

November 9, 2018

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W., Room TW-B204
Washington, DC 20554

Re: Notice of Ex Parte in WC Docket No. 18-120 - Transforming the 2.5 GHz band.

Madam Secretary:

In accordance with Section 1.1206 of the Commission's rules, 47 C.F.R. § 1.1206, this letter provides notice of an oral *ex parte* meeting on Tuesday, November 7, 2018 to discuss the Transforming the 2.5 GHz band proceeding cited above. From the EBS community, the meeting included

SuAnn Witt - State E-rate Coordinator, Nebraska Department of Education
Susan Clair - Learning Infrastructure Coordinator, Virginia Department of Education
John Windhausen - Executive Director, Schools, Health & Libraries Broadband (SHLB) Coalition
Tom Rolfes - Education I.T. Manager, State of Nebraska Office of the CIO (by phone)
Ling Ling Sun - Chief Technology Officer, Nebraska Educational Television (by phone)
Matthew Sperling - Senior Engineer, Nebraska Educational Television (by phone)

From the FCC, the meeting included John Schauble, Blaise Scinto, Nadja Sodos-Wallace, Nancy Zaczek, Jonathan Campbell, Catherine Schroeder, Matthew Pearl, and Dana Shaffer.

Consistent with the comments filed in this proceeding, the representatives from Nebraska said that they would like to obtain statewide EBS licenses to provide wireless broadband service to students while at home and on school buses. They said there are 40,000 to 50,000 students in the state that currently do not have adequate Internet access at home and are at an educational disadvantage. Many of them are taking home state-funded laptops and tablets that are unusable when they get home. They noted that Network Nebraska has already constructed a statewide fiber network connecting 100% of the public schools in the state, and that the voluntary and self-funded nature of Network Nebraska provides evidence of the ability to partner and cooperate on public infrastructure projects. The State of Nebraska also has 65 owned and leased towers connected to fiber that could be used to deploy an EBS network. They are confident that they could also convince school officials to participate in creating a statewide wireless network leveraging that fiber and tower network. The existence of these network facilities, statewide scalable backbone, and ample internet access to fuel the data needs of the wireless subscribers means that Nebraska could deploy an EBS network at an affordable cost. They asked the FCC for more time to educate their school districts about how they can work together to implement a statewide wireless service using the EBS spectrum. Nebraska officials urged the FCC not to auction these EBS licenses because it would not address the need for digital equity for students and would not allow Nebraska to meet its educational mission. They urged the FCC to retain the original filing window that gives a preference for educational institutions.

The Virginia official also supported retaining the preferences for educational institutions. Virginia is not as far along as Nebraska, but there is a high level of interest in Virginia in developing an EBS network



and they are working with their K-12 school divisions to educate them about the potential of EBS. Virginia said it may take up to 18 months for the state to prepare a statewide application.

The SHLB Coalition urged the FCC not to use auctions but instead to award EBS licenses to anchor institutions that have a local presence in their communities. Auctions could lead to awards to large national carriers that may not have an incentive to provide service in the rural markets. The SHLB Coalition believes that local institutions should be allowed to aggregate their licenses and pool resources to develop the expertise to deploy EBS. State departments of education are well-positioned to act as agents for these local organizations and work on their behalf to create a statewide EBS network or to do the back end coordination to distribute the licenses. State governments have both the incentive and the expertise to ensure that these licenses are used to serve rural communities and address the homework gap.

The attendees also handed out the attached document which explains in more detail the State of Nebraska's plans to deploy an EBS network. Please contact the undersigned for any additional questions.

Sincerely,



John Windhausen, Jr.
Executive Director, SHLB Coalition
1250 Connecticut Ave. NW Suite 700
Washington DC 20036
(202) 263-4626

cc: John Schauble, Blaise Scinto, Nadja Sodos-Wallace, Nancy Zaczek, Jonathan Campbell, Catherine Schroeder, Matthew Pearl, and Dana Shaffer.

