EFFECTIVE ELECTRONIC CASE MANAGEMENT

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Introduction –

This presentation addresses several strategies to reduce costs in the management of complex litigation, handling e-discovery and data review and the effective use of electronic tools to prepare the case and maintain the focus on the key substantive issues.

Preparing for and Managing E-discovery –

Now is the time, before litigation strikes, to talk to your IT department, make sure you understand your record retention policy and practices and make sure you understand your company's data map.

Step #1 - Get to know your IT personnel.

- Ask for an organization chart (there may be more than one IT group within your organization) and obtain a high-level overview of each person's responsibilities.
- Create an "eDiscovery Response Team" who will be helpful in planning strategies for searching or collecting data in response to litigation. If your IT group has Project Managers, they can be valuable in connecting the business aspects to the technical details. The team should include:
  - The person who handles data backups or retention
  - The person who maintains and/or refreshes equipment (PCs, laptops, Blackberries)
  - The person who has an overall understanding of network operations
- Identify your 30(b)(6) witness or E-Discovery Coordinator. This person should be the person most knowledgeable of your company's IT systems and processes. Begin preparing this person to possibly testify regarding systems, backups and other technical details regarding internal data management practices. (This may be multiple people).
- Educate your IT staff as to the legal issues involved in data preservation and collection. IT staff do not typically understand the legal issues around preserving and collecting data. They tend to focus more on dealing with new data added to the environment, not older data. Starting a dialog so they understand what you need and why will help them formulate a process to give you what you want.

Step #2 - Understand your electronic data storage systems.

- Get comfortable with your organization's Data Map. If your company does not have a data map, it is a best practice to invest in the creation of one now.
• Ask your IT group to discuss the different document types used throughout the organization.

• Understand where relevant data may be stored.

• Focus time on email systems.

• Determine if any company data is stored with 3rd party vendors or data warehouses.

• Determine if the company uses a document management system.

• Determine if the company uses any data archiving systems. If so, how are documents archived and how can the archiving process be suspended?

• Discuss backup rotation schedules for data and different departments, especially email, and how to retrieve data from backup tapes.
  • How long are backup tapes kept?
  • How easily can data be restored; what is the process?
  • Determine if there are any systems that are not backed up.

• Identify those systems that are maintained for disaster recovery purposes only.

• Identify legacy systems.

• Determine which systems contain data that is accessible and which systems contain data that is not accessible.
  • Accessible data is typically from active systems.
  • Non-accessible data is typically from legacy systems where recreating the environment makes retrieval cost prohibitive.

• Ask your IT group about automated data deletion, manual data deletion, and clean-up routines. Discuss ways to suspend those routines should a litigation hold be issued. Caution IT that manually deleting data to recover needed disk space may be damaging

• Ask your IT group how data may be searched and retrieved within the systems/applications.

Step #3 - Get to know your company’s computing policies

• Review computer polices for things such as remote access (work from home), departure polices, data security, cell phone usage, etc. These policies will help shed light on how systems are used and uncover other places where ESI may be stored.
• Record retention policy – Review the record retention policy to ensure it includes the following elements:
  • Procedures on how to organize email and other ESI as it is created.
  • Procedures for destroying what can be destroyed permanently.
  • Procedures for limiting storage on local drives.
  • Measures to ensure the policy applies to everyone.
  • Procedures to preserve evidence.
  • A routine schedule of enforcing and updating the policy must be implemented.

Step #4 - Get a sense of routine practices

• How is internal correspondence conducted on a daily basis? Email? Instant messaging? How is this data stored, archived and purged?

• Even though polices dictate how data should be saved, determine if these are truly followed or if there is another "accepted" practice.

• Discuss how data is typically maintained in the normal course of business.

Understanding your company’s "data universe" will allow you to react and respond quickly to preservation orders and make informed decisions on how to preserve, search and collect relevant data. This is not a process that you want to be thinking about for the first time in response to litigation.

The benefits of the pre-litigation planning process:

• Litigation hold - You’ll have the information you need to suspend routine document retention and destruction policies for relevant information.

• Identify the electronically stored information to be disclosed as part of the initial disclosures. FRCP 26(a)(1)(A)(ii).

• Identify the data that is "not reasonably accessible because of undue burden and cost." FRCP 26(b)(2)(B).

• A party need not provide discovery of ESI from sources that are "not reasonably accessible because of undue burden or cost." However, if challenged, you must prove it.

