

**BEFORE THE  
BOARD ACCOUNTABILITY MECHANISMS COMMITTEE  
OF THE  
INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS**

*IN RE* BOARD ACCOUNTABILITY  
MECHANISMS COMMITTEE'S REVIEW  
OF .WEB PURSUANT TO BOARD  
RESOLUTION 2022.03.10.06

**DECLARATION OF DR. BRADLEY  
MILLER IN SUPPORT OF REPLY BY  
VERISIGN, INC. AND NU DOTCO, LLC  
TO BAMC'S REQUEST FOR BRIEFING  
PURSUANT TO BOARD RESOLUTION  
2022.03.10.06**

## **I. QUALIFICATIONS AND PROFESSIONAL EXPERIENCE**

1. I am a Vice-President and the Practice Leader of Auctions & Competitive Bidding at CRA International, Inc. d/b/a Charles River Associates (“CRA”) in Boston, Massachusetts, where I have worked since 1988. I have served as the head of the Auctions & Competitive Bidding Practice since 1996 and was promoted to Vice President in January 2000.

2. CRA is a leading global consulting firm founded in 1965 that offers business management, economic, and financial expertise to businesses, law firms, accounting firms, and governments. I am responsible for managing CRA’s Auctions & Competitive Bidding Practice, which offers clients extensive experience in designing, implementing, and monitoring auctions and other transaction mechanisms, as well as in advising bidders in these market mechanisms.

3. I specialize in applied game theory and auction theory, microeconomics, industrial organization, network industries, market restructuring, and public policy. I hold a Ph.D. in economics from the University of California at Berkeley, an M.S. in public policy analysis from the University of Rochester, and a B.S. in physics and computer science from Purdue University.

4. I have designed, developed, implemented, and managed many hundreds of auctions and I have applied the principles of auctions across a range of industries, including agricultural commodities, electricity, telecommunications, oil and gas, airline, environment, intellectual property, and aerospace & defense. The majority of the auctions that I have designed have used designs similar to the auction held by the Internet Corporation for Assigned Names and Numbers (“ICANN”) to award the right to operate the .WEB gTLD (“.WEB Auction”), which I understand is the auction at issue in the present proceeding.

5. Many of the auctions that I and CRA have designed and/or managed have been required or sponsored by — and therefore subject to scrutiny and approval by — regulatory

commissions, antitrust and competition authorities, and other government agencies, including the World Bank, the Federal Energy Regulatory Commission, the U.S. Federal Communications Commission (“FCC”), Bundeskartellamt (German Federal Cartel Office), Nederlandse Mededingingsautoriteit (the Dutch Competition Authority), the Australian Communications and Media Authority, the New Zealand Commerce Commission, the New Zealand Ministry of Economic Development, Comisión Federal de Telecomunicaciones (Mexico’s telecommunications commission), the Public Utilities Commission of Ohio, the Pennsylvania Public Utility Commission, the Connecticut Department of Public Utility Control, and the Alberta Department of Energy.

6. In addition to designing and managing auctions that have been required or sponsored by competition authorities and other government agencies as noted above, I also have designed and managed auctions for numerous other clients and industries such as Global Dairy Trade, Natural Fibre Exchange, cranberry products, and emission allowances.

7. Finally, I have been retained by numerous bidders in auctions not designed or run by CRA to advise them on auction participation and bidding strategy. In that capacity, I have actively participated in multiple auctions on behalf of bidders, including advising bidders in real-time on the bids they should place during the auction.

8. A copy of my CV is appended to this declaration as Appendix A.

## **II. SCOPE OF THIS DECLARATION**

9. For purposes of this declaration, I have been asked by counsel for VeriSign, Inc. (“Verisign”) and Nu Dotco, LLC (“NDC”) to do the following:

- a. Review the filings and related documents submitted by ICANN, Afiliás

Domains No. 3 LTD (“Afilias”),<sup>1</sup> Verisign, and NDC in the Independent Review Process (“IRP”) between Afilias and ICANN (ICDR Case No. 01-18-0004-2702), including

- (i) the rules for the .WEB Auction (“Auction Rules”);
- (ii) the Bidder Agreement between applicants and the auction administrator;
- (iii) the results of the .WEB Auction;
- (iv) an agreement between NDC and Verisign referred to as the Domain Acquisition Agreement (“DAA”);
- (v) various party- and amicus- submissions in the IRP; and
- (vi) witness statements and hearing testimony by Christine Willett (“Ms. Willett”) (who I understand was the ICANN Vice President responsible for the New gTLD Program at the relevant times).

b. Review certain submissions to the Board Accountability Mechanisms Committee (“BAMC”), including

- (i) the Opening Submission by Afilias dated July 29, 2022 (“Afilias’ Opening Submission”);
- (ii) the Expert Report of Peter Cramton submitted by Afilias (“Cramton Report”);
- (iii) the Expert Report of Jeffrey J. Neuman; and

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<sup>1</sup> After initiating the IRP, Afilias changed its name to Altanovo Domains Limited. For convenience and consistency, I will refer to Altanovo as “Afilias” throughout this declaration.

(iv) the Response by NDC and Verisign to BAMC's Request for Briefing.<sup>2</sup>

- c. Provide an overview regarding principles of auction theory and practice that may be relevant to understanding the .WEB Auction.
- d. Comment upon the Cramton Report and various statements therein.
- e. Comment upon Afilias' Opening Submission and various statements therein.

10. For ease of reference, throughout this declaration, I refer to ICANN and the third-party administrator (Power Auctions LLC) appointed by ICANN to administer the .WEB Auction jointly as the "auction manager" or "auction administrator" for the .WEB Auction.

### **III. OVERVIEW OF RELEVANT PRINCIPLES OF AUCTIONS, AUCTION THEORY, AND THE RULES THAT APPLIED TO THE .WEB AUCTION**

#### **A. Third-Party Relationships in Auctions are Common and Promote Competition**

11. It is common for auction participants to have relationships with third parties. Such third parties may provide support, advice, and/or direction on valuations, market prospects, financing, bidding strategy, bidding mechanics, submitting bids, technical considerations, and so forth. It is common for such third parties, particularly entities that provide financing for bids, to influence, dictate, or approve the bids submitted by the applicants.

12. Allowing third parties to support auction applicants promotes more successful auctions. For example, allowing such support encourages more participation and brings to bear

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<sup>2</sup> A complete list of the documents that I reviewed is provided in Appendix B.

greater economic and financial resources in the auction (e.g., through third-party financing arrangements).

13. For the past three decades, I have advised and consulted with dozens of bidders in various auctions, including on bidding strategy and what bid amounts to submit. To my knowledge, my participation as a consultant in such auctions has never been disclosed to an auction administrator, let alone to other participants in the auction.<sup>3</sup> In some auctions, CRA's clients will have someone from CRA determine and enter bid amounts for the client. This is not uncommon, it complies with the rules of those auctions, and it has never been disclosed to other bidders.

14. In the context of the .WEB Auction, nothing in the Auction Rules or the Bidder Agreement prohibited bidders from consulting with or relying upon third parties for purposes of determining whether to bid, how to bid, and what amount to bid. In short, nothing in traditional auction practice or the rules applicable to the .WEB Auction prohibited Verisign from instructing NDC on whether to bid, how to bid, and in what amount to bid. Such a relationship between a third party and a bidder is entirely consistent with common auction practice.