2.5 GHz EBS Spectrum: Transforming Education

FCC Offices, 3rd floor, 445 12th Street, SW Washington, DC
10:00 am ET - Wednesday, November 7, 2018

Invited Attendees:

John Schauble, Deputy Chief, Broadband Division, WTB w/the Rulemaking Team
SuAnn Witt, Nebraska Department of Education
John Windhausen, SHLB Executive Director
Via Conference Call: Tom Rolfes, Nebraska OCIO; Ling Ling Sun and Matt Sperling, NET

Purpose:

Illustrate the educational potential that the EBS Spectrum has in delivering equitable access to digital resources to underserved/unserved students in rural and urban communities.

SHLB: The EBS spectrum has unique public interest attributes, and the FCC should adopt policies that award licenses to entities that have an incentive to directly address the digital divide and the homework gap.

Nebraska Project: Equity of Internet access is the core ideal behind the Nebraska project. Nebraska wants its students to experience the benefits of personalized, digital learning opportunities; with more than 100,000 devices (e.g. Chromebooks, iPads, laptops) deployed across the state reaching almost one-third of Nebraska's K-12 student population. Equity is not achieved when any student who takes home a digital tool must to drive to another location just to get online. This burden is often borne by those with the fewest resources.

Nebraska Independent Health Networks: Nebraska's Rural Health organizations agree and are ready to partner with Nebraska on its efforts to provide statewide EBS for underserved sectors.

The Independent Health Network (IHN) is the largest rural hospital consortium in Nebraska. It recognizes that home health and telehealth are two rapidly growing needs in rural Nebraska, with the same broadband challenges shared by students—internet too slow to conduct videoconferencing for stay-at-home consults, as well as telemetry monitoring (e.g. blood pressure, EKG, pacemaker, blood sugar, dissolved oxygen). EBS could provide the much-needed wireless connectivity for the most hard-to-reach patients in the sparsest locations.

Nebraska's Proposed EBS Proposal

Whether the solution is state sponsored or a partnership with a reliable provider, states can make EBS a broadband solution that works for education, tribal communities, library systems, health care, emergency response, and workforce development. The Nebraska proposed solution is a viable example of what a state can accomplish if entities work together.

When the Transforming the 2.5 GHz Band NPRM was released, a theoretical statewide project was developed in partnership with:

Nebraska Department of Education (NDE): SuAnn Witt
Nebraska Educational Television (NET): Ling Ling Sun, Matt Sperling
Nebraska Office of the CIO (OCIO): Tom Rolfes



A question was put forward by NDE [see full text email in Appendix B]:

For years there has been an Internet in-equity issue and for years there have been efforts to solve the problem but with no effective and wide-spread solution. However, with the FCC's recent NPRM and applications for licensure potentially opening up to education, is this a solution? We need towers, licenses, power, etc to achieve this, but I am not an engineer and want to make educated recommendations moving forward.

After several meetings, a review of statewide resources, and research of other operational networks the Neb-EBS project began to take form.

Neb-EBS Project Goal: Provide 24/7 wireless connectivity to all K-12 learners statewide providing equity in access to digital learning resources

Project Proposal is a partnership with NDE, OCIO, NET

- NET tower management and engineering staff
- OCIO Network Nebraska facilities management
- NDE User management and online learning resources

Contingencies: EBS licenses from FCC

- If unfavorable Rulemaking, seek waiver to obtain needed licenses

Based on additional research and conversations with the University of Northern Michigan, California—Kings County Office of Education, SETDA, SHLB, and others, Nebraska believes it can accomplish its goal.

- LTE/4G/5G Full-mesh, Self-provisioned Network
- SIM card and single-sign on, with the ability to filter internet
- Targeted at the underserved/unserved students
- Rural and economically challenged (Free/Reduced Lunch)
- School bus and activity bus coverage
- Urging new local EBS licenses with CIRCULAR GSAs, not county-based, to allow overlap and statewide coverage

At this time, a proof of concept project is being planned within Educational Service Unit 5 (ESU-5) in southeast Nebraska. Whether or not the proposed solution is the final solution remains to be seen. Additional research needs to be done, which is why the imperative of time is essential.