• Practice Point – you must be able to articulate facts to support the contention that data is not reasonably accessible, including the methods used to store and retrieve the information, and the cost and effort anticipated to restore and retrieve the information.
Identify the information to support a motion to limit discovery or cost shift. FRCP 26(b)(2)(C); Zubalake.

- FRCP 26(b)(2)(C)(i) (court may limit discovery where "the discovery sought is unreasonably cumulative or duplicative, or can be obtained from some other source that is more convenient, less burdensome, or less expensive").

- FRCP 26(b)(2)(C)(ii) (court may limit discovery where "the burden or expense of the proposed discovery outweighs its likely benefit, considering the needs of the case, the amount in controversy, the parties' resources, the importance of the issues at stake in the action, and the importance of the discovery in resolving the issues").

- The Zubalake Cost-Shifting factors include, among other factors, availability of information from other sources and the cost of production.

Identify the information required for the Rule 26(f) "Meet and Confer." FRCP 26(f)(3)(C).

Identify the 30(b)(6) IT witness.

Identify whether you have the resources in-house to conduct your own data retrieval.

- The best practice is to retain an outside vendor to conduct the data collection. The data collector may be required to establish the chain of custody of the ESI. In addition, the data collector may be required to submit an affidavit in support of the collection process in order to validate it.

- Internal searching may work well for organizations routinely involved in litigation. However, you must make sure the in-house personal have the appropriate education, training, certifications and skill sets not only to conduct the necessary data preservation and collection, but also to testify as to these issues.

When litigation does strike -

- Document the litigation hold and data identification process. Re-issue the litigation hold periodically and as new custodians and subject matters come to light.

- Use an ESI questionnaire to identify all sources of potentially relevant data. Follow up the questionnaire with in-person interviews.

- Document all information as to why certain data sources are too costly or burdensome to search. Identify the witness who will testify on this subject.

- Maintain an ESI compliance tracking folder – maintain a single reference documenting all steps of the data collection process, recording the chain of custody and demonstrating compliance with the determined or agreed upon e-discovery protocol.
This aspect of the litigation should be treated as a mini-lawsuit. You need to document the process, the steps taken, the witnesses to the process, etc. as if you will have to proceed to a trial on the thoroughness of your discovery efforts.

Data Review –

The goal of data review is to reduce the number of attorney hours reviewing documents as much as possible, while ensuring that only responsive, non-privileged material is produced.

Step 1 – Employ available search technology to reduce the volume of data requiring human review.

- Select a search tool that can do the following:
  - De-duplication. Bulk tag irrelevant data.
  - Removal of non-data.
  - Culling based on agreed upon search terms and logic.

- The practice has been endorsed: Principle 11 of The Sedona Principles, Second Edition (2007) notes: "A responding party may satisfy its good faith obligation to preserve and produce relevant electronically stored information by using electronic tools and processes, such as data sampling, searching, or the use of selection criteria, to identify data reasonably likely to contain relevant information."

- Practice Point 1 of the Sedona Conference® Best Practices Commentary on the Use of Search & Information Retrieval Methods in E-Discovery (2007) provides: "In many settings involving electronically stored information, reliance solely on a manual search process for the purpose of finding responsive documents may be infeasible or unwarranted. In such cases, the use of automated search methods should be viewed as reasonable, valuable, and even necessary."

- However, courts have voiced concern with attorneys efforts to formulate search terms. Examples:
  - Wm. A. Gross Constr. Assocs., Inc. v. Am. Mfrs. Mut. Ins. Co., 2009 WL 724954 (S.D.N.Y. March 19, 2009) (more is required than lawyer's guesses about appropriate keyword searches, absent quality control testing to ensure that search terms are minimally over-inclusive or under-inclusive)
  - Victor Stanley v. Creative Pipe, Inc., 250 F.R.D. 251 (D. Md. 2008) (criticizing defendants' failure to justify keywords used to carry out search of ESI, why keywords were chosen,
Qualifications of persons who determined keyword searches and whether methodology had been tested for reliability.

Case law in recent years suggests that the search methodology must rise to the level of that required for the admissibility of expert testimony:

- **United States v. O’Keeffe**, 537 F. Supp. 2d 14 (D.D.C. 2008): "Whether search terms or 'keywords' will yield the information sought is a complicated question involving the interplay, at least, of the sciences of computer technology, statistics, and linguistics... This topic is clearly beyond the ken of a layman and requires that any such conclusion be based on evidence that, for example, meets the criteria of Rule 702 of the Federal Rules of Evidence."

