Exhibit I

**AN EVALUATION OF PROPOSED CHANGES
TO THE COMMISSION'S PART 1 COMPETITIVE BIDDING RULES**

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May 20, 2015

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Introduction and Standards for Review

The current investigation takes place at the intersection of two requests for comment. The *2014 NPRM*[1] focuses on revisions to the Part 1 competitive bidding rules that would "provide small businesses greater opportunity to participate in the provision of a wide range of spectrum-based services" while maintaining a "reasonable balance between the competing goals of affording such entities reasonable flexibility to obtain the capital necessary to participate in the provision of spectrum-based services and effectively preventing the unjust enrichment of ineligible entities."[2] At that time, the Commission proposed to maintain this "reasonable balance" by adjusting its standards to reflect "an evolving wireless marketplace."[3] These adjustments included a proposed increase in the "general size standards, measured by gross revenues" and a proposal to "increase the bidding credit percentages applicable to associated small business categories."[4] To guard against unjust enrichment, the Commission expected to continue its historic approach of "careful vigilance in approving applications and transactions," and "strong enforcement" of existing rules with possible (though relatively minor) changes.[5]

In contrast, the *2015 Public Notice*[6] changes the focus of the investigation to the consideration of additional measures to "ensure that benefits are provided only to qualifying entities;" the majority of the "alternative proposals" to meet the "statutory obligation to ensure that small businesses ... have an opportunity to participate in the provision of spectrum-based services"[7] described in the *2015 Public Notice* would significantly reduce, or even eliminate, the ability of small businesses to participate in the evolving wireless marketplace.

The intervening event between the 2014 NPRM and the 2015 Public Notice was Auction 97, which closed on January 29, 2015. As it should, the Commission has sought subsequent comment in order to "take into account any 'lessons learned' from Auction 97." The stakes of this investigation are high; the ability of small business to participate in the provision of spectrum-based services (and the ability of the Commission to meet its statutory obligation to ensure that small businesses have this opportunity) will depend on an approach that ensures that

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[1] Notice of Proposed Rulemaking, FCC 14-146, released October 10, 2014 ("*2014 NPRM*").
[2] *2014 NPRM*, ¶¶2-5. The statute includes a broader prohibition of unjust enrichment and is not limited to a directive to "prevent unjust enrichment of ineligible entities." 47 U.S.C. §309(j)(4)(E) requires such actions "as may be necessary to prevent unjust enrichment as a result of the methods employed to issue licenses and permits." As a result, all entities, including Designated Entities, are in fact "ineligible entities" for unjust enrichment obtained "through the methods used to obtain licenses and permits" (including but not limited to auctions).
[3] *2014 NPRM*, ¶50.
[4] *Id.*
[5] *2014 NPRM*, ¶42.
[6] Request for Further Comment on Issues Related to Competitive Bidding Proceedings Updating Part 1 Competitive Bidding Rules, FCC 15-49, released April 17, 2015 ("*2015 Public Notice*").
[7] *2015 Public Notice*, ¶1.

the right lessons are learned, and subsequently for the right rule modifications to be implemented.

Any successful reform effort, including an update to the Part 1 Competitive Bidding Rules, includes three essential steps:

1. In a successful reform effort, the objectives of the program should remain the primary consideration when rule changes are being considered. The Designated Entity program was established in response to the statutory mandates for the Commission to promote "economic opportunity for a wide variety of applicants, including small businesses,"[8] ensure that small businesses are "given the opportunity to participate in the provision of spectrum-based services,"[9] and to disseminate licenses "among a wide variety of applicants, including small businesses."[10] While ensuring that these objectives are met, the Commission is also tasked with adopting rules that will eliminate opportunities for "unjust enrichment."[11] Historically, this balance has been pursued by the adoption of rules that expand opportunities for participation by small businesses, while engaging in "careful vigilance" and strong enforcement of existing rules that eliminate unjust enrichment to the extent possible. In response to the *2014 NPRM* and *2015 Public Notice*, a number of commenters have offered proposals that invert this historic approach: the proposals are designed to eliminate any possibility of unjust enrichment, and to permit the operation of the Designated Entity program (and the corresponding participation of small businesses) only to the extent such operation is consistent with a prime directive of "no unjust enrichment." Such an inversion of goals is unlikely to result in reforms with the desired effect.[12]

