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COUNSEL COURTS KEEP: JUDICIAL RELIANCE ON SPECIAL MASTERS, COURT-APPOINTED EXPERTS, AND TECHNICAL ADVISORS IN PATENT CASES

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I. INTRODUCTION

> *No one will deny that the law should in some way effectively use expert knowledge wherever it will aid in settling disputes. The only question is as to how it can do so best.*
>
> Learned Hand, *Historical and Practical Considerations Regarding Expert Testimony*, 15 HARV. L. REV. 40 (May 1901).

Patent cases are among the most complex matters that a federal district court must supervise. Typically, the court will be forced to grapple with an arcane, specialized vocabulary, opaque prior art references, and intricate products. The court will also likely endure battles of the experts featuring sharply divergent viewpoints regarding mysterious technologies. In effect, hearing a patent case can be as conceptually difficult as asking it to resolve a dispute between two parties speaking different languages. Moreover, since patent litigation has nearly tripled over the past twenty years, this appears to be a problem that is not going away. *See* Chris Barry et al., *2012 Patent Litigation Study: Litigation continues to rise amid growing awareness of patent value*, PricewaterhouseCoopers 6 (Sept. 2012), *available at* http://www.pwc.com/us/en/forensic-services/publications/2012-patent-litigation-study.jhtml.

Many suggestions have been proposed for lightening the burden that patent litigation places on the judiciary. For example, some commentators have called for specialized patent courts. *See*, *e.g.*, Richard A. Posner, *Why There Are Too Many Patents in America*, TheAtlantic.com (July 12, 2012), *available at http://www.theatlantic.com/business/archive/2012/07/why-there-are-too-many-patents-in-america/259725/*. Congress has provided a number of solutions as well, such as the Patent Pilot Program in which district court judges may request to hear patent cases, enabling disinterested judges to decline them, thereby building greater, albeit concentrated, experience with patent litigation in the federal judiciary. Omnibus Trade Act of 2010, Pub. L. No. 111-344, 124 Stat. 3674 (2011).

One approach that district courts presiding over patent cases may take to manage this technical complexity is to seek help from an expert on patent law or on the technology at issue – a "neutral expert." Courts have inherent authority to engage special masters, court-appointed expert witnesses, and technical advisors who may help explain the

technology, translate esoteric language, answer difficult legal and factual questions, and provide a view of the evidence untainted by party affiliation.

While such neutral experts can be of considerable help to courts in presiding over patent cases, they give rise to significant risks, from increased costs to violations of fundamental due process rights. Accordingly, courts wading into the neutral expert waters must do so carefully. Below, we provide an overview of the legal framework for each species of neutral expert, discuss the potential benefits and risks inherent to each, and recommend steps a district court should take when considering whether to appoint a neutral expert.

II. THE LAW GOVERNING APPOINTMENT OF NEUTRAL EXPERTS

Courts have the inherent power to engage third parties to assist them in performing their judicial duties. *In re Peterson*, 253 U.S. 300, 312-13 (1920) ("Courts have . . . inherent power to provide themselves with appropriate instruments required for the performance of their duties. This power includes authority to appoint persons unconnected with the court to aid judges in the performance of specific judicial duties, as they may arise in the progress of a cause."). Courts must balance this power, however, with their duty under Article III "to determine by [their] own judgment the controversy presented." *Stauble v. Warrob, Inc.*, 977 F.2d 690, 695 (1st Cir. 1992) (quoting another source).

The law provides some guidelines for courts to follow in striking this balance. At least superficially, the legal requirements for courts' appointment of third-party aids vary in number and precision according to the extent of the delegation of judicial authority. At one end of the spectrum, the Federal Rules of Civil Procedure provide specific conditions and procedures for courts to follow when appointing special masters, who may decide issues pursuant to overt delegations of authority. At the opposite end, no Federal Rules govern courts' use of technical advisors, who provide no on-the-record decisions or testimony. *See Reilly v. United States*, 863 F.2d 149, 156 (1st Cir. 1988) (holding Federal Rule of Evidence 706 does not govern technical advisors). We discuss the law relevant to special masters, court-appointed experts, and technical advisors below.

A. Special Masters

1. Courts may refer any issue to a special master with the parties' consent. Without consent, courts may refer *almost* any issue to a special master.

Rule 53 of the Federal Rules of Civil Procedure governs special masters. *See* Fed. R. Civ. P. 53; *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1566 (Fed. Cir. 1988) ("The powers and conduct of special masters are generally governed by Fed. R. Civ. P. 53, and the specific powers of the master are defined by the order of reference in each particular case."). In 2003, Rule 53 was "revised extensively to reflect changing practices." Fed. R. Civ. P. 53 advisory committee notes (2003 amendments). In its current form, Rule 53 provides that courts may appoint special masters for three purposes:

- To perform any duties to which the parties consent;
- To hold trial proceedings and make or recommend factual findings on issues decided without a jury, provided "some exceptional condition" exists or there is a "need to perform an accounting or resolve a difficult computation of damages"; or

- To handle pre- and post-trial matters "that cannot be effectively and timely addressed by an available district judge or magistrate judge of the district."