**B. Most Auctions Do Not Require Disclosure of Third-Party Relationships to the Auction Manager (Let Alone to Other Bidders)**

15. In all of the hundreds of auctions on which I have consulted, those wishing to participate in the auction must report certain information to the auction manager in order to be qualified to participate. In my experience, such information may include the identity of the bidding entity or bidder's representative, financial information, and confirmation that the bidder

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<sup>3</sup> On occasion, in advising bidders in FCC spectrum auctions, two separate CRA teams have advised two different bidders in the same auction as allowed under and subject to FCC rules. We inform bidder "A" that we are advising another bidder, and we inform bidder "B" that we are advising another bidder, and that we are following FCC rules in doing so. We do not identify to the other bidders who we are advising, or how we are advising them.

will adhere to the auction rules. In general, these reporting requirements simply: (a) facilitate logistical coordination between the auction manager and auction participants; (b) ensure that the applicant has the financial capacity and other wherewithal to be the responsible party as a winning bidder (if it should be declared a winning bidder); and (c) ensure that the applicant complies with the auction rules (such as prohibitions against collusive behavior with other auction participants). Beyond that scope, in my experience, the requirements for participating in auctions are *not* designed to police or limit an auction participant's right to consult or coordinate with third parties, or to determine the precise identity of the individual(s) responsible for making auction-related decisions (including whether to bid and in what amount).

16. With only limited exceptions,<sup>4</sup> in my capacity as an auction designer and manager of hundreds of auctions, we have *not* required auction participants to disclose to the auction manager their use of or reliance upon third-parties, and we have *not* required such disclosures to other auction participants.

17. I understand that Afilias has argued that the relationship between Verisign and NDC, and in particular the existence of the DAA, should have been disclosed to other participants in the .WEB Auction prior to the auction. However, nothing in the Auction Rules for the .WEB Auction requires bidders to disclose third-party relationships or agreements to other bidders.

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<sup>4</sup> The exceptions occur only when the applicable auction rules expressly and clearly require participants to disclose certain third-party relationships to the auction manager. In certain auctions in the electric utility industry that CRA manages, pursuant to applicable auction rules approved by state public utility commissions, participants are required to disclose to the auction manager the identity of any financial guarantor the participant is using. The auction manager does *not* disclose such information to other participants. Also, in my capacity as an advisor to bidders, I have advised participants in FCC spectrum auctions in which applicants submit an FCC Short Form 175 to the FCC prior to the auction that identifies the relevant party(ies), the types of relevant agreements the applicant may have (if any), and the spectrum licenses upon which the applicant may wish to bid. The FCC's reporting requirements meet the particular needs of the FCC in the context of its spectrum auctions. In my experience, such requirements do not apply in other auctions.

18. More generally, the types of disclosures that Afiliás claims should have been made prior to the auction typically are not made to other participants in similarly designed auctions, and would not further the purpose of the pre-auction disclosures summarized in paragraph 15 above. In my capacity as an auction designer and manager of hundreds of auctions, disclosures to the auction manager other than those necessary to allow the auction manager to complete pre-auction vetting *never* have been required. In the .WEB Auction, consistent with the Auction Rules, the auction manager determined that NDC met the requirements to participate in the auction and had the ability to carry out the obligations of becoming a winning bidder. In my opinion, it is consistent with standard auction practice that the .WEB Auction Rules did not require NDC to reveal its relationship with Verisign or any other third party that might have been supporting NDC.

19. One reason why auctions do not require disclosure of third-party relationships to other bidders is because such disclosure may discourage participation by bidders and third parties, to the detriment of the success of the auction. For example, requiring bidders to disclose third-party relationships may induce smaller bidders to decide not to participate in the auction, potentially weakening competition. If smaller bidders believe they have little chance of outbidding a participant who has support from a stronger and more committed entity, such bidders may not participate, thereby reducing demand for the asset and reducing the probability that one such bidder actually may be willing and able to outbid the perceived stronger participant.

**C. Non-Disclosure of Third-Party Relationships is Consistent with the Design of the .WEB Auction**

20. In my experience, the disclosure of third-party relationships — such as for financing, auction consulting, and post-auction assignments — are not required in most auctions. In my opinion, Afiliás' complaints about such third-party relationships are not consistent with



the design of the .WEB Auction or the objective of maximizing competition for the auctioned asset. Specifically, the .WEB Auction was designed like similarly structured auctions to secure maximum value for the auctioned asset, and for bidders to bid up to their maximum valuation of the auctioned asset without regard to the identities of other participants. I reach these conclusions for several reasons.

21. First, the Auction Rules for the .WEB Auction did not require bidders to disclose third-party relationships to other bidders. As explained above, it is common auction practice not to require disclosure of third-party relationships to other bidders, in part because such disclosures can discourage participation in the auction.

22. Second, the design of the .WEB Auction — which adopted a “second-price” pricing rule — incited bidders to bid up to their maximum valuation of the asset, irrespective of the identities of other bidders or knowledge about any third-party relationships. In a “second-price” pricing rule auction, the bidder who bids the highest price is declared the winner, and the price paid by the winning bidder is the bid submitted by the second-highest bidder. In contrast, in an auction using a “first-price” pricing rule, the winning bidder is required to pay the highest price it bids.

23. A primary reason that auction designers use a second-price pricing rule is to mitigate what is referred to as the “winner’s curse.” The winner’s curse arises when bidders are concerned that they will bid and pay a price that is too high — higher than they need to win. A second-price auction — like the .WEB Auction — is designed to mitigate the winner’s curse because the winning bidder pays the second-highest bid price, not the winning bidder’s own bid price. Bidders therefore are incited to bid up to their maximum valuation of the asset

irrespective of the identities of other bidders or knowledge about any third-party relationships.<sup>5</sup>

24. Third, the .WEB Auction used a round-by-round bidding format in which price ranges and the number of remaining eligible bidders — but *not* their identities — are revealed to remaining bidders after each bidding round. Information about price ranges and the number of remaining bidders helps provide confidence to bidders that they are not “out-bidding the market.” But, because the identities of remaining bidders are not disclosed, bidders are encouraged to focus on their own maximum valuations rather than on guessing what other bidders might bid.

25. Fourth, as discussed below, the winning bidder in the .WEB Auction would be permitted to assign its rights in the registry agreement to a third party, subject to ICANN’s approval. I understand ICANN will grant such an approval if the assignee has the requisite financial and technical ability to operate the gTLD. As explained below, post-auction assignability means the specific identities of the participating bidders should be irrelevant to a bidder’s valuation, because the bidder is incented to take into account the valuation of the asset by *anyone*, including third-party non-bidders. Accordingly, bidders are incented to bid up to their estimate of the maximum value of the registry, *regardless of the identities of other bidders*

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<sup>5</sup> Unless the auction design mitigates the winner’s curse, the winner’s curse will affect the way bidders bid when the value of the asset being auctioned is correlated or has some commonality (“common value”) across bidders. “Common value” means that the actual value of the asset being auctioned is correlated for all bidders, but bidders might have different information in estimating the asset’s value to inform their bids. By contrast, some assets have “private value” (e.g., a piece of art) for which the actual value may differ substantially across bidders. The .WEB gTLD has common value to all bidders and the bidders may have different information that informs their assessment of the asset’s common value. In an auction with common value, if the auction design does not mitigate the winner’s curse, bidders will tend to submit bids below their maximum valuation of the asset to avoid submitting a winning bid (i.e., the highest bid price) that exceeds the valuation of the asset estimated by all other bidders — thereby likely over-paying for the item and suffering the winner’s curse. As a result, the winning price likely will fall below the true value of the asset, and the winning bidder may not be the bidder who actually values the asset the most (i.e., the economically efficient bidder) but rather the bidder who happens to shave its bid the least. Auction designs that incorporate round-by-round bidding and/or a second-price pricing rule — such as the .WEB Auction — are designed to mitigate the winner’s curse.

*in the auction.*

26. Fifth and finally, in common auction practice and in my experience, it is not the role of the auction manager to require bidders to disclose all possible information that may (or may not) influence other bidders' bidding strategy. Nor is it the role of the auction manager to ensure that bidders have complete or perfect information (indeed, different bidders will have different views on what constitutes complete or perfect information). To the contrary, auctions generally are designed without requirements — including disclosure of lenders or third-party relationships — that could discourage participation and reduce competition, or otherwise limit the price achieved in the auction. The fact that the rules for the .WEB Auction did not require bidders to disclose all information that might influence other bidders' bidding strategy is consistent with standard auction practice and appropriate auction design.