What can the FCC do to help?

We very much appreciate that the FCC has launched this proceeding to modernize the EBS rules for existing licensees and to issue more EBS licenses to rural markets.

Several decades of locally controlled licenses, or leased licenses to service providers, has not brought about the results envisioned from the 2.5 GHz spectrum, and now a new generation of cellular data transmission technologies makes this spectrum incredibly promising. The FCC may consider the following key points to permit flexibility in re-licensing to enable a statewide approach.

- EBS has been sequestered for over 25 years and knowledge of its potential is limited in the education community. States and technology personnel need time to understand how new technologies can provision an EBS broadband network.
- Give states and educational communities time and opportunity to work with partners to create local or statewide solutions to meet their specific broadband needs.
- The FCC may consider providing a timeline of 5-7 years for states to opt-in to implement solutions. It's been 25 years, let's see what states can do.
- As part of the 5-7 year state-driven solutions, allow State Education Agencies (SEAs) the responsibility of managing the assignment of spectrum based on viable project proposals.
 - Consider SHLB as the national manager of process and license distribution if an organizing partner is needed. The SHLB Coalition promotes government policies and programs that enable schools, libraries, health care providers, other anchor institutions and their communities to obtain open, affordable, high-quality broadband connections to the Internet.
- States have the best interest of their populations in mind to create successful solutions/partnerships to meet identified needs. Utilizing the same rules for procurement as established in the E-rate program assures best practices and effective decision making.
- Reverse auction implementation failure is 25-50% according to recent data, and not all needs will be met [the failure rate was mentioned in Chelsea Fallon's presentation at the SHLB Conference, Oct 2018]. FCC may move to auction or other distribution of unassigned spectrum seven years after the states that opt-in have had an opportunity to provide solutions that meet their specific needs.

Final Thoughts

Equity in access to digital resources is having a detrimental effect on daily educational processes and almost certainly is affecting the quality and quantity of learning opportunities for unserved and underserved students. The 2.5 GHz EBS spectrum provides an un-exploited opportunity to provide more equitable and more affordable access for students to reach their digital educational resources.

Only recently has the technology evolved to the extent that local and regional LTE networks have been affordable to implement and manageable to maintain (e.g. Northern Michigan University; Kings County, CA Office of Education).

Many thanks to the FCC for considering these recommendations as it modernizes the 2.5 GHz EBS regulation to better meet educator and student needs. Actions will encourage interested states, educational service agencies, school districts, and other anchors to bring equity to their communities and meet the rising need of access to digital resources.

Resources

Contacts:

SuAnn Witt, Nebraska Department of Education
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Tom Rolfes, Office of the CIO
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Ling Ling Sun, Nebraska Educational Television CTO
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Matthew Sperling, Nebraska Educational Television Sr Engineer
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John Windhausen, SHLB Executive Director
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Link to Nebraska Comments: <https://www.fcc.gov/ecfs/filing/108082718222025>

Link to SHLB Comments:

<https://ecfsapi.fcc.gov/file/10809213492048/SHLB%20EBS%20Comments%20-%20Final.pdf>

APPENDICES

- **A:** Email message from parent to school regarding access to digital resources. (permission to reprint provided by Janet Harder). This is a sample of the issues facing rural areas.

----- Forwarded message -----

From: **Janet Harder** <janet.harder@gmail.com>

Date: Thu, Dec 8, 2016, 8:55 PM

Subject: Rollout of Chromebooks

So, here Liz & I sit, in the running car, outside the library in Syracuse, so we can use the free WiFi.

Liz tells me she was told, "Since you get to take the Chromebooks home, you have no excuse for not getting the vocabulary homework done." She says she was not given any instructions for how to access and use any of the functions of the chromebook while NOT connected to the internet.