Fed. R. Civ. P. 53(a)(1).

Pursuant to Rule 53, courts are not required to obtain the parties' consent before referring to a special master any pre- or post-trial matter or trial of any damages question implicating "complex quantitative issues." *Stauble*, 977 F.2d at 694. The parties' consent is needed only when courts wish to appoint special masters to preside over trial of non-jury issues and make or recommend findings of fact, absent "some exceptional condition" existing. Fed. R. Civ. P. 53(a)(1)(B)(i); *cf. Constant*, 848 F.2d at 1566 ("[T]he court has the power to appoint masters without the consent of the parties.").

One might interpret "exceptional condition" broadly enough to encompass matters dealing with unusual factual complexity – for example, patent cases dealing with especially complicated technology. Courts have rejected such a broad reading.

In *Los Angeles Brush Manufacturing Corp. v. James*, 272 U.S. 701 (1927), the Supreme Court declined to issue a writ of mandamus regarding a district court's referral of patent cases to a special master, but stated that a per se referral of all special cases to a special master would fall afoul of the Equity Rules then in effect. The Court observed that, apart from certain issues such as validity, "[t]here is no reason why a patent litigant should be subjected to any greater expense than any other litigant." *Id.* at 707.

The Court again considered whether complexity amounted to an "exceptional condition" in *La Buy v. Howes Leather Co.*, 352 U.S. 249 (1957). In that case, the Supreme Court affirmed the Seventh Circuit's issuance of a writ of mandamus vacating a district court's referral of antitrust cases to a special master for trial on the merits. The Court agreed that the lower court's bases for the referral – a congested docket and "unusual complexity of issues of both fact and law" – were not "exceptional circumstance[s]." *Id.* at 258-59. Regarding the latter basis, the Court explained that "most litigation in the antitrust field is complex. It does not follow that antitrust litigants are not entitled to a trial before a court." *Id.* at 259. The Court added that complexity of issues "is an impelling reason for trial before a regular, experienced trial judge rather than before a temporary substitute appointed on an ad hoc basis and ordinarily not experienced in judicial work." *Id.*

In *Stauble v. Constant*, the First Circuit applied *La Buy* and held that "[n]onconsensual reference of fundamental issues of liability to a master for adjudication is not consonant with either Rule 53 or Article III." 977 F.2d at 696. In a case reminiscent of *Bleak House*, a shareholder and director brought claims for breach of fiduciary duty, diversion of corporate assets, and misappropriation of corporate opportunities against fellow directors and the corporation. The district court referred the case to a special master for trial of both liability and damages, asserting that the damages issues were complex and that "the interweaving of liability and damages constitute[d] the requisite 'exceptional condition.'" *Id.* at 694. The First Circuit rejected the reference and observed that "the perceived imbrication seems to be the same old whine in a different bottle. Saying that liability and damages are inextricably intertwined is just an alliterative way of saying that a given case suffers from a particular strain of complexity." *Id.* at 694-95. The appeals court then held that referring the trial of liability to a special master violated Article III. It explained:

> [T]he Constitution prohibits us from allowing the nonconsensual reference of a fundamental issue of liability to an adjudicator who does not possess the attributes that Article II demands. Because Rule 53 cannot retreat from what Article III requires, a master cannot supplant the district judge. Determining bottom-line legal questions is the responsibility of the court itself.

Id. at 695.

Finally, in *United States v. Microsoft Corp.*, 147 F.3d 935 (D.C. Cir. 1998), the D.C. Circuit granted mandamus relief vacating the district court's referral to a special master of the DOJ's motion to permanently enjoin Microsoft from requiring licensees of its operating system software to license Internet Explorer as well. The DOJ defended the reference in part based on the technological complexity of the software at issue in its motion. The court of appeals rejected this argument. Citing *La Buy*, the court observed that "it is very doubtful that complexity tends to legitimate references to a master at all." *Id.* at 955 (citing *La Buy*, 352 U.S. at 259). Interestingly, the court of appeals noted its preference that courts deal with difficult technologies by enlisting neutral experts rather than referring matters to employing special masters:

> To the extent that adjudication may lead the court into deep technological mysteries, we note the court's power under Rule of Evidence 706 to appoint expert witnesses. Whether such an expert is appointed by agreement of the parties or not, the expert's exposure to cross-examination by both sides makes the device a far more apt way of drawing on expert resources than the district court's unilateral, unnoticed deputization of a vice-judge.

Id. at 955 n.22 (citation omitted).

Notwithstanding the foregoing, the parties of course may consent to referral of decisions of liability on the merits to special masters. *Phillips Petroleum Co. v. Huntsman Polymers Corp.*, 157 F.3d 866, 870 (Fed. Cir. 1998) (parties stipulated to appointment of special master to decide summary judgment motions concerning infringement and noninfringement).