27. In sum, the .WEB Auction design incited participants to bid up to their estimate of the maximum value of the registry, without regard to the identities of other bidders or knowledge about any third-party relationships of other bidders. This auction design supports a competitive auction that ensures that the asset is sold to the party who values it the most.

**D. In Nearly All Auctions of Which I Am Aware, the Winning Bidder is Entitled to Assign or Sell the Asset to a Third Party Following the Auction**

28. In my experience, in nearly all auctions, the winning bidder has the right to resell or otherwise to transfer or assign the asset that the bidder has won.<sup>6</sup> Based on my review of the record from the IRP, the same is true in the context of ICANN Auctions. I understand that ICANN has never refused a request to assign management of a gTLD to a qualified entity. I also

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<sup>6</sup> This should not be surprising as secondary market transfers, assignments, resales, and other transactions occur in virtually all industries, whether or not an auction mechanism was used initially to assign rights and assets. In some cases the right of assignment is subject to approval by a regulatory agency (as is the case with the need to obtain ICANN approval for transfer of gTLD registries).

have seen no evidence that ICANN has ever disqualified an applicant based on a pre-delegation agreement for a post-delegation assignment of a new gTLD. To the contrary, I understand that ICANN has approved numerous post-delegation transfers, including transfers that were made pursuant to pre-delegation agreements.<sup>7</sup>

29. In addition, as is typical in auction rules, I have not seen any rules in the Guidebook or Auction Rules that appear to prohibit agreements to fund an auction bid or make a future assignment of a registry agreement upon ICANN's consent. Testimony in the IRP by ICANN's Ms. Willett confirms my reading of the Guidebook and Auction Rules, as she testified that (i) pre-auction agreements to finance an applicant's bid in exchange for a promise to assign a registry agreement do not violate the Guidebook, and (ii) third-party relationships, including relationships that contemplated post-auction assignments, were not part of the applicant evaluation criteria under the Guidebook.<sup>8</sup>

30. Because a winning bidder typically is permitted to sell or assign the asset after the auction, bidders are incented to take that fact into account when formulating their valuation of the asset. Post-auction assignability means that, in principle, if a non-bidding third party were to value the asset more than the participants in the auction, then, after the auction, the winning bidder would be able to sell the asset to that third party. If a participant in the auction actually wanted to hold onto the asset for itself, it would be incented to factor into its own valuation of the asset the value that a third party might assign to it. In other words, the specific identities of the participating bidders should be irrelevant to a bidder's valuation, because the bidder is

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<sup>7</sup> See, e.g., ICANN's Opposition to Claimant's Request for Emergency Panelist and Interim Measures of Protection, December 17, 2018, ¶¶ 25–30.

<sup>8</sup> IRP Hearing Transcript, August 6, 2020, 775:8–24 (Ms. Willett) (“We couldn't and didn't undertake to evaluate all of those other third-party relationships, whether it was for marketing or back-end registry operation or in some cases we became aware of intention to assign a TLD to a third party. . . . [T]here were so many hundreds or thousands of those potential relationships, we didn't deem it to fall within the scope. It wasn't part of the evaluation criteria that we applied within the [G]uidebook.”).

incented to take into account the valuation of the asset by *anyone*, including third-party non-bidders. The result tends to be that the winning bid will reflect the full value of the asset.

#### **IV. DISCLOSURE TO ICANN OR OTHER PARTICIPANTS OF THE DAA WOULD NOT HAVE AFFECTED THE OUTCOME OF THE AUCTION**

31. I have seen no evidence that the result of the .WEB Auction would have been different had information about the relationship between NDC and Verisign been disclosed to bidders prior to the auction.

32. The .WEB Auction design incited bidders to bid up to their maximum valuation of the asset irrespective of the identities of other bidders or knowledge about any third-party relationships. Moreover, as noted above, post-auction assignability of .WEB means that the specific identities of the participating bidders should be irrelevant to a bidder's valuation, because the bidder is incited to take into account the valuation of the asset by anyone, including third-party non-bidders. Accordingly, I would expect that bidders would bid up to their maximum valuation in the auction, regardless of the identities of other bidders or knowledge about any third-party relationships.

#### **V. GENERAL COMMENTS ON THE CRAMTON REPORT**

33. Before turning to comments on specific statements made in the Cramton Report, I have several high-level comments regarding that Report.

34. First, Professor Cramton seems to agree with Afiliat's view that the DAA and Verisign's involvement should have been disclosed to other bidders. However, other than FCC spectrum auctions (which entail express and detailed requirements specific to the FCC), Professor Cramton has not provided any examples of auctions in which bidders were required to disclose third-party relationships to an auction administrator or other bidders, or in which disclosure or non-disclosure of such information resulted in the disqualification of a bidder or rejection of their winning bid. As I explained above, the types of disclosures to other bidders

that Afilias argues should have been made in the .WEB Auction are not made in most auctions. As I also have explained above, the absence of such disclosures is consistent with standard auction design because such disclosures likely would reduce competition.

35. Second, the Cramton Report does not conclude or suggest that the results of the .WEB Auction would have been any different if disclosures about relationships with third parties had been made. As noted above, I have seen no evidence indicating that the result of the .WEB Auction would have been different had information about the relationship between NDC and Verisign (e.g., the DAA) been disclosed to bidders prior to the auction.

36. Third, the Report does not address the fact that, as explained above, ICANN has consistently approved hundreds of post-delegation assignments, including assignments agreed to prior to an auction or delegation. The Report also does not take into account the testimony of Ms. Willett, who confirmed that such assignments do not violate the Guidebook. As noted above, since the winning bidder in the .WEB Auction could assign its rights in the registry agreement to a third party, bidders would be expected to bid up to their maximum valuation in the auction, regardless of the identities of other bidders.

37. Fourth, as a general matter, the Cramton Report (as well as Afilias' Opening Submission) blurs the line between the Auction Rules and the Guidebook qualification process.<sup>9</sup> My understanding is that the Guidebook — through ICANN — governed the substantive qualifications necessary to participate in a contention set (and therefore in an auction). By contrast, the Auction Rules and Bidder Agreement — through the auction provider (Power

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<sup>9</sup> See, e.g., Cramton Report, ¶ 8 (“ICANN took advantage of recent innovations in state-of-the-art public-sector auctions, which emphasized the objectives of simplicity, transparency, efficiency, and fairness.”), ¶ 16 (“From a process design perspective, this language yet again reflects ICANN’s emphasis on the identity of the applicant of a particular gTLD and the centrality of transparency in the new gTLD application process.”); Afilias’ Opening Submission, ¶ 5 (“ICANN and the Internet community developed the New gTLD Program over the course of a multi-year process and designed the Rules to protect and promote the principles of transparency, fairness, and predictability at every step in the application process.”).

Auctions) — governed the mechanics of the auction. The Cramton Report and Afilias’ Opening Submission seem to argue that ICANN’s principles of “fairness,” “transparency,” “efficiency,” etc., constitute auction *rules*. But, at most, those principles are considerations that are relevant to ICANN’s administration of the New gTLD Program, and not to the administration of auctions. For example, there is no express reference to ICANN’s principles of “fairness,” “transparency,” “efficiency,” etc., in the Auction Rules or Bidder Agreement. There also is no indication in the Auction Rules or Bidder Agreement that the auction provider had any authority or obligation to ‘look behind’ the applicant to determine whether any third parties were involved in the auction process.

38. In fact, to the extent that Professor Cramton relies on ICANN’s “principles” to suggest that there are additional rules or behavioral guidelines for bidders beyond the specific provisions in the governing agreements, that would be inconsistent with transparency, fairness, or efficiency. Implying such unwritten rules or behavioral guidelines as additional requirements beyond those set forth in the written agreements governing the auction process would interject an unwarranted subjective assessment beyond the strict letter of the rules, and create uncertainty and unpredictability for bidders. Unwritten rules based on vague principles also would be impossible to administer as a practical matter.