Nate and Daniel also did not hear any instructions for using it off-line. Daniel attempted to make his work available off-line on Friday. On Saturday, I observed Daniel having problems with Google Docs crashing repeatedly while off-line this weekend, and he was unable to work on his essay while we were in Kansas.

Perhaps you assume everyone has internet access at their homes. I don't believe you have data to support that. Even when some family members have internet access via their smartphones, using a smartphone as a wifi hotspot can burn through data quickly. We don't have a smartphone, and have a hotspot only so my husband can use the internet while at work. We can't afford to have the kids use a lot of data.

I strongly believe there needs to be something in writing, sent to all the parents, explaining exactly how the Chromebook work, and what the students need to do if they do not have unlimited data when not in school. I would also like to know what other applications they can download. (OpenOffice, for example, is a free, and relatively full featured office suite, but does the Chromebook have the memory/processing power to run it?)

A similar reminder needs to be given to all the teachers, so they are able to assist the kids, and help them remember the steps needed. They also need to be made fully aware that anytime they give an assignment where the resources needed to complete that assignment are online, they need to give the students time to access and download those resources.

Failure to take these steps will tend to place a burden on students who do not have 24/7 unlimited data access. It will increase the digital divide, and unfairly penalize students who are not able to access unlimited data. For those homes with metered data (nearly anyone who uses a cell phone provider for their internet), you are likely to cause financial hardship on those families, as their students use data when they could work off-line, because the student doesn't know how to be a wise data user. Rural families are less likely to have internet, and more likely to pay a higher price for that access, when they have it.

http://www.omaha.com/news/metro/census-data-on-internet-computer-access-show-that-digital-divide/article_9c973635-6b90-5b7e-8043-38196e1070f3.html

I applaud District OR1 for making sure students have access to the technology. But you need to be watchful that careless assumptions don't lead certain students to worse grades, simply because of limited or no internet at home.

By expecting the students affected will just figure it out, you are being unfair to them, and especially to those students who may have IEPs that will need adjusting. Some of those students will need even more direct instruction so they will be successful.

Thank you for considering my concerns. I look forward to hearing from (any and all of) you.

Janet Harder
rural Unadilla

(I've got the ESU fiber running down the road in front of my house, but I can't use it. No cable. No DSL. We could use satellite, and possibly, with some construction, a line-of-sight provider. No money for that right now. Teens and car insurance, you know?)

➤ **B:** "It would be the cat's meow..." The conceptual Email that started the Nebraska Project and NPRM Comments

From: Witt, SuAnn
Sent: Wednesday, June 13, 2018 12:19 PM
To: 'Ling Ling Sun' <LSun@netad.unl.edu>
Cc: Tom Rolfes <tom.rolfes@nebraska.gov>
Subject: RE: Ed Council follow-up

Ling Ling,

I am exploring possible ways the state might provide, more like partner in providing, broadband to rural and urban students who do not otherwise have access to digital resources in their home. This is trying to find effective ways to equalize opportunities for students using resources within the state and partnering with those who make sense to solve this problem.

For years there has been an Internet in-equity issue and for years there have been efforts to solve the problem but with no effective and wide-spread solution. However, with the FCC's recent NPRM and applications for licensure potentially opening up to education, is this a solution? We need towers, licenses, power, etc to achieve this, but I am not an engineer and want to make educated recommendations moving forward.

I thought NET would be a good consultant or partner as NET has EBS licenses already, highly qualified engineers, and towers across the state (although tower sites and distance limitations of the spectrum will play a role).

I don't know if any of this makes sense. Hence the need to visit.

I've included Tom Rolfes, Proj Manager for Network Nebraska, on this email. Tom has also been working on partnering school districts and local libraries as one solution, and TV White Space as another. Both have limitations. But Tom and I remain dedicated to seeing what we can do statewide to help students. With "Education" as your middle name, it seems appropriate to reach out to NET as a valued partner.

It would be the cat's meow if Nebraska could demonstrate an effective way to solve this problem.

Talk with you tomorrow.

=====

SuAnn Witt
State Erate Coordinator
Project Management Office



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