2. Rule 53 and the appointing order define the special master's role

Rule 53 directs courts to issue an appointing order when referring matters to a special master. Fed. R. Civ. P. 53(b)(2). "The appointing order must direct the master to proceed with all reasonable diligence." *Id.* In addition, the appointing order must identify:

- The master's duties and limits on its authority;
- Conditions applicable to any ex parte communications between the master and the court or a party;
- What materials the master should preserve and file as the record of its activities;

- The mechanics for reviewing the master's orders, findings, and recommendations, including time limits, method of filing the record, and standards for review; and

- The "basis, terms, and procedure for fixing the master's compensation."

Id.

Courts may issue the appointing order only after the master files an affidavit disclosing any grounds for disqualification under 28 U.S.C. § 455 and, if any ground is disclosed, only after the parties waive the disqualification, with the court's approval. Fed. R. Civ. P. 53(b)(3).

Courts must give the parties notice and an opportunity to be heard both before initially appointing a special master, Fed. R. Civ. P. 53(b)(1), and before amending the appointing order, Fed. R. Civ. P. 53(b)(4).

Apart from any responsibilities conferred through the appointing order, Rule 53 contains default provisions relevant to a special master's role. A master may "(A) regulate all proceedings; (B) take all appropriate measures to perform the assigned duties fairly and efficiently; and (C) if conducting an evidentiary hearing, exercise the appointing court's power to compel, take, and record evidence." Fed. R. Civ. P. 53(c)(1). A master may also issue sanctions, including non-contempt sanctions under Rules 37 and 45 of the Federal Rules of Civil Procedure. Fed. R. Civ. P. 53(c)(2).

Rule 53 contemplates that special masters will issue orders to the parties and, pursuant to the appointing order, reports and recommendations to the Court. The master must file and serve each on the parties. *See* Fed. R. Civ. P. 53(d), (e). Before acting on the special master's report or recommendations, district courts must give the parties notice and an opportunity to be heard. Fed. R. Civ. P. 53(f)(1). Parties may object or move to adopt or modify a master's order, report, or recommendation. Fed. R. Civ. P. 53(f)(2). Parties risk waiving positions by failing to do so. *Schaefer Fan Co. v. J&D Mfg.*, 265 F.3d 1282, 1289 (Fed. Cir. 2001) (finding party waived claim construction argument by failing to object to master's rulings); *Constant*, 848 F.2d at 1566 ("A party cannot wait to see whether he likes a master's findings before challenging the use of a master. Failure to object in a timely fashion constitutes a waiver."). With three exceptions, courts must evaluate objections to a master's findings of fact and conclusions of law under de novo review. Fed. R. Civ. P. 53(f)(3), (4). The exceptions are (1) the parties may stipulate to review of a master's factual findings for clear error; (2) the parties may stipulate that factual findings of a master appointed with the parties' consent or to oversee a pre- or post-trial matter are final; and (3) unless the appointing order establishes a different standard of review, a master's rulings on a procedural matter are reviewed for abuse of discretion. Fed. R. Civ. P. 53(f).

3. Use of special masters in patent cases

In patent cases, special masters are most frequently appointed to preside over claim construction. A 2009 study commissioned by the Federal Judicial Center found that special masters addressed claim construction issues in nearly 41% of patent cases in which courts appointed a master. *See* Jay P. Kesan and Gwendolyn G. Ball, A STUDY OF THE ROLE AND IMPACT OF SPECIAL MASTERS IN PATENT CASES 17, Federal Judicial Center (2009)

(hereafter, "FJC Study"), *available at http://www.fjc.gov/public/pdf.nsf/lookup/specmapa.pdf/$file/specmapa.pdf.* This frequency makes sense given the Rules Advisory Committee specifically recommended use of special masters in claim construction in their notes to the 2003 amendments to Rule 53: "The court's responsibility to interpret patent claims as a matter of law . . . may be greatly assisted by appointing a master who has expert knowledge of the field in which the patent operates." Fed. R. Civ. P. 53 advisory committee notes (2003 amendments). The Federal Circuit has also approved use of a special master to oversee claim construction. *See Absolute Software, Inc. v. Stealth Signal, Inc.*, 659 F.3d 1121, 1131 (Fed. Cir. 2011) ("A primary purpose of appointing a special master is to narrow the issues before the district court judge to facilitate an efficient and timely resolution of complex or highly-technical issues, such as patent claim construction.").

Apart from claim construction, the next four most common issues over which special masters have presided in patent cases are discovery (35.53%), infringement (12.05%), invalidity (8.43%), and enforceability/inequitable conduct (4.82%). *See* FJC Study at 17. This distribution of issues suggests that courts typically appoint special masters to preside over pre-trial aspects of patent cases (e.g. claim construction and discovery) rather than merits issues normally resolved through summary judgment or trial (e.g. infringement and validity). Nevertheless, the Federal Circuit has approved of special masters' handling of infringement and validity. *See Riverwood Int'l Corp. v. Mead Corp.*, 212 F.3d 1365, 1366 (Fed. Cir. 2000) (special master appointed to make factual findings regarding infringement and validity); *Constant*, 848 F.2d at 1566 ("Masters can properly aid the court in evaluating issues of patent validity and infringement in the context of motions for summary judgment, and have often done so.").