39. Fifth, and related to the fourth point above, a major thesis of the Cramton Report (and Afilias’ Opening Submission) is that the principles of fairness, predictability, simplicity, and efficiency required NDC to disclose its relationship with Verisign.<sup>10</sup> However, in the context of nearly every auction of which I am aware, such principles would refer to establishing well-defined written rules to be followed rather than broad principles, thereby providing bidders and the auction administrator with the rules to be followed, and ensuring all bidders are subject

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<sup>10</sup> See, e.g., Cramton Report, ¶¶ 8, 17–18.

to the rules. Additionally, the notions of predictability and efficiency would refer to selecting the winning bidder as the bidder who submitted the highest bid price. I have seen no evidence to suggest that ICANN's .WEB Auction deviated from these practices. The rules were set forth in the Auction Rules and Bidder Agreement and were provided to all bidders; all bidders were subject to the rules; and the winning bidder was the bidder who submitted the highest bid price.

40. Sixth, there is a major tension between, on the one hand, Afiliis' and Professor Cramton's description of what "transparency" entails in the context of resolving contention sets, and, on the other hand, their argument that ICANN would have preferred contention sets to be resolved privately, including through private auctions.<sup>11</sup> In a private resolution, ICANN (and its providers) by definition would not have any information regarding what happened in the private auction or other resolution, let alone the rules that were followed or the information that was exchanged among the contention set members. In my view, transparency relates to the rules being applied in resolving contention sets, and not transparency into every aspect of contention set members' private arrangements or their motivations.

## **VI. RESPONSES TO SPECIFIC STATEMENTS IN THE CRAMTON REPORT**

41. In this section, I respond to several specific statements made in the Cramton Report.

42. First, the Cramton Report states that ICANN sought to "provid[e] for transparency as to the identity of bidders in advance of an auction" including so that "all of the Contention Set members knew who they were competing against and could thus . . . develop their bidding strategies and financing arrangements knowing who was the competition."<sup>12</sup> In my

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<sup>11</sup> See, e.g., Cramton Report, ¶¶ 10, 18, 21.

<sup>12</sup> Cramton Report, ¶¶ 17–18 ("By providing for transparency as to the identity of bidders in advance of an auction, any concerns regarding those bidders could be voiced and addressed *ex ante*. . . ICANN also made public



opinion, these statements misconstrue the relevance of transparency in the auction context. As noted above, in that context, transparency refers to transparency of the rules to be applied. It does not refer to transparency as to information about bidders or their third-party relationships. Rather, as noted, the .WEB Auction design incited bidders to bid up to their maximum valuation for the asset, *irrespective of the identity of the other bidders*.

43. Additionally, in the context of ICANN’s delegation of gTLDs, the identity of the auction participants was revealed in advance of the auction because the bidders were the members of the Contention Set, and because there was an opportunity for the members to resolve the Contention Set privately. In other words, the identities of the auction participants would have been revealed whether or not an auction took place. Further, to the extent that the Auction Rules require the designation of a “Qualified Applicant” or “Bidder,” those rules identify the specific party deemed to be the responsible party participating in the auction and with whom the auction manager would need to coordinate. Based on my review of the documents, the identities of bidders were not revealed in order to allow auction participants to “develop their bidding strategies and financing arrangements knowing who was the competition.” In fact, this statement ignores the fact that, as noted above, pursuant to the Auction Rules, the identity of bidders who remained in the auction after each round were *not* revealed to other remaining bidders.

44. In short, as explained above, the Auction Rules did not require the types of disclosures that the Cramton Report suggests were necessary to achieve “transparency,” such as disclosure of financing arrangements or potential future assignments. And, as also explained

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portions of the applications for a gTLD and the identities of those entities that were eventually included in a Contention Set. In this way, . . . all of the Contention Set members knew who they were competing against and could thus . . . develop their bidding strategies and financing arrangements knowing who was the competition.”); *see also* Cramton Report, ¶ 32 (“The objective of fairness was also advanced by the requirement that all Qualified Applicants would be known to each other, given the requirement of public disclosure of members of the same Contention Set, and of those who would be participating in the ICANN Auction. . . . In this way, no Qualified Applicant had an unfair advantage.”).

above, the .WEB Auction design incented bidders to bid up to their maximum valuation irrespective of the identities of the other bidders, or other information about other bidders.

45. Second, the Cramton Report states that the “objective of fairness is reflected in the requirement that only Qualified Applicants . . . could participate in the auction.”<sup>13</sup> By making this statement, Professor Cramton seems to be suggesting that this requirement somehow means that auction participants could not maintain, or would be required to disclose, third-party relationships. However, based on my experience, as noted above, rules requiring the designation of a “Qualified Applicant” or “Bidder” simply identify the specific party deemed to be the responsible party participating in the auction and with whom the auction manager would need to coordinate. In general auction practice, rules requiring the designation of a “Qualified Applicant” or “Bidder” are not intended to restrict the right of a bidder to have third-party relationships (including with financiers and auction consultants), and they are not intended to require bidders to disclose such relationships to other bidders.

46. Additionally, if the “objective of fairness” were stretched to mean that Qualified Applicants were not allowed to enter into relationships with third parties, or were required to disclose such relationships, the result would be detrimental to the objectives and success of the auction. As explained above, involvement of third-parties is commonplace in auctions, it is common not to disclose such involvement to auction administrators (let alone to other bidders), and such involvement and non-disclosure enhance competition in the auction and help arrive at a market-driven valuation for the asset.

47. Third, the Cramton Report implies that the .WEB gTLD could be delegated — for

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<sup>13</sup> Cramton Report, ¶ 31.

all time — only to a participant in the auction.<sup>14</sup> As explained above, the Cramton Report does not address the fact that, in most auctions — including ICANN auctions — a winning bidder has the opportunity to resell or otherwise assign the asset won at auction to another entity (sometimes subject to approval). Rational bidders should take this into account when participating in an auction and formulate their valuations and bids accordingly.

## VII. RESPONSES TO SPECIFIC STATEMENTS IN AFILIAS' OPENING SUBMISSION

48. In this section, I respond to a couple of specific auction-related statements made in Afiliias' Opening Submission.<sup>15</sup>

49. First, in paragraph 89 of its Opening Submission, Afiliias states as follows:

“The transparency rules are, among other things, supposed to enable each Qualified Applicant in a contention set to assess the other Qualified Applicants' goals and financial resources, so that it can make an informed decision on what is required to prevail in the auction and to plan accordingly.”<sup>16</sup>

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<sup>14</sup> See, e.g., Cramton Report, ¶ 24 (“For example, the Rules restrict the Contention Set to applicants who had passed evaluation. This necessarily limited the pool of interested registry operators to those applicants who had demonstrated an interest in the gTLD, paid an application fee, completed an application, subjected themselves to evaluation, community objections and other vetting processes.”), ¶ 26 (“Further, the design of the ICANN Auction reflects efficiency in that it is designed to result in the final and binding disposition of the Contention Set. One of the guiding principles behind virtually every auction is that it is final and binding on the participants, namely the organization (here ICANN) holding the auction and the bidders (here the members of the .WEB Contention Set). Auction designs that do not provide for finality lead to bad outcomes and failed auctions. The need to redo an auction presents logistical problems, is wasteful from a cost perspective, and undermines faith in the process. Accordingly, one of the first principles of auction design is that the process must ensure finality, including by providing for a clear mechanism to correct irregularities in the auction process (e.g., a default by the winning bidder.)” ¶ 29 (“In short, the ICANN Auction was designed—with the evaluation of bidders' eligibility being completed before the auction—so that the winner of the auction could immediately be declared the successful applicant. If the winner of the auction was unable to pay the winning price or otherwise disqualified, the outcome of the auction is still final and binding on all the participants.”).