- **Victor Stanley, Inc. v. Creative Pipe, Inc.**, 250 F.R.D. 251 (D. Md. 2008): Parties should "be prepared to back up their positions with respect to a dispute involving the appropriateness of ESI search and information retrieval methodology – obviously an area of science or technology – with reliable information from someone with the qualifications to provide helpful opinions, not conclusory argument by counsel..."

- **Equity Analytics, LLC v. Lundin**, 248 F.R.D. 331 (D.D.C. 2008) (requiring expert testimony to determine whether search terms applied to the universe of data or only to selected file types was the most effective search methodology for finding relevant and responsive information on defendant's personal computer (which contained both business and personal material)).

Thus, the search and retrieval methodology must be defensible. This most likely means that you will need to show that the methodology has been tested against a data sample and shown to be reasonably accurate. For a detailed overview of alternative search methodologies to keyword searching, such as "concept searching" that uses statistics and linguistics to search concepts, not individual words, see The Sedona Conference® Best Practices Commentary on the Use of search and Information Retrieval Methods in E-Discovery (Sedona Search Commentary), 8 Sedona Conf. J. 189 (2007). See also The Sedona Conference Commentary on Achieving Quality in the E-Discovery Process (2009) for additional methods for ensuring quality of the keyword searches.

**Cooperation -**

- If possible, attempt to cooperate with your adversary to agree on a mutually acceptable search and retrieval protocol. The bottom line – it will save you a lot of money.
The Sedona Conference® has launched "a coordinated effort to promote cooperation by all parties to the discovery process to achieve the goal of a 'just, speedy, and inexpensive determination of every action.'" The Sedona Conference® Cooperation Proclamation, July 2008. The Proclamation "challenges the bar to achieve these goals and refocus litigation toward the substantive resolution of legal disputes."

Practice Point 6 of the Sedona Search Commentary provides: "Parties should make a good faith attempt to collaborate on the use of particular search and information retrieval methods, tools and protocols (including as to keywords, concepts, and other types of search parameters)."

Negotiate the following with your adversary:

- The substance of the search to be conducted - custodians, date ranges, subject matters.
- The search logic to be used – keyword, concept, etc.
- The data sources to be searched.
- If an impasse is reached, propose that the most accessible sources be searched first, followed by a period of reevaluation of the need to search the less accessible sources.

Practice transparency.

- Identification of key technical personnel.
- Identification of the person who will conduct the data harvest.
- Identification of the review platform and any conversion or processing of the data involved in this process.
- The point – obtain your adversaries consent to what you plan to do to avoid costly discovery battles down the road that may then necessitate a costly second harvesting and second data review process.

Step 2 – Determine what data requires further attorney review.

- Certain categories of captured data may not merit further review. If so, do not incur the cost of loading, processing, etc. Simply produce. However, all concerned must understand the risk of producing data without review and the potential for disclosure of privileged information and confidential and/or embarrassing material that is actually non-responsive, but yet was retrieved by the data harvest.

- Quick Peeks - A "quick-peek" agreement provides that documents will be produced without review, with the express reservation of the right to later assert privilege. Your adversary
then designates which documents are responsive, and you review those for privilege. This is a powerful method to reduce document review costs, but one that is fraught with risk.

- Fed. R. Evid. 502 - Recently enacted Federal Rule of Evidence 502 attempts to provide a mechanism to reduce the cost of document review. The Judicial Committee behind the rule found that much of the cost of litigation is created by attorneys reviewing vast amounts of documents in order to protect against the disclosure of privileged information, even where the risk of such disclosure is minimal.

- The new rule limits the situations where subject matter disclosure may occur. Fed. R. Evid. 502(a). The new rule also protects against inadvertent waiver where "reasonable steps" were taken to prevent disclosure and to rectify the error. Fed. R. Evid. 502(b).

- Thus, the new rule presents an opportunity to conduct limited searches of the document / data collection for privileged information, without a full review, thus avoiding the substantial cost of a full review.

- If this tactic is adopted, it is a best practice to negotiate the search protocols with your adversary, and document the process in order to be able to demonstrate the "reasonable steps" undertaken to prevent disclosure.

- Rule 502 is well intentioned. However, the reality is that it is impossible to "unring the bell." Moreover, the new rule does nothing to protect against the inadvertent disclosure of proprietary or trade secret information or of otherwise damaging material that is unrelated to the case at hand, but inadvertently collected as part of the document / data collection. Thus, the best practice is to conduct a case-by-case assessment of the actual risk that such information will be disclosed and the damaging effect of such disclosure prior to producing material without full review.