2. A successful reform effort begins by correctly identifying the nature of a problem and the source of that problem; conversely, a successful reform effort will identify factors that are coincident with – but unrelated to – the core problem. Multiple parties have correctly pointed out that certain bidding activity in Auction 97 led to a number of undesired outcomes. It is clear that such activity occurred, and that the parties engaged in the undesirable) activity included Designated Entities and an entity that is a large investor in those Designated Entities. Reforms should squarely address these activities and rule changes should be adopted, if necessary, to prevent such activity in the future. But before reaching any conclusions regarding the merits of any proposed rule changes, it is essential that the undesirable activity be fully examined in order to distinguish between factors that contributed to the problem and factors that are simply coincident to the problem. Omitting this essential step, as a number commenters have apparently done, could lead to rule changes that (1) fail to address the underlying problem, and

[8] 47 U.S.C. §309(j)(4)(C).

[9] 47 U.S.C. §309(j)(4)(D).

[10] 47 U.S.C. §309(j)(3)(B).

[11] 47 U.S.C. §309(j)(4)(E).

[12] This inversion of goals also fails to address the primary source of unjust enrichment to any bidding entity – enrichment obtained through manipulation of the bidding process (including manipulation achieved through collusion with other bidding entities). In order to address the broader prohibition of unjust enrichment set forth in 47 U.S.C §309(j)(4)(E), the Commission should focus on ways to prohibit, identify, and effectively address collusion among bidding entities.

(2) have significant adverse consequences for the Designated Entity program that will limit the Commission's ability to meet its statutory mandates.

3. A successful reform effort will take affirmative steps to address the root problem, while avoiding changes based on unrelated, coincident factors that undermine the fundamental goals of the program. By engaging in the essential analytical step described above (and applied in the following section), rule changes can be adopted that will prove effective in eliminating the observed problem while avoiding the unintended consequences of undermining the goals of the Designated Entity program.

Analysis of Auction 97

In an *Ex Parte* dated April 24, 2015, Verizon provides an economic analysis of the bidding activities of DISH, Northstar Wireless, and SNR during Auction 97. Two sets of facts are essential to a complete analysis. First, as described in the Verizon *Ex Parte* and discussed in more detail below, "auction data reveal extensive evidence of collusion by DISH, Northstar, and SNR, which violates antitrust law and the Commission's rules and policies." Second, Northstar and SNR are Designated Entities, and DISH is a large investor in both companies.

In order to determine how to proceed with regulatory reform, and particularly in order to properly "take into account any 'lessons learned' from Auction 97," it is imperative that the Commission consider the relationship, *if any*, between these two sets of facts. Specifically, the question at hand is whether the observed collusion by these entities in Auction 97 occurred because Northstar and SNR are Designated Entities (or was made possible because Northstar and SNR are Designated Entities in which DISH is a significant investor), or whether the observed collusion could have occurred among three bidding entities independent of these relationships. Put directly, before proceeding to the next step of examining the merits of proposed remedies, it is important to first determine whether the documented behavior by these entities in Auction 97 is indicative of a "Designated Entity problem" or a "collusion problem." Correct identification of the type of problem is an essential step in the process of developing effective regulatory reforms.

In its *Ex Parte*, Verizon relies on the analysis of Dr. Leslie Marx. In the presentation of her analysis and results, Dr. Marx identifies evidence that supports her conclusion of "collusion by DISH and its Designated Entities." Notably, Dr. Marx does *not* conclude that the collusion was caused by, or made possible by, the classification of Northstar and SNR as Designated Entities or their relationship with DISH as an investor. A closer examination of each example of each identified activity is instructive in order to accurately identify the underlying problem and to properly evaluate any proposed modifications to the Part 1 rules.