<sup>15</sup> For the avoidance of doubt, to the extent I have not commented upon any auction-related statements in Afiliias' Opening Submission or the Cramton Report, that should not be taken to mean that I agree with such statements.

<sup>16</sup> See also Afiliias' Opening Submission, ¶ 67 (“NDC enabled Verisign to ‘sandbag’ the actual applicants, who—in reliance on the same transparency rules—never knew that Verisign was ‘indirectly’ participating in the Contention Set and had no idea that Verisign would be bidding.”).

As explained above, I have never been involved in an auction in which bidders were required to disclose detailed information about their third-party relationships to other bidders. In designing and managing auctions, I would be concerned that if prospective bidders were required to disclose to other prospective bidders the details of their “goals and financial resources,” bidders would be discouraged from participating in the auction. It is sufficient that the auction administrator has vetted the prospective bidders to ensure they have the wherewithal to participate in the auction and are able to satisfy the requirements of becoming a winning bidder. As also explained above, the design of the .WEB Auction, in which the winning bidder pays the second highest bid, ensures that bidders are incented to bid up to their maximum valuation of the asset, irrespective of the identity of the other bidders (or the identity of any potential post-auction purchaser or assignee).

50. Second, in paragraph 92 of its Opening Submission, Afiliias argues as follows:

“Qualified Bidders may not place bids (secretly or otherwise) on behalf of non-applicants.”

As explained above, it is common in auctions for third-parties to assist with, or even direct, a bidder’s conduct during an auction. For example, consultants, financiers, parent companies, and controlling shareholders all exercise some level of control over the bidding entity, even though they themselves are not the applicants in the auction.

## **VIII. SUMMARY OF CONCLUSIONS**

51. For the reasons explained above, I offer the following opinions:

- a. Nothing in traditional auction practice or the rules applicable to the .WEB Auction prohibited Verisign from instructing NDC on whether to bid, how to bid, and in what amount to bid.
- b. Consistent with effective auction design and common auction practice, the

Auction Rules and Bidder Agreement for the .WEB Auction did not require bidders to disclose to other bidders third-party relationships or agreements.


- c. The .WEB Auction design — including use of the second-price pricing rules, round-by-round bidding, and the fact that the asset could be assigned post-auction (subject to ICANN’s approval) — is consistent with effective auction design and standard auction practice of not requiring bidders to reveal third-party relationships to other bidders. Instead, the .WEB Auction design incented participants to bid up to their maximum valuation, without regard to the identities of other bidders or knowledge about any third-party relationships of other bidders. This auction design supports a competitive auction that is designed to result in the asset being sold to the bidder who values it the most.
- d. I have seen no evidence that the result of the .WEB Auction would have been different had information about the relationship between NDC and Verisign been disclosed to bidders prior to the auction.
- e. The principles of “transparency,” “fairness,” “efficiency,” etc., are not auction *rules*; at most, those principles are considerations that are relevant to ICANN’s administration of the New gTLD Program, and not to the technical administration of auctions. None of these principles required auction participants to disclose their third-party relationships to other bidders.
- f. The requirements for auction participants to identify a “Qualified Applicant,” “Bidder,” etc., generally are intended to identify the specific

party deemed to be the responsible party participating in the auction and with whom the auction manager would need to coordinate. In general auction practice, such a requirement is not intended to allow auction participants to “develop their bidding strategies and financing arrangements knowing who was the competition.”

- g. Finally, the complaint in this matter can be interpreted in one of two ways (although Afilias’ submissions are vague as to which complaint it is making).
  - i. One interpretation is that Afilias does not like the process and rules that ICANN uses for its auctions, and that a different process and rules should be used for its auctions. That is not a reason to overturn the results of the .WEB Auction. Instead, Afilias should be petitioning ICANN to change its auction process and rules for future auctions. (As I explain in my declaration, it is my opinion that the auction process and rules *were* appropriate for ICANN’s .WEB Auction.) But even if the rules for *future* auctions were changed, that would not be a proper basis to set aside the results of the .WEB Auction. As an auction designer and manager, I would be seriously concerned that overturning the results of a completed auction would constitute an improper exercise of discretion that would undermine the credibility of auctions going forward and thereby reduce interest and participation in future auctions.
  - ii. A second interpretation of Afilias’ complaint is that Afilias believes that the .WEB Auction process and rules are appropriate, but that they were not applied correctly. But, according to Afilias,

to apply the rules correctly would mean applying rules *that are written nowhere in the auction-related documents that I have seen.* Again, that is no reason to overturn the results of the auction. To maintain the credibility and integrity of an auction, the auction needs to be administered pursuant to what is in the Auction Rules and Bidder Agreement. As explained in my declaration, the .WEB Auction was administered in accordance with the documents that I have reviewed. Afilias' apparent interpretation of the documents would introduce processes and rules that, if they actually had been followed for the .WEB Auction, would have been inconsistent with standard auction practice, and would have gone well beyond the Auction Rules and Bidder Agreement. In my experience, had ICANN been required to follow the process and rules now claimed by Afilias after the fact, I would have seen that process and those rules written expressly and clearly in the documents. But I did not.

Dated: August 29, 2022

By:   
Dr. Bradley Miller, Charles River Associates

## **APPENDIX A: CURRICULUM VITAE**



**Bradley A. Miller**  
Vice President

PhD, Economics  
University of California at Berkeley

MS, Public Policy Analysis  
University of Rochester

BS, Physics and Computer Science  
Purdue University

Dr. Miller is head of the Auctions & Competitive Bidding Practice at CRA International, Inc. d/b/a Charles River Associates, and has worked on various auction, competitive bidding, market design, electronic trading, energy, spectrum, international trade, antitrust, securities, environmental, and transfer pricing projects. He specializes in applied game theory, microeconomics, industrial organization, network industries, marketplace structure, public policy, and market restructuring. Dr. Miller has extensive experience in the design, implementation, administration, and monitoring of auctions, other competitive bids, transactions, and marketplaces, as well as extensive experience in bidding strategies and other support for bidders and market participants. He has been instrumental in successful projects in electricity, oil and gas, telecommunications, agricultural and food commodities, aerospace & defense, health care, transportation, intellectual property assets, insurance, paper, and other industries in several countries, including the United States, Australia, Austria, Brazil, Canada, Germany, Kuwait, Mexico, New Zealand, Nigeria, The Netherlands, Sweden, Switzerland, and the United Kingdom. His project work includes the following examples.

## **Auctions, competitive bidding, and market mechanisms**

Advising and assisting government agencies, industry clients, and participants in auctions, competitive bidding, market mechanisms, transactions, and electronic trading in various industries. This includes developing auction and market designs and rules, implementing the designs and rules, conducting oversight and monitoring, and advising bidders and market participants.

### **Electricity**

- For Dayton Power and Light Company, designing and conducting RFPs to procure full requirements service for their Percentage of Income Payment Plan (“PIPP”) customers.
- For Duke Energy Ohio, designing and conducting RFPs to procure full requirements service for their Percentage of Income Payment Plan (“PIPP”) customers.
- For FirstEnergy Ohio Utilities (FEOU), designing and conducting RFPs to procure full requirements service for the Percentage of Income Payment Plan (“PIPP”) customers of FEOU — Cleveland Electric Illuminating Company, The Toledo Edison Company, and Ohio Edison Company.
- For FirstEnergy's Pennsylvania electric utilities, designing and conducting auctions to procure full requirements generation service for customers participating in their Default Service Program.