Notwithstanding the Advisory Committee's statement that courts may benefit by appointing "a master who has expert knowledge of the field in which the patent operates," Fed. R. Civ. P. 53 advisory committee notes (2003 amendments), special masters are typically attorneys. FJC Study at 4. And while many may have technical degrees, the Federal Judicial Center study found that special masters' technical training is often limited to a bachelor's degree. *Id.* The Federal Circuit has rejected challenges to appointment of a special master based on a lack of technical training. *Constant*, 848 F.2d at 1567 ("Appellant Constant is wrong in presuming that a master need have the same expertise in the technology as the inventor. Where complicated issues of patent law are involved, the appointment of an experienced patent attorney is quite appropriate.").

4. The parties compensate special masters

Finally, Rule 53 provides that special masters are compensated by the parties. Fed. R. Civ. P. 53(g)(4). As such, courts "must consider the fairness of imposing the likely expenses on the parties and must protect against unreasonable expense or delay" when appointing special masters. Fed. R. Civ. P. 53(a)(3).

B. Court-Appointed Experts

As many authorities have recognized, courts' inherent authority to appoint their own experts "is virtually unquestioned." Fed. R. Evid. 706 advisory committee notes (1972 proposed rules); *see also United States v. Green*, 544 F.2d 138, 145 (3d Cir. 1976) ("[T]he inherent power of a trial judge to appoint an expert of his own choosing is clear.").

Apart from this inherent authority, courts derive authority to appoint neutral experts from Rule 706 of the Federal Rules of Evidence. *Daubert v. Merrell Dow Pharms.,*

Inc., 509 U.S. 579, 595 (1993) ("Rule 706 allows the court at its discretion to procure the assistance of an expert of its own choosing."). Under Rule 706, "[o]n a party's motion or on its own, the court may order the parties to show cause why expert witnesses should not be appointed and may ask the parties to submit nominations." Fed. R. Evid. 706(a). Courts may appoint any expert on which the parties agree and "any of its own choosing." *Id.*

In contrast with the extensive rules applicable to special masters, Rule 706 contains only a handful of requirements relevant to court-appointed experts, some of which are not even mandatory. The court's obligations are twofold:

- The court *must* inform the expert of his or her duties, either in writing or orally before the parties, Fed. R. Evid. 706(b); and
- The court *may* allow the fact that the expert is appointed by the court to be disclosed to the jury, Fed. R. Evid. 706(d).

The expert's duties are also limited. The expert:

- must advise the parties of any findings he or she makes;
- may be deposed by any party;
- may be called to testify by the court or any party; and
- may be cross-examined by any party, including a party that called the expert to testify.

Fed. R. Evid. 706(b).

Court-appointed experts are "entitled to a reasonable compensation, as set by the court." Fed. R. Evid. 706(c). Like special masters, that compensation is paid by the parties, although Rule 706 grants courts the authority to set the proportions paid by the parties, as well as the time of payment. Fed. R. Evid. 706(c)(2).

In *Monolithic Power Systems, Inc. v. O2 Micro Int'l Ltd.*, 558 F.3d 1341 (Fed. Cir. 2009), the Federal Circuit affirmed the district court's appointment of an expert under Rule 706. It held that the district court properly applied Rule 706 by (1) allowing the parties to show cause why it should not appoint an expert witness; (2) providing detailed written instructions setting forth the expert's duties; (3) ordering the expert to make himself available for depositions and trial; (4) instructing the parties to share the expert's reasonable fees and expenses; and (5) informing the jury that the court appointed the expert and instructing the jury not to assign the expert's opinion "greater inherent weight on accord of his independent status." *Id.* at 1347-48.

The appeals court rejected the appellant's arguments that using a court-appointed expert is unfair because it departs from the advocacy and jury systems and that court-appointed experts "'tend to become in the eyes of the jury anointed, not appointed,'" *id.* at 1348 (quoting Hearings on Proposed Rules of Evidence Before the Subcomm. on Criminal Justice of the H. Comm. on the Judiciary (Supp.), 93d Cong., 1st Sess., 238 (1973)), calling these arguments "policy arguments" that Congress rejected when framing Rule 706.

Finally, while the Federal Circuit admitted some discomfort with court-appointed experts, *see id.* ("The predicaments inherent in court appointment of an independent expert and revelations to the jury about the expert's neutral status trouble this court to some extent."), it noted that the prevailing standards permitted courts "wide latitude" to appoint neutral experts and that the case at issue was "unusually complex" and featured "starkly conflicting expert testimony." *Id.*

C. Technical Advisors

Unlike special masters and court-appointed experts, technical advisors do not come within the purview of any Federal Rules. In *Reilly*, the First Circuit rejected the Government's argument that the Rule of Evidence 706 governs technical advisors as well as court-appointed experts. Looking to the text of Rule 706, the Advisory Committee Notes, and cases applying it, the appeals court held that the rule does not apply to courts' appointment of technical advisors. The court explained that the procedures set forth in Rule 706 "have marginal, if any, relevance to the functioning of technical advisors. Since an advisor, by definition, is called upon to make no findings and to supply no evidence, provisions for depositions, cross-questioning, and the like are inapposite." *Reilly*, 863 F.2d at 156 (internal citations omitted).