Suppression of Rivalry. According to Verizon, Dr. Marx concludes that

> DISH and the DEs frequently bid on the same licenses in the same rounds while other bidders were active, which created the false perception that multiple other parties were interested in those licenses (though did so generally without bidding each other up). After competing bidders dropped out, DISH and the DEs avoided bidding against one another. This conduct is indicative of a bidding ring, intended to drive out competitors and then suppress rivalry among the ring members.

Here, Dr. Marx's overall conclusion is that: the observed behavior is indicative of a bidding ring intended to drive out competitors, after which rivalry among ring members is minimal or nonexistent. But the use of the phrase "DISH and the DEs" is misleading because it suggests a conclusion that is not stated and for which no supporting evidence exists. The success[13] of the bidding ring observed by Dr. Marx in no way depends on Northstar and/or SNR being a Designated Entity, nor does it depend on DISH being an investor in either entity. If this form of collusion is applied to actions for multiple licenses, each member of the bidding ring can be enriched, regardless of whether they have completely independent ownership structures and even if none of the bidders is a Designated Entity.

To make her point about the evidence for, and implications of, this form of collusion, Dr. Marx need not have identified Northstar and SNR as Designated Entities, nor did she need to note DISH's ownership stake in Northstar or SNR. Verizon's point would have been equally valid by simply pointing out that three applicants bid on the same licenses in the same rounds while other bidders were active" or that "after competing bidders dropped out," they "avoided bidding against one another." While there is evidence of "suppression of rivalry" that should be addressed, there is no evidence that such suppression depended on the presence of Designated Entities.

<u>Distortion of information available to other bidders</u>. Verizon notes Dr. Marx's conclusion that

> As noted above, by placing double and triple bids, DISH and the DEs sent the false signal to other bidders of more robust demand, which may have deterred other bidders or caused them to drop out of the auction. Northstar and SNR also placed double bids on 80 licenses that had been inactive for at least 51 rounds, some for more than 200 rounds. These joint bids on inactive licenses raised the costs to the longstanding high bidder to remain in the auction and may have deterred bidders from continuing to participate.

[13] Here, I am defining "success" as the enrichment of the members of the bidding ring beyond the level that would be expected if the collusion did not take place.

The described "distortion of information" may have had the adverse effects of increasing costs to other potential bidders and deterring other potential bidders from continuing to participate in the auction for a given license. But while such a strategy depended on collusion between these entities, it in no way depended on the classification of any applicants as Designated Entities.

Allocation of markets. Verizon and Dr. Marx point out that

> Northstar and SNR allocated certain markets between them, while still ensuring that their combined holdings covered all of the population nationwide. This result is virtually impossible to explain in the absence of coordination and collusion.

A strategy of allocating (rather than actively competing for) markets would have adverse consequences for the outcome of the auction. As Verizon points out in its *Ex Parte*, such a result "is virtually impossible to explain in the absence of coordination and collusion." But the ability to engage in this "coordination and collusion" is not dependent on (and is in no way enhanced by) the colluding entities being Designated Entities. The applicants could have undertaken the same strategy, to the same effect, if they were not Designated Entities and without a common equity stake by DISH.

Acceptance of random assignments. According to Dr. Marx's analysis,

> For 27 percent of the licenses they won at auction (190 licenses), Northstar and SNR "accepted" the FCC's random assignment of one of them as the randomly picked provisional winner after they each bid the same amount, rather than compete against one another for the licenses. This occurred only five other times in the AWS-3 auction for all other bidders. This behavior suggested that the DEs anticipated that they would coordinate and allocate licenses between them post-auction.

This observation is an extension of the market allocation point explored above. Dr. Marx's analysis does support a conclusion that Northstar and SNR engaged in market allocation, and this conclusion is supported by their willingness to accept random assignments. But this strategy is in no way dependent on applicants being Designated Entities; such a strategy (and the requisite "collusion and coordination") could take place between any two bidding entities.