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- For Duquesne Light Company, designing and conducting auctions to procure full requirements generation service for customers participating in their Default Service Program.
  - For FirstEnergy Solutions, designing and conducting auctions to sell SO<sub>2</sub> and NO<sub>x</sub> emission allowances arising from the EPA's Cross-State Air Pollution Rule (CSAPR).
  - For Dayton Power and Light Company, designing and conducting a competitive bidding process using a series of auctions to procure wholesale generation and capacity for retail Standard Service Offer (SSO).
  - For Duke Energy Ohio, designing and conducting a competitive bidding process using a series of auctions to procure wholesale generation and capacity for retail Standard Service Offer (SSO).
  - For FirstEnergy Ohio Utilities (FEOU), designing and conducting a competitive bidding process using a series of auctions to procure wholesale generation and capacity for retail Standard Service Offer (SSO) load to customers of FEOU—Cleveland Electric Illuminating Company, The Toledo Edison Company, and Ohio Edison Company.
  - For FirstEnergy Ohio Utilities (FEOU), designing and conducting a competitive bidding process using an RFP format to procure wholesale generation and capacity for retail Standard Service Offer (SSO) load to be delivered January through March 2009 to customers of FEOU. Testimony filed before the Public Utilities Commission of Ohio (PUCO).
  - For a US electricity transmission company, designing and conducting an “open season” auction of transmission service rights.
  - For German utility RWE, designing and conducting quarterly auctions of electricity capacity and energy.
  - For GE Energy Financial Services, designing and implementing an “open season” auction of transmission scheduling rights (TSRs).
  - For a large Iberian utility, advising on virtual power plant (VPP) auctions and electricity supply procurement auctions.
  - For a large industrial European company, designing and conducting an electricity supply procurement auction.
  - On behalf of the FirstEnergy Ohio Operating Companies and the Public Utilities Commission of Ohio (PUCO), participating and providing testimony in a Federal Energy Regulatory Commission (FERC) proceeding related to FirstEnergy's Competitive Bid Process.
  - For German utility RWE, designing and conducting a virtual power plant (VPP) auction.
  - Advising a bidder preparing for the Illinois electricity procurement auctions.
  - For Associação Brasileira dos Produtores Independentes de Energia Elétrica (APINE, association of independent power producers in Brazil), analyzing “old energy” electricity auctions conducted by Brazil's Ministry of Mines and Energy (MME), including evaluating the auction design and rules used as well as the results of the auctions, and providing recommendations for improvements for future auctions.

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- Consulting to the Public Utilities Commission of Ohio (PUCO), including providing advice on product design and auction design proposals for FirstEnergy's Competitive Bid Processes (CBP) for Standard Service Offer as well as monitoring the CBP auction processes.
  - Advising The World Bank and Brazil's Ministry of Mines and Energy on electricity procurement auctions.
  - At the request of Exelon/ComEd and the Illinois Commerce Commission (ICC), educating Exelon/ComEd, ICC Commissioners and Staff, and stakeholders in Illinois on the planning and conduct of electricity procurement auctions, including the role of Auction Managers and Auction Monitors.
  - Advising Dutch electric utility Nuon on product design and auction design and implementation for a virtual power plant (VPP) capacity auction.
  - Assisting the Connecticut Department of Public Utility Control on multiple RFPs by the state electric distribution companies to procure electricity supply to meet Transitional Standard Offer Service load requirements.
  - Advising the New Jersey Board of Public Utilities regarding multiple auction processes and RFPs to procure electricity to meet Basic Generation Service load requirements.
  - Advising the Electricity Reform Implementation Unit, Western Australia's Office of Energy, on energy and capacity auctions and auctioning trading rights.
  - Advising and providing analysis to an investment banking firm on electricity markets, including the effects of auctions and other restructuring efforts on market structure, market performance, prices, and other economic indicators.
  - Assisting Arizona Public Service on competitive bidding processes for Standard Offer Service. This includes Standard Offer Service product definition as well as designing and implementing RFP and descending clock auction procurement processes.
  - Consulting to the Tennessee Valley Authority (TVA) on the design and implementation of alternative financing options for the restart of Browns Ferry Nuclear Unit 1.
  - Advising a large marketer and trader in California's electricity markets.
  - Advising a bidder in Alberta's auction of electricity contracts.
  - Consulting to the Alberta Department of Resource Development on designing and implementing the auction of Power Purchase Arrangements (PPAs).
  - Advising the Power Pool of Alberta on creating and auctioning financial instruments based on PPAs related to hydroelectric generating facilities.
  - Advising the Power Pool of Alberta on rules for bidding potentially unsold PPAs into the energy and ancillary services markets.
  - Advising the Oregon Public Utility Commission and supporting testifying witnesses on electric utility asset divestiture auction designs and on market power.
  - Advising the Independent System Operator of New England (ISO-NE) on market design issues in electricity restructuring.

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- Consulting to electric utility COM/Electric on the auction design and implementation for Standard Offer Service.
  - Consulting to a major electric utility on the auction design for electric power generating assets and the auction design of non-utility generating purchase power contracts.
  - Consulting to a major electric utility on the auction design and implementation for standard offer service and implementing the auction.

### **Agriculture**

- Designing and managing the industry-recognized Natural Fibre Exchange (NFX) trading platform for wool and other natural fibres.
- Designing and managing the industry-recognized CranberryAuction trading platform for Ocean Spray Cranberries, Inc.
- Designing and managing the industry-recognized Global Dairy Trade trading platform for Fonterra Dairy Co-Operative Group Limited (New Zealand) and other major dairy exporters around the world.
- Assessing and recommending improvements to Kuwait's fish auctions for Kuwait's Competition Protection Authority under contract with The World Bank.

### **Telecommunications, broadcast, and cable**

- Advising a bidder participating in the FCC's C-Band (3.7-3.98 GHz) spectrum auction (Auction 107).
- Advising a bidder participating in the FCC's Citizens Broadband Radio Service (CBRS 3.5 GHz, 3550-3650 MHz) spectrum auction (Auction 105).
- Advising a bidder participating in the FCC's Spectrum Frontiers (Upper 37 GHz, 39 GHz, and 47 GHz) spectrum auction (Auction 103).
- Advising a bidder participating in the FCC's 24 GHz spectrum auction (Auction 102).
- Advising a bidder participating in the FCC's forward incentive spectrum auction (Auction 1002).
- Advising TV broadcasters participating in the FCC's reverse incentive spectrum auction process (Auction 1001).
- Consulting to Industry Canada on auction designs for 700 MHz and 2500 MHz spectrum licenses.
- Advising Shaw Communications in Industry Canada's spectrum auction of Advanced Wireless Services (AWS) licenses.
- Advising Comcast Corporation and its SpectrumCo bidding partners in the FCC's spectrum auction of Advanced Wireless Services licenses (AWS-1, Auction 66).
- Advising the New Zealand Ministry of Economic Development (MED) on alternative auction designs and rules for various spectrum bands, including 3.4 GHz, 3.5 GHz, 24.5 GHz, 900 MHz, and 1800 MHz spectrum.

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- Advising a bidder bidding on soccer league broadcast and cable rights.
  - Advising a bidder in the FCC's spectrum auction of Broadband PCS licenses (Auction 58).
  - Advising the holder of personal communications services (PCS) licenses won at a previous auction on their market value based on results of a later auction.
  - Consulting to New Zealand's Ministry of Economic Development (MED) on technical designs and auction methods for its spectrum auctions following New Zealand's auction of 2nd and 3rd generation licenses in the 2 GHz band.
  - Advising a bidder in Canada's spectrum auction of PCS C and E block licenses.
  - Advising a bidder in the FCC's spectrum auction of C and F Block Broadband PCS licenses (Auction 35).
  - Advising a bidder in Australia's spectrum auction of 3.4 GHz licenses.
  - Consulting to the Nigerian Communications Commission (NCC) on its 2G (2nd generation) spectrum auction.
  - Advising a participant preparing for the FCC's spectrum auction of 700 MHz licenses.
  - Advising Industry Canada on its auction policy and rules for its second spectrum auction (PCS C and E block licenses).
  - Consulting to Switzerland's Federal Office for Communications (OFCOM) on designing and implementing its auction of IMT-2000/UMTS (3rd generation) spectrum licenses.
  - Advising a bidder in the UK's spectrum auction of IMT-2000/UMTS (3rd generation) licenses.
  - Assisting Industry Canada in running its first spectrum auction (24 GHz and 38 GHz bands).
  - Developing for the Federal Communications Commission (FCC) prototype auction software for advanced, combinatorial auctions.
  - Advising the FCC on improved designs for future spectrum auctions, including auctions with large numbers of licenses and combinatorial auctions.
  - Consulting to the Mexican Comisión Federal de Telecomunicaciones (Cofetel), Secretaría de Comunicaciones y Transportes (SCT), on the design and implementation of spectrum auctions: paging, wireless access/PCS, MMDS (multi-channel, multi-point distribution services), and point-to-point microwave.
  - Consulting to Industry Canada on auction design and implementation for spectrum auctions in Canada.
  - Advising a participant preparing for the FCC's spectrum auction of Local Multipoint Distribution System licenses (LMDS, Auction 17).