Given this lack of coverage under the Federal Rules, several courts of appeals have provided guidance to courts when considering the appointment of a technical advisor. *Reilly* itself states that technical advisors

> [a]re not witnesses, and may not contribute evidence. Similarly, they are not judges, so they may not be allowed to usurp the judicial function. A judge may not, for example, appoint a legal advisor to brief him on legal issues, since determination of purely legal questions is the responsibility of the court itself. Neither may a court employ a technical advisor to undertake an independent mission of finding facts outside the record of the case. In fine, the advisor's role is to act as a sounding board for the judge – helping the jurist to educate himself in the jargon and theory disclosed by the testimony and to think through the critical technical problems.

Id. at 157-58 (internal citations and quotations omitted). *Reilly* also warned that use of a technical advisor "is, if not a last, a near-to-last resort, to be engaged only where the trial court is faced with problems of unusual difficulty, sophistication, and complexity, involving something well beyond the regular questions of fact and law with which judges must routinely grapple." *Id.* at 156-57.

More specific guidelines were provided by Judge Tashima in his dissenting opinion in *Association of Mexican-American Educators v. State of Cal.*, 231 F.3d 572 (9th Cir. 2000). The majority held that the district court did not abuse its discretion in appointing a technical advisor originally disclosed as a court-appointed expert, but who did not testify as such, absent any evidence suggesting impropriety on the court's behalf. *Id.* at 591. In dissent, Judge Tashima stated that the district court failed to explain the technical advisor's role and to address a party's objection based on evidence of potential bias. *Id.* at 612 (Tashima, J., dissenting). Judge Tashima first observed that, in exercising its inherent authority to appoint technical advisors, district courts "must observe certain, minimal,

procedural safeguards in order to insure that the advisor is unbiased and impartial, and that his participation is properly confined." *Id.* at 609. Judge Tashima then identified two risks of using technical advisors:

> First, whenever a court appoints a technical advisor, there is a danger that the court will rely too heavily on the expert's advice, thus compromising its role as an independent decisionmaker and the requirement that its findings be based only on evidence in the record. This risk is especially salient if the contents of the communications between the trial judge and the advisor is hidden from the parties (and appellate review), and where the parties have no opportunity to respond to the advisor's statements. Second, experts in the relevant field, particularly if it is a narrow and highly-specialized one, may be aligned with one of the parties; therefore, the district court must make every effort to ensure the technical advisor's neutrality, lest the advisor develop into, or give the appearance of being, an advocate for one side.

Id. at 610-11. With this backdrop, Judge Tashima proposed the following rules for district courts to follow when appointing technical advisors:

> (1) utilize a fair and open procedure for appointing a neutral technical advisor;
>
> (2) address any allegations of bias, partiality, or lack of qualification;
>
> (3) clearly define and limit the technical advisor's duties;
>
> (4) make clear to the technical advisor that any advice he gives to the court cannot be based on any extra-record information; and
>
> (5) make explicit, either through an expert's report or a record of *ex parte* communications, the nature and content of the technical advisor's advice.

Id. at 611; *see also Federal Trade Comm'n v. Enforma Natural Prods., Inc.*, 362 F.3d 1204, 1215 (9th Cir. 2004) (adopting standards for technical advisors enumerated by Judge Tashima).

The Federal Circuits formally adopted Judge Tashima's recommendations for appointing technical advisors in *TechSearch L.L.C. v. Intel Corp.*, 286 F.3d 1360 (Fed. Cir. 2002). In that case, the appellant argued that a district court abused its discretion by appointing a technical advisor because the technical advisor conducted an independent investigation and did not certify compliance with the court's order conferring his duties. The Federal Circuit held that the district court did not abuse its discretion.

The appeals court first observed that the lower court found "evaluation of the prior art required it to consider and understand complex technical concepts beyond normal technical and scientific facts regularly addressed by the district court." *Id.* at 1377. It then explained that district courts "must have the authority to appoint a technical advisor in such instances so that the[y] . . . can better understand scientific and technical evidence in order to properly discharge [their] gatekeeper role of determining the admissibility of such evidence." *Id.* The court stated, "[I]n those limited cases where the scientific complexity of

the technology is such that the district court may require the assistance of a technical advisor to aid in understanding the complex technology underlying the patent, it has the inherent authority to appoint such an advisor." *Id.* at 1378.

Turning to the particular appointment at issue, the Federal Circuit noted that the district court adopted guidelines similar to those set forth by Judge Tashima, including "recogniz[ing] that the technical advisor's role is limited to explaining the terminology and theory underlying the evidence offered by the parties[,]" determining that the advisor was a neutral third party and explaining the reasons for that determination, assuring the parties that the advisor would not engage in independent investigation, identifying material relied on by the advisor, and requiring the advisor to execute an affidavit affirming his understanding of these rules before beginning his engagement and to certify compliance at its conclusion. *Id.* at 1380. The appeals court rejected the argument that purchasing computer equipment and billing time for research showed that the technical advisor engaged in independent research as well as the argument that the advisor failed to certify compliance. *Id.* at 1380-81.