DISH's handoff of licenses to its DEs. According to Verizon,

> The auction data show that DISH colluded with the DEs to exit the auction early, without risk and without penalty. It did this by ensuring that, when DISH exited the auction following round 20 when it was the high bidder on several hundred licenses, the DEs topped its previous high bids on virtually all those licenses. Dr. Marx explained that when DISH suddenly exited the auction is

> rounds 20-22, the DEs replaced DISH on 91% of the licenses in these rounds which DISH had provisionally won. Dr. Marx also noted that by handing off licenses to the DEs, DISH avoided the risk of having to pay for any of them – and the DEs became high bidders at a 25 percent lower price.

Here, the culmination of this strategy of "collusion and coordination" was the acquisition of licenses by Designated Entities at a discounted price that would have been unlikely without improper bidding behavior. But as noted above, it is important to conduct an analysis sufficient to determine whether any undesired outcome is the result of an underlying "Designated Entity problem" or an underlying "collusion problem." A "Designated Entity problem" would exist if a combination of entities could, while operating within the constraints of the bidding rules in place, manipulate the process toward an undesirable outcome that would result in the unjust enrichment of one or more bidding entities. No evidence has been presented to support such a scenario; to the contrary, commenting parties (including but not limited to Verizon in the above-cited *Ex Parte*) have consistently focused on actions that are otherwise prohibited.

In summary, the outcome of Auction 97 was driven not by a shortcoming in the Commission's existing rules regarding Designated Entities, but by collusion among bidders. As a result, the "lesson learned" from Auction 97 is not that the Designated Entity program is inherently flawed and must be limited in some way, but that various forms of collusion and coordination by bidding entities – if not prevented – can lead to undesirable outcomes. In order to address the lessons learned from Auction 97, regulatory reform efforts must address the existing level of oversight of bidding behavior and any rules (including rules allowing billing partnerships, even if disclosed) that may making collusion among bidding entities possible.

Implications of Misidentifying the Problem

The misidentification of a "collusion problem" as a "Designated Entity problem" has resulted in a number of proposals that represent the worst possible option, in two respects. First, they would undermine the ability of small businesses to successfully participate in auctions (and to subsequently operate in any markets for which they are successful in acquiring a license), making it difficult for the Commission to meet its statutory mandate to ensure "economic opportunity for a wide variety of applicants, including small businesses," ensure that small businesses are "given the opportunity to participate in the provision of spectrum-based services," and to disseminate licenses "among a wide variety of applicants, including small businesses." While doing so, these proposals would be ineffective in addressing the core problem of collusion among bidding entities, and create a distraction that diverts attention from the need to identify effective means of prohibiting such collusion, identifying it when it occurs, and addressing cases when they are identified. As a result, these proposals don't simply throw out the metaphorical baby with the bathwater; they throw out the baby while retaining the bathwater.

Many Proposals Would Undermine the Designated Entity Program, to the Advantage of Large National Carriers

A number of proposals (e.g. increased attribution in non-controlling equity holdings above certain levels and minimum equity requirements by qualified DE entities) are overt attempts by large national carriers to eviscerate the Designated Entity program and preclude participation in the auction process – and subsequent successful operation – by small businesses. These proposals effectively assume that collusion among bidding entities, similar to that observed in Auction 97, is inevitable and will occur in all future auctions. Rather than addressing this fundamental problem, the proposals focus on limiting the consequences of one (but only one) possible form of unjust enrichment – that of an "ineligible entity" improperly receiving benefits intended for a Designated Entity.

The impact of many of the proposals on small businesses is clear: reductions in the level of bidding credits will make it more difficult for a small business to successfully bid against a larger, well-financed carrier, and extending a mandatory holding period will hamstring small businesses in their ability to attract capital and make market-driven network deployment and upgrade decisions as technology changes over a shorter time horizon. These kinds of proposals should be seen for what they are: efforts to limit the activity of Designated Entities that are wholly unnecessary if the underlying problem of collusion among bidding entities is effectively addressed.