### Other industries

- For a large global insurance company, provided strategic advice on an arbitration matter based on game theory and voting/ranking analysis and modeling.

- For a large worldwide client, consulting on the design and implementation of a competitive bidding process to sell IP assets.
- For the Swedish National Audit Office (SNAO)—Riksrevisionen, assessing the government's sale of its eight percent share in telecommunications company Telia Sonera.
- Advising on auction and intellectual property issues for televised shopping channels in the UK.
- Monitoring and providing oversight support for the Public Utilities Commission of Ohio for Dominion East Ohio's wholesale natural gas procurement auction.
- For the Humana-CarePlus merger of Medicare organizations in Florida, analyzing the effects regarding the competitive bidding process required under the Medicare Prescription Drug, Improvement and Modernization Act of 2003 (MMA, P.L.108 173).
- For the Port Authority of New York and New Jersey (PANYNJ), participating in simulation games hosted by NEXTOR and analyzing alternative airport congestion management mechanisms, including administrative measures, congestion pricing mechanisms, and a proposed auction.
- Assisting UK broadcasters ITV and ntl in providing recommendations to UK telecom regulator Ofcom and UK competition authority OFT on auctioning broadcast rights to FAPL (Football Association Premier League) matches.
- Conducting for the British Columbia Ministry of Transportation a fairness evaluation of the restructuring of the BC Rail Freight Division.
- Advising a private US defense contractor on the restructuring of its company, including the design and implementation of a competitive bidding sales process.
- Consulting to a major aerospace & defense company in its acquisition of another major aerospace & defense company, including valuations, competitor assessment, game theoretic bidding strategies, and antitrust and national defense issues.
- Advising a client in the electronics industry on designing and implementing electronic trading solutions, including auction and market designs and rules.

## International trade

Providing litigation support (testimony, affidavits, other submissions, and preparation of witnesses) for parties in dumping, countervailing duty, and unfair trade proceedings before the US Department of Commerce, the US International Trade Commission, and foreign trade agencies.

- Proceedings before the US Department of Commerce and the US International Trade Commission.
  - Pencils, Cased from the People's Republic of China. Representing the domestic industry in an administrative review.
  - Manganese Metal from the People's Republic of China. Representing the domestic industry and testifying in antidumping proceedings; also subsequently representing the domestic industry in subsequent administrative reviews.

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- In the Matter of Certain Diltiazem Hydrochloride and Diltiazem Preparations. Representing a respondent in a Section 337 unfair trade competition proceeding involving a cardiovascular pharmaceutical, bulk diltiazem.
  - Nitromethane from the People's Republic of China. Representing respondents in the final determination stage of an antidumping proceeding.
  - Uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan. Representing a respondent in a review of a Suspension Agreement from an antidumping proceeding.
  - Ferrosilicon from the People's Republic of China, Kazakhstan, Russia, and Ukraine. Representing the domestic industry in antidumping proceedings.
  - Gray Portland Cement and Clinker from Mexico. Representing a respondent and analyzing fictitious market allegations in an administrative review of an antidumping duty order.
  - Minivans from Japan. Representing a respondent in the final determination stage of an antidumping proceeding.
  - Potassium Hydroxide, Liquid and Dry, from Canada, Italy, and the United Kingdom. Representing a domestic producer in an antidumping proceeding involving caustic potash (potassium hydroxide).
  - Silicon Metal from Argentina, Brazil, and the People's Republic of China. Representing the domestic industry in antidumping and countervailing duty proceedings.
  - Antifriction Bearings (Other than Tapered Roller Bearings) and Parts Thereof from the Federal Republic of Germany. Representing a German manufacturer in responding to an administrative review of an antidumping order.
  - Certain Catalyst Components and Catalysts for the Polymerization of Olefins. Representing the domestic industry in preparing for a Section 337 unfair trade competition proceeding involving polypropylene catalysts.
  - Electrolytic Manganese Dioxide from Japan and Greece. Representing the domestic industry in an antidumping proceeding involving electrolytic manganese dioxide (EMD); also subsequently representing the domestic industry in changed circumstances reviews, administrative reviews, and sunset reviews.
  - Providing strategy consulting to US and foreign companies in the context of potential trade disputes, optimal international operations, import and other duties, and other trade regulations.
    - Consulting to various domestic industries concerning filing antidumping and countervailing duty proceedings involving various metals.
    - Consulting to a foreign client on defensive antidumping business strategies.
    - Consulting to a domestic chemical producer concerning business strategies for reducing the risk of an antidumping proceeding filed against it by the European Community.

- Consulting to a multi-international metals company to minimize the costs of international duties, taxes, and regulations.

## Antitrust

Providing litigation support (testimony, affidavits, and preparation of witnesses) for parties in antitrust cases and mergers and acquisition matters.

- Testimony for the plaintiff in a Robinson-Patman predatory pricing and price discrimination case (*Liggett Group, Inc. v. Brown & Williams on Tobacco Corporation*).
- Litigation and pre-litigation analysis of antitrust issues in various industries, including:
  - Electricity
  - Credit card, bank ATM (automated teller machine), and POS (point of sale) networks
  - Airline
  - Petroleum
  - Retail apparel
  - Tobacco
  - Lead pigments
  - Video game
- Analysis of mergers and acquisitions in various industries, including:
  - Aerospace & defense
  - Paper
  - Beverage
  - Ready-to-eat cereal
  - Alumina
  - Polypropylene

## Securities

Providing litigation, pre-litigation, litigation-avoidance, and policy analysis support for clients in various matters.

- Government security auctions and markets
- Rule 10b-5 matters, including damage calculations
- Section 11 and Section 12 matters, including damage calculations



## Energy and environmental

Analyzing US and world energy industries, particularly with respect to electricity, petroleum, and natural gas markets and the effects of government policies and regulation. This includes development of models quantifying, and applying game theory to, energy market interactions and externalities, costs of supply disruptions, and the effects of various government regulations, policies, and taxes.

- Analyses of California, New England, and Alberta electricity markets
- Analysis of OPEC pricing and output behavior and the effects of regulations in the oil industry
- Analysis of trading in the North Sea oil market
- Analysis of carbon-based, BTU-based, and other energy related taxes
- Analysis of automobile fuel efficiency standards and alternative conservation policies
- Evaluation of the effects of ethanol subsidies
- Evaluation of oil refinery linear programming models
- Analysis of financial and contract evaluation models for an oil and natural gas company
- Analysis of stockpiles and emergency sharing agreements in world oil markets
- Clients include industry, institutional (trade associations), and government (US Department of Energy)

## Transfer pricing

Providing litigation and tax compliance support in Section 482 and related matters.

- Transfer price issues involving a major oil company
- Transfer price analyses for a toy and video game developer, manufacturer, and distributor

## Testimony, affidavits, and hearings

*PUCO Case No. 09-906-EL-SSO.* Testimony on behalf of the FirstEnergy Ohio Utilities (FEOU) related to FEOU's application for approval of a Market Rate Offer to conduct a competitive bidding process for Standard Service Offer electric generation supply.