III. THE BENEFITS AND RISKS OF APPOINTING NEUTRAL EXPERTS

Just as each species of neutral expert has its own procedural regime, each species has its own set of associated benefits and risks. We discuss each set of benefits and risks below.

A. Special Masters

1. Potential benefits

The most significant reason to employ any type of neutral expert is the expertise that he or she may bring. In this regard, special masters may accelerate adjudication of claim construction, infringement, or validity issues implicating complex technology, for example, if they are well-versed in the relevant technology or highly experienced in the intricacies of claim construction. With respect to special masters' participation in claim construction, the Rules Advisory Committee noted that "the advantages of initial determination by a master may make the process more effective and timely than disposition by the judge acting alone," even though the court must review that initial determination *de novo*. Fed. R. Civ. P. 53 advisory committee notes (2003 amendments). In addition, Rule 53 contemplates that special masters may communicate *ex parte* with appointing courts, which may enable courts to obtain answers to questions regarding the technology at issue more quickly than putting the issues to the parties for briefing or argument.

Some evidence suggests that harnessing special masters' expertise leads to better decisions. The Federal Judicial Center study discussed above concluded that cases in which special masters participated may have lower rates of reversal than cases in which the court does not appoint a master. FJC Study at 10-11. The study compared reversal rates in "long-duration patent cases," defined as cases lasting 1,000 days or more. *Id.* at 11. It found that the reversal rate in such cases in which the court did not appoint a special master was 11.7%. *Id.* By contrast, the reversal rate in long-duration patent cases in which the court appointed a master was only 3.6%. *Id.* The authors concluded that "[t]hese results would suggest that the average case with a special master is both less likely to have a ruling appealed and less likely to have a ruling reversed than the 'average' complex patent case." *Id.*

This evidence may not be so clear-cut, however, given the small sample-size used by the authors (only eight appeals involving special masters were considered) and contradictory findings – once the authors expanded their data set beyond "long-duration patent cases" to all patent cases, the rates of appeal and reversal for cases involving special masters paralleled cases that did not. *Id.* at 10.

2. Risks

As the reader may have surmised, we view the above benefits of special masters in patent cases as muted, especially when measured against several significant risks.

First, while courts utilize neutral experts primarily to avail themselves of greater expertise, it is not clear that special masters actually provide it. Unlike court-appointed experts and technical advisors, special masters are almost always lawyers, and thus lack the same level of immersion in the relevant technology that one would expect from a university professor or industry veteran. Significantly, even where special masters have some technical training, such training is frequently limited to a bachelor's degree. FJC Study at 4; *see also* Dolly Wu, *Patent Litigation: What About Qualification Standards for Court Appointed Experts*, Boston College Intellectual Property & Technology Forum 5 (2010), *available at* http://bciptf.org/wp-content/uploads/2011/07/5-PATENT-LITIGATION.pdf (arguing that most special masters would not qualify as persons of ordinary skill in the art). Accordingly, special masters are unlikely to provide the same level of technological expertise as court-appointed expert witnesses or technical advisors.

A related risk arises where courts appoint attorneys who are primarily patent prosecutors. Considering that, in patent cases, courts most often appoint special masters to assist with claim construction, prosecutors may be ill-equipped based on their lack of experience with *Markman* proceedings compared to experienced litigators or retired judges. Prosecutors are accustomed to broad construction approaches used by the PTO that differ from the standard applicable to litigation. Ironically, prosecutors may have *less* experience with claim construction than many district courts. Moreover, prosecutors may tend to rely more heavily on the specification than on other forms of intrinsic evidence, or even extrinsic evidence, than experienced litigators or judges, and thus may bring certain interpretive biases to the *Markman* table.

Second, contrary to the Rules Advisory Committee's suggestion that special masters may make claim construction "more effective and timely," there are reasons to believe that appointing masters leads to delay and increases costs to the parties. Apart from the obvious fact that the parties pay special masters, using special masters increases costs because, instead of the court deciding issues in the first instance, the parties must walk the additional steps of arguing the issue to the master, waiting for the report and recommendation to issue, and objecting to the court, which must then engage in *de novo* review, potentially leading to a new round of submissions, evidence, and argument. Moreover, delegating the decision in the first instance may decrease the time the district court spends acquainting itself with the record and the parties' positions, which could lead the court to be less familiar with the claims and relevant technology during later parts of the proceedings – e.g., summary judgment, motions *in limine*, and trial. As the Federal Judicial Center's Patent Case Management Guide notes:

> [T]he use of a special master runs an even greater risk of distancing the court from the details of claim construction. This limits the court's involvement in some of the most critical aspects of many patent cases

> and can create problems should claim construction require adjustment later in the case. It may limit the court's ability to gain command over the background science and technology, which could be important later in the case (for example, in addressing non-obviousness).