- The key issue that has arisen under Rule 502 since its inception has been whether the disclosing party took "reasonable steps" to prevent disclosure. Compare ReliOn Inc. v. Hydra Fuel Cell Corp., No. CV06-607-HU, 2008 U.S. Dist. LEXIS 98400 (D. Ore. December 4, 2008) (deeming privilege waived if the privilege holder fails to pursue all reasonable means of preserving the confidentiality of the privileged matter) (emphasis added); Rhoads Indus. v. Bldg. Materials Corp. of Am., 254 F.R.D. 216 (E.D. Pa. 2008) (holding that the interests of justice strongly favored permitting plaintiff to maintain privilege of mistakenly disclosed documents, even though plaintiff had not taken reasonable steps to protect privilege documents).

Step 3 – Data Review and "Coding"

- Coding of documents in a database presents one of the greatest costs you will face in a case involving a large volume of data.
Objective coding - to classify and organize the data by date, author, recipient, type of document, etc.

- With ESI, much of the objective coding can be provided by the metadata.
- With OCR'd documents, a process called auto-coding may be used to pull out the basic objective coding data.

Subjective coding – to characterize data as privileged, responsive or relating to specific issues, and applying redactions and/or identifying the data as subject to a protective order.

- The database created by subjective coding can facilitate the creation of a privilege log and greatly assist in tracking the production of documents in multiple cases and the documents reviewed by experts.
- Consistency is key to controlling costs in a large data review and coding project. The more consistency, the less time spent with second and third level reviews.
- Coding manual – the review team should have a coding manual to utilize throughout the review process.

Team management:

- Schedule brief (15 minute), daily meetings with the review team to discuss the status of the review and address issues promptly.
- Appoint a database manager, typically a paralegal, to monitor and track all aspects of the document management process to ensure the resulting database is as efficient, accurate, and consistent as possible, and to track all documents that are received, sent to a vendor, loaded into a database, sent to an expert, etc.
- Prioritize documents for review during rolling productions and develop a timeline for review.
- Conduct a multi-stage review. The first review is to conduct the full objective and subjective coding. Further reviews are for quality control purposes.
- Staffing of the document review team is crucial to controlling costs.
  - Begin subjective coding using all members of the legal team. This will serve two main purposes: 1) It will allow the legal team to see the information in the documents first-hand, and 2) it will allow the legal team to identify any potential coding problems, trends, anomalies, etc. The team should review the coding
manual together, and take the time to code substantive/relevant
documents together as a team.

- Following this initial phase, the document review should be
  conducted by paralegals and/or contract attorneys working at
  comparable rates.

- The legal team should explain the basic facts and legal issues of
  the case to the coders, so that they can understand the big
  picture.

- A contact person should be appointed to handle all substantive
  questions, and meet with the coders daily.

**Effective Electronic Case Management -**

The goal of effective electronic case management is to reduce the mass of data collected,
reviewed and produced into the set of key documents in the litigation, and then further reduce this data to
the set of trial exhibits, while building on the legal team's collective efforts, avoiding duplication and
preserving attorney work product.

The management of key documents -

- **Hot Docs** - During the review process, the legal team will decide which documents appear
  important or relevant to the case.

- **Foldering** - Documents and data should be segregated by electronic folders to prepare for
depositions and create categories of documents.

  - This is an effective technique for deposition preparation. During deposition
    preparation, a paralegal will run the searches across the database looking for
    specific search terms relevant to a witness. The searches are saved in a folder for
    attorney review. The attorney may deselect documents from the folder or select
    documents into a subfolder for use at the deposition. By this process, the legal
    team builds upon its work product and avoids duplicative efforts.

  - This is also an effective technique for segregating documents by category in a
    central electronic location for access by the entire legal team.

  - This technique is also effective for creating folders of documents / data to be sent
    to experts.

- Throughout the litigation, the legal team should cull the documents down to the “trial set.”

- As the case develops, the best practice is to begin transferring the documents to
  be used as evidence at trial over to a case management database.
• Documents used as exhibits at depositions should likewise also be maintained in the case management system.

• Once entered in the database, the document should be used to create a "fact" in the database and should be linked to an "issue" in the database.

• Information needed for admissibility of the document should be recorded in the database as well.

• Through this process, the analysis of the document is captured and the legal team is able to build upon the team's collective work product as the matter progresses towards resolution.

• When it is time to prepare the case for trial, the trial team can review the documents and mark them for use as trial exhibits. A report can be run that lists the documents with their foundational elements. This results in the initial exhibit list and a log for tracking the admission of the key documents.

