judicious use of non-testifying experts for specific analytical tasks, we explored key aspects of the case in a way testifying experts cannot, for fear of "considering" leads that prove not to be fruitful. Of the members of the science team, only the science coordinator saw all aspects of the case, with the other members of this "science team" used only for specific tasks. The science coordinator, working under attorney oversight, augmented his expertise and coordinated a flexible process that quickly gathered key information and fed it to the trial team. As one example, we retained a non-testifying expert to evaluate the sensitivity of the plaintiffs' air quality model to changes in assumptions regarding input values. We later used the results to direct our testifying expert to perform tasks that proved useful without his having to address unhelpful model runs that he considered but determined not to use.

Using the understanding of the basis for plaintiffs' experts' opinions gained from this effort, the trial lawyers determined the number and nature of experts. The science coordinator acted as an expert "headhunter," contacting experts and serving as liaison to the trial team. The trial lawyers responsible for a given disciple and the science coordinator conducted joint interviews of potential experts and retained the witnesses who would comprise the defense case.

The science coordinator was especially helpful in streamlining the production of expert reports, always an arduous

process. Along with trial counsel, the science coordinator helped assure that each expert report was understandable by the trial judges, an important consideration given that the trial judges proved to be voracious readers. Science coordinator review of drafts helped insure internal consistency of opinions without cross-expert interaction that could open avenues of examination of issues not germane to the expert's opinions. The science coordinator was well-positioned to assist trial counsel to assure that, by trial, the documentary evidence and defense expert opinions would tell a seamless story.

Our case management model proved particularly helpful in deposition preparation. The science coordinator, under the direction of trial counsel and supported as needed by non-testifying experts, helped in the review of plaintiffs' expert reports, identification of potential impeachment documents and preparation of initial deposition outlines. This approach allowed us to probe much more deeply into plaintiffs' case, a decision that paid off in several instances. For example, examination of computer code deep within the air quality model forced plaintiffs' expert to acknowledge that he had modified the code and made errors that impeached his predictions. As another example, based on research into the older literature, we determined that certain pivotal reaction equations in the model had never been validated and were based on an outdated understanding of complex atmospheric chemistry. Again, plaintiffs' expert conceded that he had little understanding of the atmospheric chemistry component of the model upon which he had relied to produce air pollution estimates that were, in turn, relied upon by other experts. We used these errors and concessions from an expert who served as a foundation witness for plaintiffs' entire case to mount a broad-based attack on most of the plaintiffs' scientific experts.

From this experience, we are convinced that the traditional litigation model would not have produced the cost efficiencies and results we achieved by having the "right" science coordinator. The "right" science coordinator has special skills; many good scientists would not function well in the role. The science coordinator must understand trial and pre-trial processes and privilege issues,

and be conversant with the *Daubert* line of cases. He or she must be able to view scientific information through a legal prism and identify productive lines of examination of opposing experts. The science coordinator must be comfortable working within both the legal and science paradigms, be able to work productively with trial counsel and experts in high-pressure situations, and have the trust and confidence of both. It is less important that the science coordinator have extensive knowledge of the specific science issues in the trial than that he be a fast learner; it is easier to learn the necessary science than to develop the unusual skill set required for success.

It is best to involve the science coordinator early. By trial, our science coordinator had been thoroughly integrated into the trial team. This significantly enhanced our ability to think creatively and apply scientific ideas and information in the litigation context. As a result, the trial team was better able to work simultaneously at the strategic and tactical levels. We identified and focused our efforts early on key scientific "hinge issues" that helped target discovery and research. Our science team assisted in the preparation and assembly of exhibits, developed lines of cross-examination, drafted direct examination outlines and prepared witnesses for cross-examination. Consequently, we developed a stronger and more focused case.

While a good science coordinator can strengthen a legal team, his presence raises privilege issues, and any contact between the science coordinator and testifying experts has to be managed. An experienced science coordinator will know how to avoid the appearance of steering the witness.

In both cases, the clients expressed some initial skepticism as to why it made economic sense to make a senior, non-testifying scientist an integral member of the trial team. Before long, both clients understood that our science coordinator helped us achieve more cost-effective trial preparation by allowing us to deploy associates more effectively, identify high-value lines of examination and take on some tasks (such as preparation of initial deposition outlines) that reduced attorney costs. The lesson we learned from following this model is that it produces significant value to the client, value that increases with the complexity of the case.