Peter S. Menell et al., Patent Case Management Judicial Guide 5-21 to -22 (2nd ed. 2012), available at http://ssrn.com/abstract=2114398.

In addition, empirical evidence suggests that patent cases in which the court appointed a special master lasted longer, settled less frequently, and went to trial more often than cases in which the court did not appoint a master. FJC Study at 8-9. In particular, the Federal Judicial Center study found that patent cases in which the court employed a special master lasted nearly three times longer on average than patent cases without a special master's participation. *Id.* at 8. Although statistics showing that cases involving special masters lasted longer could simply reflect that courts are more likely to appoint special masters in complex cases, the Federal Judicial Center study also suggests that special masters have not been demonstrably successful in inducing the parties to settle. *Id.* at 9. And, notably, the studies' authors could not "say with any statistical certainty that the presence of a special master in a case reduced resource expenditures below what they would have been without a master." *Id.*

Finally, delegating issues to special masters may impinge the parties' due process rights to resolution before an Article III judge. As explained above, considerable jurisprudence exists on precluding nonconsensual reference of "fundamental issue[s] of liability" to special masters. *Stauble*, 977 F.2d at 695. In the context of patent litigation, there is a disconnect between such jurisprudence and the fact that courts most frequently employ special masters to participate in claim construction. As the Federal Circuit has noted, claim construction is "often dispositive." *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 540 (Fed. Cir. 1998) (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996) ("In this case, as often occurs, the question of literal infringement was resolved upon the court's construction of the claims."). Indeed, one commentator has noted that "Federal district court judges estimate that claim construction was central to the resolution of their patent cases in upwards of 94% of such cases." Neil A. Smith, *Complex Patent Suits: The Use of Special Masters for Claim Construction*, 2 LANDSLIDE 37 (Sept./Oct. 2009). Although the Rules Advisory Committee implied that claim construction "blur[s] the divide between pretrial and trial functions," Fed. R. Civ. P. 53, advisory committee notes (2003 amendments), the text of Rule 53 provides that courts may appoint special masters to oversee claim construction over a party's objection. And while Rule 53 requires that district courts review special masters' reports and recommendations *de novo*, a risk remains that courts will not provide the intensive oversight that due process requires. This risk is all the more apparent when one considers that the court's lack of familiarity with the law or technology led them to appoint a master in the first place.

B. Court-Appointed Experts

1. Potential benefits

Court-appointed experts are designed to provide an unaffiliated, unbiased voice that can explain and translate the technology. Implicit in this is the assumption that courts distrust party experts, who are paid to provide an opinion that aligns with the arguments crafted by counsel, and thus are susceptible to questions regarding their credibility. While

our system presumes that the fact-finder, whether judge or jury, is ordinarily capable of making credibility determinations, doing so proves far harder when the parties' experts are using an esoteric vocabulary bearing a striking resemblance to gibberish to the ears of an average juror. In essence, when listening to a dispute between two people arguing in a foreign language, how can a fact-finder tell which one of them is giving the more truthful and better-reasoned opinion? Court-appointed expert witnesses may help resolve this problem by translating complex, technological evidence for the fact-finder and providing a neutral perspective on the evidence and on the parties' positions.

In addition, court-appointed expert witnesses have advantages over the other species of neutral experts. Unlike special masters, courts do not delegate decision-making authority to court-appointed experts, so any due process considerations are comparatively attenuated. As the Federal Circuit's opinion in *Monolithic Power Systems* shows, the parties remain able to persuade the fact-finder to conclude differently than the court-appointed expert. *See* 558 F.3d at 1348 (noting that "the jury's verdict did not entirely track" the court-appointed expert's opinion). Unlike technical advisors whose opinions are provided *sub rosa*, court-appointed experts must "advise the parties of any findings" reached and must answer questions during deposition and trial, including through cross-examination. Fed. R. Evid. 706(b).

2. Risks

One risk of court-appointed experts reflected in the case law is that juries view them as "anointed, not appointed." *Monolithic Power Sys.*, 558 F.3d at 1348 (internal citation omitted). In short, the concern is that informing the jury of the Rule 706 expert's status as a court appointee will signify that the expert is unbiased and thus more credible, such that the party with whom the independent expert sides enjoys an unfair advantage over the other party.

Rule 706, however, provides courts several ways of overcoming this concern. First, under Rule 706(d), the court has discretion not to authorize disclosure to the jury that the expert has been appointed by the court. Keeping this information from the jury diminishes the risk that the Rule 706 expert will be seen as "anointed." Instead, the jury may perceive the court-appointed expert as just another expert, and thus may be more likely to make credibility determinations on the same bases as the ones applying to the parties' experts. Second, Rule 706 states that parties may cross-examine court-appointed experts. Subjecting such experts to cross-examination helps to ensure that juries will actually deliberate on the merits of their opinions, rather than simply rubberstamp them as truth based on the experts' perceived independence. *See Microsoft*, 147 F.3d at 955 n.22 ("Whether . . . a[n] [Rule 706] expert is appointed by agreement of the parties or not, the expert's exposure to cross-examination by both sides makes the device a far more apt way of drawing on expert resources than the district court's unilateral, unnoticed deputization of a vice-judge.").

