



UNITED STATES GOVERNMENT

memorandum

WIRELINE COMPETITION BUREAU

DATE: December 27, 2012

TO: Christiaan Hogendorn

FROM: Julie A. Veach
Chief, Wireline Competition Bureau

SUBJECT: Peer Review of Connect America Phase II Cost Model

The Federal Communications Commission (Commission) is in the process of developing a cost model for use in the Connect America Fund proceeding (WC Docket No. 10-90, et al.).¹ Through this memorandum, I request that you perform a peer review of the model in question, the Connect America Cost Model.²

The Commission is currently implementing Connect America Phase II, a program with the goal of deploying modern, scalable, broadband-capable infrastructure to areas of the nation where high costs have left consumers unserved by broadband, while preserving ubiquitous voice service and minimizing the burden on all consumers to support the funding mechanism for the program.³ The Wireline Competition Bureau (Bureau) has been directed by the Commission to adopt an engineering-based cost model, which will estimate the forward-looking cost of deploying and operating a modern wireline voice and broadband-capable network at the census block (or smaller) level.⁴ The model will

¹ See *Connect America Fund*, WC Docket No. 10-90, et al., Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011) (*USF/ICC Transformation Order*). To access the order, see http://transition.fcc.gov/Daily_Releases/Daily_Business/2012/db0206/FCC-11-161A1.pdf.

² For a description of the model, see http://transition.fcc.gov/wcb/tapd/universal_service/caf/CAF2-Part1.pdf and http://transition.fcc.gov/wcb/tapd/universal_service/caf/CAF2-Part2.pdf.

³ *USF/ICC Transformation Order*, 26 FCC Rcd at 17673-75, 17725-38, paras. 23-28, 156-93.

⁴ See *id.* at 17735, para. 187; see also *Request for Connect America Fund Cost Models*, WC Docket Nos. 10-90, 05-337, Public Notice, 26 FCC Rcd 16836 (Wireline Comp. Bur. 2011), http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-11-2026A1.pdf. For a virtual workshop on issues associated with the development of the cost model, see <http://www.fcc.gov/blog/wcb-cost-model-virtual-workshop-2012>. For the announcement of the workshop questions, see <http://www.fcc.gov/document/wcb-releases-additional-discussion-topics-connect-america-phase-ii>.

ultimately be used to determine support amounts that will be offered to incumbent price cap carriers in specified areas. The Bureau is directed to “ensure that the model design maximizes the number of locations that will receive robust, scalable broadband within the budgeted amounts. Specifically, the model should direct funds to support 4 Mbps/1 Mbps broadband service to all supported locations, subject only to [a] waiver process for upstream speed . . . and should ensure that the most locations possible receive a 6 Mbps/1.5 Mbps or faster service at the end of the five year term, consistent with the CAF Phase II budget.”⁵

The Universal Service Administrative Company (USAC) is the entity that is making the model available to the public. USAC has procured the services of a contractor, CostQuest, to provide the model and to assist with its public hosting, execution and support. The model and accompanying documentation (including description of process for obtaining access to them) can be accessed online at <http://www.fcc.gov/encyclopedia/caf-phase-ii-models>. Access to the model is subject to a second level protective order, and requires the execution and return to us and CostQuest (as appropriate) of the requisite confidentiality, licensing and non-disclosure agreements (respectively Appendices A, B and C of the attached Third Supplemental Protective Order, also found at <http://www.fcc.gov/document/connect-america-phase-ii-third-supplemental-protective-order>). Login and other information about accessing the model is available from USAC’s contractor, CostQuest (James Stegeman, President (jstegeman@costquest.com; (513) 941-9009), or Mark Guttman, Vice President of Operations (mguttman@costquest.com; (513) 662-2124 x102).

The current version of the model provides the ability to calculate costs using a variety of different inputs and assumptions, allowing the Bureau to choose among different network deployments to serve funded locations (*e.g.*, FTTP or fiber-fed DSL), different assumptions about the amount of existing facilities assumed to exist (*e.g.*, green-field or brown-field deployments, the mix of aerial, buried or underground plant), as well as different assumptions about unit costs for capital and operating expenses.⁶ The cost model is based on geospatial information systems (GIS) data on the nation’s roads and implements a road-based spanning tree to minimize the distance covered by the network, limiting coverage to road types that are used for residential and business locations. The model employs actual locations of existing central offices. Contemporary wireline systems engineering standards are incorporated to ensure that the modeled network accurately captures the number of routers located at the edge of the cloud, quantities of feeder and distribution cable, customer aggregation points, and other network elements. The contractor supplying this model to USAC previously provided related models for submission in the record of this proceeding.⁷ Subsequent versions of the model likely

⁵ *USF/ICC Transformation Order*, 26 FCC Rcd at 17735, para. 187.

⁶ *Id.*

⁷ See Letter from Jonathan Banks, USTelecom, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 10-90 and 05-337 (filed Feb. 13, 2012) (attaching updated documentation of the CostQuest Broadband Access Tool or CQBAT model). This submission updated the ABC Coalition’s prior proposal for a forward-looking cost model, which had been submitted prior to the release of the *USF/ICC Transformation* (continued...)

will include updates and enhancements such as the use of 2010 Census data, a 2010 commercial business data set (which includes geocoded business addresses), updated network coverage data from the National Broadband Map/State Broadband Initiative, updated wire center boundaries, and network topologies refreshed to reflect new demand data. It is expected that voice costs, on a per subscriber basis, will be added and that the brown field model will include operating expenses and replacement capital expenses for facilities assumed to be already deployed. In addition, it is expected that audit reports for outside plant by wire center and for middle-mile connectivity will be provided. Version two of the model will incorporate some of these updates and is scheduled to be available in the near future.