The impact of other proposals, while less immediately obvious, is upon closer inspection a greater threat to the mandates of 47 U.S.C. §309(j). The proposal to cap the total amount of bid credits available to a given Designated Entity is one example. Constraining the total bid credit effectively limits the value of licenses that a Designated Entity could successfully acquire in a given auction. With a 25% bidding credit and a cap of $10 million, a given Designated Entity would be limited to licenses with a total value of $40 million. At best, this is an attempt by large carriers to keep small businesses small by limiting their participation in a given auction and placing a hard cap on the size of their operations. But the scale economies of the industry make the consequences far greater, and a proposed cap on bid credits could drive small businesses out of the market. Such a consequence, whether intended or unintended by the proponents of a cap on bid credits, would have implications for market concentration and competition (and therefore for the consumers of wireless services) going forward.

Scale economies directly impact carrier costs in a number of ways. The author has direct experience with how size and scale impact the cost and availability of equipment, a carrier's operating costs, and the availability of capital in the industry.

Since the Part 1 competitive bidding rules were first adopted, the cost structure of wireless carriers has changed. When retail wireless services were initially introduced, carriers needed to invest in towers, transmission equipment, backhaul facilities, and switches in order to provide a basic voice service. Since 2007, as wireless telecommunications have evolved from voice-centric to a data-centric model, the cost structure has similarly evolved. While the costs of tower construction have not significantly changed, the investment in equipment located on or adjacent to those towers has increased. The facilities and equipment needed to provide greater backhaul capacity are now required, and carriers must invest in IP-integrated switching platforms. The increase in complexity likewise increases the cost of network management and operation.

Experience demonstrates that the acquisition cost of telecommunications equipment is a direct function of the size and scale of the purchaser. Since 1996, network costs have been examined in detail during negotiations, arbitrations, and contested proceedings related to the pricing of Unbundled Network Elements ("UNEs"), the calculation of universal service subsidies, the calculation of inter-carrier compensation, and the Commission's analysis of competitors' level of impairment without access to certain UNEs. In each of these (and other) contexts, the author has had the opportunity to review the prices that carriers of different sizes pay for the same (or directly comparable) equipment. Whether wireline or wireless, larger carriers consistently pay less – and often substantially less – for the same equipment.

In the types of proceedings described above, the author has had the opportunity to review hundreds of documents that detail the prices paid by carriers of different sizes, from large Regional Bell Operating Companies to small rural ILECs and competing wireline and wireless providers. The standard practice is for telecommunications equipment to be offered at a list price, but to be sold at varying discounts off that list price. For switching equipment, a review of vendor contracts revealed that smaller carriers and new entrants have historically received a modest discount, while the largest carriers have received much more substantial discounts (in the range of 50 – 60% or more, depending on configuration and vendor). In telecommunications, the historic lessons are clear: large carriers pay substantially less than small carriers, and large projects are less costly (per unit) to equip than smaller projects. In order to compete with large established carriers, a small business must be able to enter and operate at a sufficient scale so that this equipment cost penalty is not too great to allow it to compete.

Experience with the acquisition of wireless network equipment fully supports this observation. The author has direct experience with the designation of wireless Eligible Telecommunications Carriers "ETCs" in over twenty states. In order to qualify for universal service support, wireless ETCs were required to engage in an accelerated network buildout in order to meet all reasonable requests for service. Without exception, vendor bids for larger buildout projects reflected a more discounted price for equipment than bids for smaller projects. The costs for backhaul facilities are also fully consistent with this pattern. The author was responsible for developing grant applications for a regional wireless carrier submitted through the Broadband Initiatives Program ("BIP") and Broadband Technology Opportunities Program ("BTOP"). The regulations for each program required an applicant to negotiate all necessary agreements for the construction or lease of all network capabilities, including backhaul facilities, prior to the submission of the application. This experience revealed that whether built or leased, high-volume backhaul facilities were less costly than lower volume backhaul facilities.