A second significant risk associated with court-appointed experts relates to how they are vetted. Seasoned patent litigators undertake extensive efforts to vet their testifying experts to ensure that they have the appropriate background, education, lack of bias, familiarity with the technology, and presentation skills. By contrast, courts may have neither the time nor resources to properly vet experts before appointment. Moreover, while patent litigators go through the expert vetting process in every case, courts rarely appoint independent experts and thus may be less equipped to do so. The fear is that, in a case involving semiconductors, the court's law clerk will simply place a call to a professor in the

local university's electrical engineering department, regardless of whether that person has the skill set and familiarity with the specific technology at issue that are necessary to explain that technology to the fact-finder in a manner that is both constructive and coherent.

Finally, using court-appointed experts will impose additional costs on the parties. As a threshold matter, Rule 706 obligates the parties to compensate the expert in the proportion set by the court. Fed. R. Evid. 706(c)(2). In addition, the time devoted to selecting the expert, researching and writing the expert report, sitting for depositions, and appearing at trial can lead to lengthy and costly delays.

C. Technical Advisors

1. Potential benefits

Like court-appointed experts, technical advisors provide the benefit of a person unconnected with either party who has sufficient expertise to explain difficult technical concepts and translate specialized vocabulary. Unlike Rule 706 expert witnesses, however, a technical advisor's role is to convey guidance directly to the court, not to provide evidence to the fact-finder. Thus, in addition to contributing the benefit of an unbiased explanation of the relevant technology, technical advisors also potentially increase efficiency by enabling courts to have questions answered when they arise, without having to submit issues to the parties for briefing or waiting until oral argument.

Relatedly, because technical advisors do not submit reports, offer testimony, or provide factual findings, the risk of increased delay and cost are not as significant for technical advisors as for other types of neutral experts. Moreover, unlike special masters and court-appointed experts, no Rule requires the parties to compensate technical advisors.

2. Risks

Of course, the tradeoff of this superior efficiency is that technical advisors reside within the figurative black box – because all communications occur *ex parte*, the parties have no way to respond to the advice provided to the court by the technical advisor if they disagree with it. Further, because interactions between courts and technical advisors occur off the record, parties are disadvantaged when appealing court decisions that may be premised on input received from technical advisors.

Moreover, this lack of transparency acts as an incubator for several additional risks. First, a court may become too dependent on the technical advisor and thus may forfeit its role as independent decision-maker. *See Assoc. of Mexican-American Educators*, 231 F.3d at 610. For example, in contrast with law clerks, another kind of *ex parte* advisor, with whom judges share similar training but enjoy greater experience, judges have less training and experience in the relevant technology than technical advisors, and thus are less able to "filter out" bad technical advice. *Id.* at 613-14. That the technical advisors are never cross-examined deprives the court of another means of filtering out such bad advice.

Second, even though one of the key purposes of neutral experts is to provide an unbiased opinion, where the relevant technical field is highly specialized, technical advisors may bring with them pre-existing alignments with the parties – or with the parties' experts. Once again, the absence of transparency prevents the parties from guarding against this latent bias or challenging it on appeal.

Finally, there is a risk that the technical advisor's guidance to the court will not be based on record evidence but on extra-record information obtained through independent investigation. That such information is conveyed through *ex parte* communications deprives the parties of the opportunity to respond, thus undermining their due process rights.

IV. CONCLUSION

As we have demonstrated, special masters, court-appointed experts, and technical advisors provide courts with some significant benefits in adjudicating patent cases; however, each species of neutral expert presents an equally significant series of risks. Courts must carefully weigh these pros and cons when deciding whether to engage a neutral expert and, if so, what kind of neutral to engage. To assist courts in conducting that balancing, we offer the following recommendations:

Special Masters

- Refrain from appointing special masters to oversee claim construction over the parties' objections.
- When selecting a special master for purposes of claim construction, consider experienced litigators and retired judges in addition to or instead of patent prosecutors.
- Consider whether engaging an independent expert under Rule of Evidence 706, rather than a special master, would provide adequate assistance in understanding the technology at issue.

Court-Appointed Experts

- Exercise discretion to withhold from the jury the fact that the expert is appointed by the court.
- Solicit recommendations and, potentially, briefing from the parties on candidate experts. Conduct a *voir dire* hearing to allow the parties to vet candidates before selecting one for appointment.

Technical Advisors

- Use a transparent process for identifying, selecting, and appointing a technical advisor. Solicit suggestions from the parties and entertain any objections relevant to bias, partiality, or lack of qualifications.
- Define the technical advisor's duties in a written order. Provide the parties an opportunity to object or respond. Order the technical advisor to identify all materials considered. Clearly instruct the technical advisor not to undertake any independent investigations.
- Provide a report to the parties of *ex parte* communications with the advisor. Consider communicating with the advisor through written correspondence rather than informal conversations.