The management of deposition testimony –

• Deposition transcripts should be reviewed and highlighted electronically.

• Testimony supporting the key factual issues in the case should be sent to the case management software, used to create a "fact," and linked to an "issue" in that database.

• Testimony going to secondary issues (e.g., inconsistencies in testimony between fact witnesses, important background information, weaknesses in an expert's methodology, etc.) should be linked to appropriate issues in the transcript management software.

• Reports – either software system can be used to run a report or digest of the facts and legal issues linked to the witnesses testimony.

• Processing transcripts in this fashion captures the attorney analysis of the importance of the witness's testimony at the time when it is most fresh. At a much later time, for trial preparation, reports can be run in both software systems producing the witness's relevant testimony for use in preparing the trial examination.

Use case management software to develop the case theory -

• When documents and testimony are organized in a case management software, the software permits the creation of a "fact" relevant to the case theory. The item may also be linked to the legal "issue" to which it pertains.

• Through this process, the case theory is developed and recorded, culminating in a list of facts necessary to be proven at trial in order to support a particular legal
theory. As such, the legal team’s work product is continually being built upon, avoiding duplication of efforts.

- Run a report showing all the facts supported by a witness. Often times, this is more effective than a deposition summary. This report can then be loaded into a secure extranet.

- Run a report showing all the facts pertaining to a particular legal issue in the case.

- The report can be run periodically to show just the developments in the case over a specific period of time. This update report can be loaded into a secure extranet.

Through this process of document and deposition review and recording of attorney analysis in a case management system, the legal team’s work product is built upon such that the matter continually progresses towards the summary judgment or trial stage while minimizing any duplication of efforts.
1. Plan & Preserve
- Work with IT and/or an ESI vendor to create data maps and system diagrams to determine all sources of ESI and accessibility of sources.
- Form an eDiscovery Response Team and identify 30(b)(6) witnesses.
- When litigation is anticipated, identify key custodians and execute a litigation hold based on responses to an ESI questionnaire.
- Revise and reissue the litigation hold.

2. Harvest / Collect
- Attempt to agree on a search protocol (terms, sources, custodians, technology).
- Develop defensible search strategy.
- Document process in ESI Compliance Tracking folder.
- Work with an ESI vendor to collect data from servers, hard drives, PCs and other sources of ESI.

3. Cull / Pre-Process
- Use preview tools to help de-dup, remove non-data, bulk tag relevant data and further cull data.

4. Process
- Select review platform.
- If necessary, extract native email and attachments from PST or NSF files, extract metadata and convert files into a format usable with document review tool.

5. Review / Produce
- Identify the data to be reviewed.
- Consider “quick peeks” and/or limited review.
- Evaluate culled and processed data for privilege, responsiveness, and issues.
- Produce in agreed-upon format.

6. Analyze
- Manage the “hot documents”
- Develop timelines.
- Conduct depositions and capture the relevant deposition testimony.
- Build the database of exhibits and facts to be offered at trial.

7. Present
Tell your story using electronic exhibits and other trial software.

Large volume of data

Only relevant data
Date: _____ Reason for Request: _____
Requested by: _____
Contact Information: _____

Custodian/Computer user: _____ Title: _____ Phone _____ (direct dial): _____

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**General:**

Did you receive the litigation hold? ______.

Did you read it? ______.

Do you have any questions? ______.

**User Information:**

Company: ______

Street: _____ City: _____, State: _____, Zip: _____ Email address: _____

Any location change? ______

Basic Involvement in Case: ______

☐ Contract formation
☐ Design/development of product
☐ Order/shipment process
☐ Complaints from customer
☐ Manufacturing process

**Workstation Identification (the IS department will help with this information):**

Type: (laptop, desktop, notebook, server) ______

Computer ID Number: ______

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This portion of page 1 will be completed by the IS department or EDD vendor

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Internal or Attached Hardware:

Do you use any external hardware? _____

☐ 3 1/2-inch Floppy  ☐ Sound  ☐ Other Drives:

☐ 5 1/4-inch Floppy  ☐ Bluetooth: _____  ☐ ___ : ___

☐ CD-ROM Reader: _____  ☐ Fire wire: _____  ☐ ___ : ___

☐ DVD Reader: _____  ☐ Modem _____  ☐ ___ : ___

☐ CD/DVD Writer: _____  ☐ USB _____

☐ Tape Unit _____  ☐ Zip Drive: _____

☐ Network Card _____  ☐ SCSI Drive: _____

☐ Wireless Card: _____  ☐ SATA Drive: _____

Comments: _____

Paper File Storage Location(s): (address-)

_____.

Software Package(s):

☐ Lotus Notes  ☐ MS Office  ☐ MS Access  ☐ MS Project  ☐ Visio  ☐ Other: _____

☐ Employer’s Email System: Where do you store Emails related to this matter?:

(Employer’s Email software: _____)

Personal folders. Customer folders and by topic.