The lessons for any entity seeking to compete in the provisioning of wireless services are inescapable: in order to compete on a cost basis with established carriers, the entity and its projects must be of sufficient scale. For a small business, this means that it must be able to acquire a sufficient number of licenses of a sufficient size, otherwise its cost to acquire necessary equipment and facilities will be substantially higher than its competitors.

The availability of equipment is also a potential issue that is directly related to scale. The author's experience assisting with the start-up operations of Competitive Local Exchange Carriers ("CLECs") reveals that the availability (and timing of delivery) of a vendor's equipment depends very much on the size of the customer. Whether vendors were actually experiencing production shortages, or were orchestrating such shortages for the benefit of their largest, established customers is of little consequence; either way, scale has been shown to be a precondition for the timely availability of essential network equipment.

Operations costs are also direct impacted by scale. The author has significant experience negotiating interconnection agreements for wireline carriers and roaming agreements for wireless carriers. In each case, the size of a carrier directly determined the terms, and being larger enabled a carrier to obtain better terms. This experience may be driven by traffic volumes that are sufficient to permit a more efficient network arrangement, may reflect the fact that larger size results in greater negotiating leverage, or both. Either way, larger size has manifested itself as a distinct advantage. In addition, more complex data networks require larger and more sophisticated network operations centers, and these centers have a minimum efficient size. For each of these reasons, scale impacts operating costs.

Finally, scale directly impacts a carrier's access to capital. This observation is fully supported by the author's experience developing grant applications for the BIP and BTOP programs, as described above. The regulations of these programs required a network buildout on a limited timescale, and applications were required to include a detailed network construction plan and corresponding capital acquisition plan, including commitments from the providers of the necessary capital. Even in a scenario in which a substantial part of the construction costs would be recovered through program grants, the ability of a regional wireless carrier (even one with sound credit and record of profitable operation) to acquire commitments for the necessary capital was extremely difficult. This experience underscores the need for Designated Entities to be able to acquire capital from other industry participants. In order to do so, the Designated Entity must be able to pursue projects of sufficient size and scale.

While Undermining the Goals of the Designated Entity Program, Many Proposals Would Fail to Address the Primary Sources of Unjust Enrichment

Proposals to address the behavior observed in Auction 97 by limiting opportunities for Designated Entities ignores the methods by which most entities – whether eligible or ineligible for Designated Entity benefits – can become unjustly enriched by manipulating the bidding process. As noted above, responding to collusion problems by reducing or eliminating benefits to Designated Entities effectively assumes that collusion among bidding entities is inevitable.

This approach assumes that the only way to reduce the unjust enrichment of "ineligible entities" is to reduce benefits to eligible entities as well.

Such an approach is inherently flawed because it ignores two fundamental realities. First, biding entities can be unjustly enriched by manipulating the bidding process, and need not be a Designated Entity or an investor in a Designated Entity in order to do so. The types of collusive behavior and manipulation strategies described above and in the Verizon *Ex Parte* creates unjust enrichment of the colluding participants, and this broader opportunity for unjust enrichment in no way requires any of the colluding entities to be Designated Entities. Second, reducing bidding credit percentages or placing a cap on total bidding credits available to a given Designated Entity does absolutely nothing to address suppression of rivalry, distortion of information to other bidders, allocation of markets, or acceptance of random assignments. The forms of collusive behavior identified in Auction 97 would not be constrained by these proposals. Put another way, adoption of all of the various proposals to limit benefits to Designated Entities would not prevent a recurrence of this behavior, and would not prevent the unjust enrichment of the participants in such manipulation schemes, in future auctions.

Effective reform must begin with identifying the observed activity in Auction 97 as a "collusion problem," not a "Designated Entity problem." Reform efforts should be squarely focused on preventing collusion among bidding entities, identifying such collusion if it does occur, and enacting effective remedies to prevent unjust enrichment of the colluding bidders.