*PUCO Case Nos. 09-21-EL-ATA, 09-21-EL-AEM 09-21-EL-AAM.* On behalf of the FirstEnergy Ohio Utilities (FEOU), written testimony in a matter before the Public Utilities Commission of Ohio (PUCO) related to FEOU's competitive bidding process using an RFP bidding format in 2008 for which I acted as RFP Manager.

*FERC Docket No. ER06-117-000.* On behalf of the FirstEnergy Ohio Operating Companies and the Public Utilities Commission of Ohio (PUCO), written testimony in a Federal Energy Regulatory Commission proceeding related to FirstEnergy's Competitive Bid Process in 2004.

Appearance before and submissions to the Dutch competition authority, the NMa, regarding product design and auction design and implementation for a virtual power plant (VPP) capacity auction.

*Establishment of the Process for the Procurement of Transitional Standard Offer Power, Docket No. 03-07-18.* Two affidavits on behalf of the Connecticut Department of Public Utility Control (DPUC), one for The Connecticut Light and Power Company's Transitional Standard Offer procurement and one for The United Illuminating Company's Transitional Standard Offer procurement.

*In the Matter of the Generic Proceeding Concerning Electric Restructuring Issues, Docket No. E-00000A-02-0051.* Affidavit on behalf of Arizona Public Service before the Arizona Corporation Commission regarding APS' Track B competitive procurement RFP solicitation.

Appearances before the New Jersey Board of Public Utilities regarding Basic Generation Service procurement processes.

*Filene's Basement, Inc. v. Corporate Property Investors.* Affidavit on behalf of Corporate Property Investors.

*In the Matter of Manganese Metal from the People's Republic of China.* Affidavits and testimony on behalf of Petitioners Kerr-McGee Chemical Corporation and Elkem Metals Company in connection with an antidumping proceeding.

*In the Matter of Electrolytic Manganese Dioxide from Greece and Japan.* Affidavit on behalf of Petitioners Kerr-McGee Chemical Corporation and Chemetals, Inc., in connection with an antidumping proceeding.

*Liggett Group, Inc. v. Brown & Williamson Tobacco Corporation.* Testimony on behalf of Liggett Group, Inc., in a Robinson-Patman predatory pricing and price discrimination case.

## Experience prior to Charles River Associates

*Independent Consultant* (January 1983–June 1988). As such he had contracts with Applied Decision Analysis, Inc., Lawrence Berkeley Laboratory, and the US Department of Energy. His accomplishments include the following:

- Research and development of a regional and dynamic simulation model of the natural gas industry. The model implements a fixed-point algorithm by integrating two nonlinear programming submodels.
- Development of a linear programming model to simulate optimal behavior by a natural gas pipeline company.
- Development of a model of alternative rate designs for natural gas pipeline companies.
- Development of a model of natural gas supply and demand used to evaluate alternative natural gas price and quantity regulations.
- Development of a stochastic dynamic programming model of the US Strategic Petroleum Reserve that implements a game-theoretic approach to private- and public-sector stockpiling interactions.

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*Graduate Research Assistant*, Department of Economics and Boalt School of Law, University of California at Berkeley (August 1985–June 1988). Research included econometric analysis of the demand for local public goods and services with Professor Daniel L. Rubinfeld.

*Regulatory Impact Analyst*, Office of Economic Analysis, US Department of Energy (August 1983–August 1984). Responsibilities and accomplishments involved research and analysis of policies affecting oil and natural gas markets, including:

- Analysis, research, and writing chapters for the congressionally mandated report on natural gas markets
- Representing the Department of Energy's Office of Policy, Planning and Analysis in the DIREX-B simulation exercise of a major world oil supply disruption
- Research with Dr. George Horwich and the development of a model to analyze the effects of oil import quotas during world oil supply disruptions. Resulted in a conference paper and a book chapter.

*Graduate Research Resident*, Argonne National Laboratory Program for US Department of Energy's Office of Policy, Planning and Analysis (summers 1982 and 1983).

- Research and analysis of natural gas policy issues and energy models and development of an econometric model of natural gas demand
- Extension and improvement of a dynamic programming model of the US Strategic Petroleum Reserve

*Visiting Graduate Research Fellow*, The Lunar and Planetary Institute, affiliated with NASA, (summers 1980 and 1981).

- Development of a simulation model used for analyzing meteorite impacts on planets
- Research with computer simulations of impact cratering phenomena that resulted in conference paper with adviser

## Teaching

*Graduate Student Instructor* for intermediate microeconomics course, Department of Economics, University of California at Berkeley (fall 1986)

*Instructor* for graduate course in mathematical modeling, Department of Political Science, University of Rochester (fall 1982)

*Undergraduate Teaching Assistant* for intermediate physics course, Department of Physics, Purdue University (1980–1981 academic year)

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## Selected publications and presentations

“Why Do 5G Spectrum Auctions Take So Long to Complete?” With Margarita Patria. *CRA Insights: The Economics of 5G*, June 2021.

“Auction Design Could Streamline TikTok’s US Asset Sale.” With Margarita Patria and Kalin McGowan. *Law360*, September 11, 2020.

“Time for Bankruptcy Auctions to Go Online.” With Margarita Patria. *Law360*, August 2, 2017.

“Auction-Based Transaction Mechanisms for Commodity-Trading.” With Margarita Patria. *Commodities Now*, Vol. 18, Issue 3, Sept/Oct 2014, pp. 64-66.

“Transforming the Global Dairy Industry with an Innovative Trading Platform.” With Margarita Patria. Global Agribusiness Forum 2014, GAF Academy, São Paulo, Brazil, May 2014.

“Creating an Efficient Marketplace that Works for Physical Transactions in Agricultural Commodities: Enabling Reliable, Credible Price Discovery in a Win-Win Process for Sellers & Buyers,” presented at 2013 Employee Conference, Federal Milk Order Northeast Marketing Area, Boston, MA, August 27, 2013.

“Energy Auctions,” presented at the North American Power Credit Organization (NAPCO) May 2013 Meeting, Austin, TX, May 2-3, 2013.

“Developing Agricultural Commodity Markets Through a Better Trading Platform,” presented at 13th Annual Farmer Cooperatives Conference, “Cooperatives: Looking Forward,” hosted by University of Wisconsin Center for Cooperatives, Denver, Colorado, December 6–7, 2010.

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## **APPENDIX B: LIST OF DOCUMENTS REVIEWED**

- “Domain Acquisition Agreement” between Nu Dotco, LLC and Verisign, Inc.
- “ICANN New gTLD Contention Set Resolution Auction — Final Results for WEB/WEBS,” ICANN
- “gTLD Applicant Guidebook,” (v. 2012-0604), Module 4, ICANN, June 4, 2012
- “New gTLD Auctions — Bidder Agreement,” Version 2014-02-26
- “Auction Rules for New gTLDs: Indirect Contentions Edition,” Version 2014-11-14, Prepared for ICANN by Power Auctions LLC
- “Amended Request by Afilias Domains No. 3 Limited for Independent Review,” March 21, 2019
- “Reply Memorial in Support of Amended Request by Afilias Domains No. 3 Limited for Independent Review,” May 4, 2020
- “ICANN’s Rejoinder Memorial in Response to Amended Request by Afilias Domains No. 3 Limited for Independent Review,” June 1, 2020
- “Amicus Brief of Nu Dotco, LLC,” June 26, 2020
- “Verisign, Inc.’s Pre-Hearing Brief (Phase II),” June 26, 2020
- “Afilias Domains No. 3 Limited’s Response to the Amicus Curiae Briefs,” July 24, 2020
- “ICANN’s Response to the Briefs of Amicus Curiae,” July 24, 2020
- Willet Witness Statements dated December 17, 2018 and May 31, 2019
- IRP Hearing Transcripts from August 5 and 6, 2020 (Willet examination)
- Altanovo Opening Submission dated July 29, 2022
- Cramton Expert Report dated July 29, 2022
- Neuman Expert Report dated July 29, 2022
- Response by Nu Dotco LLC and Verisign, Inc. dated July 29, 2022