Before a federal agency may rely on influential scientific information such as this cost model in creating rules, the material must be peer reviewed to enhance the quality and credibility of the government's scientific information.⁸ Guidance from the Office of Management and Budget (OMB) requires agencies to provide peer reviewers with "instructions regarding the objective of the peer review and the specific advice sought."⁹ The objective of this peer review is to establish whether the Connect America Cost Model can reasonably be used to estimate the forward-looking cost of deploying and operating a modern voice and broadband-capable network. Specifically, we seek your advice on the following issues, from both a theoretical and empirical perspective: (1) whether the methodology and assumptions employed are reasonable and technically correct; (2) whether the methodology and assumptions are consistent with accepted practices in the fields of economics, engineering, GIS, and costing; and (3) whether the model is logically consistent. Please note that the standards for evaluation are not necessarily the same as those one might apply in evaluating studies for publication in a professional journal. For example, it is not necessary that the study present new or novel theoretical results or empirical techniques. Consistent with the requirements of the OMB Bulletin, we are not asking you to "provide advice on policy" or to evaluate any policy implications that might arise from use of this cost model.¹⁰

Guidance from OMB further requires that "[r]eviewers shall be informed of applicable access, objectivity, reproducibility and other quality standards under the

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Order. Letter from Robert W. Quinn, Jr., AT&T, Steve Davis, CenturyLink, Michael T Skrivan, FairPoint, Kathleen Q. Abernathy, Frontier, Kathleen Grillo, Verizon, and Michael D. Rhoda, Windstream, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90 et al. (filed July 29, 2011).

⁸ See OMB Peer Review Bulletin, 70 Fed. Reg. 2664 (2005), <http://www.ssa.gov/515/PeerReviewsFedRegNoticeForFinalBulletin.pdf>.

⁹ *Id.* at 2668, <http://www.ssa.gov/515/PeerReviewsFedRegNoticeForFinalBulletin.pdf#page=5>.

¹⁰ The OMB Bulletin states in relevant part: "Peer reviewers can make an important contribution by distinguishing scientific facts from professional judgments. Furthermore, where appropriate, reviewers should be asked to provide advice on the reasonableness of judgments made from the scientific evidence. However, the charge should make clear that the reviewers are not to provide advice on the policy...." *Id.* at 2669, <http://www.ssa.gov/515/PeerReviewsFedRegNoticeForFinalBulletin.pdf#page=6>.

Federal laws governing information access and quality.”¹¹ The OMB also requires that “peer reviewers ensure that scientific uncertainties are clearly identified and characterized.”¹² Finally, please be aware of two other aspects of the peer review process. First, the peer review will not be anonymous. Reviewers are identified and reviews placed in the public record. Past peer reviews conducted for the FCC can be found at: <http://www.fcc.gov/omd/dataquality/peer-agenda.html>.

Second, the OMB Bulletin requires us to assess whether potential peer reviewers have any potential conflicts of interest.¹³ In particular, a “conflict of interest” would exist if you have “any financial or other interest that conflicts with the service of an individual . . . because it could impair the individual’s objectivity or could create an unfair competitive advantage for a person or organization.”¹⁴ To assist our determination of whether there are any potential conflicts, please indicate whether you have participated in this rulemaking proceeding in any capacity. For your convenience, a list of parties who have participated in the proceeding is attached. A search of the Commission’s Electronic Comment Filing System (ECFS) will also be useful in identifying potential conflicts.

I request that you provide a written report of your review, findings, and recommendations with regard to this influential scientific information by January 25, 2013. In recognition of the fact that this peer review requires substantially more effort than is typical, we will award you an honorarium of \$1,000 on completion of this work.

Attachments

¹¹ See *id.* at 2675, <http://www.ssa.gov/515/PeerReviewsFedRegNoticeForFinalBulletin.pdf#page=12>. These standards are discussed in greater detail in OMB’s “Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies,” 67 Fed. Reg. 8452 (2002).

¹² OMB Peer Review Bulletin. 70 Fed. Reg. at 2669, <http://www.ssa.gov/515/PeerReviewsFedRegNoticeForFinalBulletin.pdf#page=6>. The Bulletin further states that since not all uncertainties have an equal effect on the conclusions drawn, reviewers should ensure that the potential implications of the uncertainties for the technical conclusions drawn are clear. In addition, peer reviewers might be asked to consider value-of-information analyses that identify whether more research is likely to decrease key uncertainties. Value-of-information analysis was suggested for this purpose in the report of the Presidential/Congressional Commission on Risk Assessment and Risk Management. A description of additional research that would appreciably influence the conclusions of the assessment can help an agency assess and target subsequent efforts. *Id.*

¹³ *Id.* at 2670, <http://www.ssa.gov/515/PeerReviewsFedRegNoticeForFinalBulletin.pdf#page=7>.

¹⁴ *Id.*