Personal folders → _____

☐ Your personal email account(s): Do you access your personal account from a company machine?:

(Yahoo, Hotmail, AOL, etc) email address(s): _____, List personal Internet Service Provider(s) (ISPs): _____
☐ **Database**: (database software: _____) *Do you access any databases that relate to this matter?:*

  Database Name: _____ Function/Purpose: _____

  _____

  _____

☐ **ECM**: (enterprise content management i.e.: SharePoint, File Net) - *Name and Location*: _____

  File /data type: _____ Path: _____

☐ **The Document Management System**:

  Search criteria for locating documents: _____

  _____ _____

  _____ _____

☐ **Shared Network Location(s)**: (server name(s) if known) _____

  Please list the path or folder location of files: _____

☐ **Home Directory**: Folder Name _____

☐ **Local Company PC Or Laptop**: (My Documents, Desktop etc).

  File Location(s): _____

☐ **External Mobile Device Or Media**:

  ☐ External hard drive(s) / Thumb drives. Location: _____

  _____

  ☐ CD/DVD/diskettes. Location: _____

  _____

  ☐ Memory cards (for mobile devices, digital cameras, etc.). Location: _____

  ☐ Mobile devices internal storage (including mda, pda, mp3 players, any mobile device):

    Device Name/Type: _____ Location: _____
☐ Additional Data Locations:

☐ Home computer systems: Machine Name / Type: _____ Location: _____

☐ Website. Name & Location: _____

☐ FTP site. Name & Location: _____

☐ Instant Messaging: _____

☐ Skype Account: _____

☐ Other Locations: Please list any other location of business files, documents, email messages, attachments:

_____

_____

Do you know of anyone else that might have information or documents relating to this case? _____
Andrew focuses his product liability practice on the defense of claims against manufacturers of specialty plastics, aircraft components, commercial food processing equipment, building materials, and other commercial and consumer products. His business litigation practice is focused on the defense and prosecution of business disputes relating to specialty plastics, aviation components, and wireless communication services. Andrew also has experience in premise liability, utility liability, automobile liability, insurance coverage disputes and business disputes arising from commercial loan agreements, asset purchase agreements and shopping center leases.

Andrew is admitted to practice in Ohio and before the U.S. District Court for the Northern District of Ohio, the U.S. Sixth Circuit Court of Appeals and the U.S. Supreme Court. He has represented clients in jurisdictions throughout the United States, including New York, New Jersey, Philadelphia, Indiana, Colorado, Oklahoma, Louisiana and Maryland.

**Representative Matters**

- Specialty Plastics
- Prosecution of commercial action on behalf of manufacturer/seller of NSF pipe compound and defense of counterclaim.
- Prosecution of commercial action on behalf of manufacturer/seller of vinyl window and door compound and defense of counterclaim.
- Defense of commercial action against manufacturer/seller of PVC compound used to manufacture pipe fittings.
- Prosecution of commercial action on behalf of buyer of color pigment for use in manufacture of plastic pipe for fire suppression equipment.
- Representation of specialty paint manufacturer in multi-jurisdiction commercial dispute involving allegation of bacteria contamination in paint.
- Defense of multi-jurisdiction dispute pertaining to plastic formulation for water heater dip-tubes, with alleged damages in excess of $300,000,000.

- Aviation
- Defended manufacturers of aircraft and aircraft components against wrongful death, personal injury and fire damage claims involving single engine aircraft, helicopter, de-icing equipment, avionics and engine components.
- Defended manufacturer of de-icing equipment against design defect and warning claims arising from 29 person fatal crash of EMB-120 Brasilia aircraft, resulting in directed verdict on design claim and defense jury verdict on warning claim.
- Defended manufacturer of de-icing equipment on Cessna 208B aircraft in multiple actions arising from fatal accidents.
- Defended manufacturer of landing gear components for C-130 aircraft in commercial dispute, and prosecuted counterclaim.
- Representation of manufacturer of jet engine fuel spray nozzles in prosecution of commercial damage claim against supplier of super alloy forgings.