Before the Federal Communications Commission

Washington, DC 20554

In the Matters of	:	
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International Comparison And Survey Requirements In The Broadband Data Improvement Act	:	GN Docket No. 09-47
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A National Broadband Plan For Our Future	:	GN Docket No. 09-51
	:	
Inquiry Concerning The Deployment Of Advanced Telecommunications Capability To All Americans In A Reasonable And Timely Fashion	:	GN Docket No. 09-137
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	:	
Schools And Libraries Universal Service Support Mechanism	:	CC Docket No. 02-6
	:	
	:	
Comprehensive Review Of The Universal Service Fund Management, Administration, And Oversight	:	WC Docket No. 05-195
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Comment Sought On Broadband Needs In Education, Including Changes To E-Rate Program To Improve	:	NPB Public Notice # 15
	:	

Broadband Deployment :

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INITIAL COMMENTS OF THE CALIFORNIA K-12 HIGH-SPEED NETWORK AND ITS LEA,

IMPERIAL COUNTY OFFICE OF EDUCATION

REGARDING NPB PUBLIC NOTICE #15

I. INTRODUCTION

Since September 2004, Imperial County Office of Education has served as the Local Education Agency managing the connectivity of K-12 entities to the California Research and Education Network (CalREN). In this program role the K-12 High Speed Network and Imperial County Office of Education are responding with the following comments to the FCC's Public Notice of November 3, 2009, concerning broadband and E-rate.

1. Broadband Deployment Data
   a. **Statistics on the current state of network connectivity:**
   Response: As the entity with the nearest thing to a direct interface with districts connecting to the California Research and Education Network (CalREN), the K-12 High Speed Network program seeks to collect current data on connections for both connected and non-connected districts and entities.

   As of Friday November 20,2009, and after a recent push to have county offices of education and school districts update their connectivity information, K12HSN can report that 87% of California's public school districts connect to CalREN, 12% connect to other providers, and we have no information on eight (of 1053) districts. These 8 districts (.7% of the total) may have no connection whatsoever to the Internet. Of the connected districts, we estimate that 65% connect at speeds greater than T-1 while 30% connect using T-1's and 5% connect at less than T-1 speeds. Twenty-nine percent (29%) of districts connect at speeds of 45Mbs and above.

Also as of Friday November 20, 2009, K12HSN reports that 80% of schools are connected to CalREN, 17% connect to other providers, and 3% (340 schools) report no connection whatsoever. Of the connected schools we estimate that 63% connect at speeds greater than T-1 while 34% connect using T-1's, and 3% connect at less than T-1 speeds. Thirty-six percent (36%) of schools connect at 45 Mbs and above.

b. **What metrics should be used to measure an effective balance of network, hardware, application development, training and adoption?**
Response: The metrics that will provide the most useful information include: kilobits/elementary student; kilobits/middle school student; kilobits/high school student; a per teacher number of hours of technology integration training provided; and a technology support staff member/computer ratio would all be useful.

c. What are the specific barriers to increased broadband deployment and usage for schools and libraries?
Response: Lagging capacity of the internal networks within schools and districts and insufficient staff training (and skill development) in how online resources save time in the long-run are the greatest barriers to effective use of broadband to improve student learning experiences and academic achievement.

2. Broadband Implementation
   a. **Successful projects:** Response: Lemon Link, Lemon Grove School District in San Diego, California. Technology Information Center for Administrative Leadership (TICAL), Santa Cruz County Office of Education. Change Writers, Elk Grove School District in Elk Grove, California. Enhancing Education Through Technology grants to Shasta County Office of Education and the ensuing use of instruction to students in multiple locations using videoconferencing (solving deficiencies in instruction available for students in rural and remote areas).
   Unsuccessful projects: Response: some one-to-one laptop projects.

   b. **Barriers to entry**: Response: unsuccessful first attempts at using technology resources.
   Barrier to adoption: Response: inadequate technical support as new users try to develop their skills.

   c. Most common needs heard from classroom and instructional leaders:
   Response: Training and professional development, time for teachers to collaborate and explore together how to best use new resources.

   d. **What creates demand for using broadband in education?**
   Response: Online professional development for educators and administrators, including asynchronous classes in which participants stream pre-recorded teachings by individuals or teams of teachers creates demand for broadband. Videoconferencing is another

activity that requires broadband in order to conduct sessions that are successful, avoid pixilation and latency problems with video or audio connections. Demand for videoconferencing is multi-faceted. Administrative meetings held by videoconference reduce travel costs and increase levels of participation as attendees that would be unable to physically travel to the meeting are able to videoconference into the sessions. Videoconferences that provide direct instruction, such as one teacher instructing students in multiple locations and connected by videoconference permit students to take coursework that would not otherwise be offered at their school sites either because too few students are prepared and interested in taking the course, or because the school site does not have its own high qualified (or "master") teacher in a given subject. Collaboration between classrooms of students in disparate locations, and even conversations with authors and other experts are also enabled by videoconferencing. Videoconferencing is also used for delivery of teacher and administrator training.

3. Broadband and Digital Content
    a. **What sets of instructional and operational problems are schools and school systems attempting to solve with online content solutions?**
    Response: The operational problems being solved are as follows: 1) Students at the high school level in need of "credit recovery," 2) students at high school level wishing to take courses that either have low numbers of interested students, or require credentials and teaching expertise that are not included in the staff of their schools, 3) students of all levels that would benefit from personalized or differentiated instruction, 4) students at all levels that would benefit from multiple review opportunities, and 5) opportunities for skill development by novice teachers.

    b. Of the typical set of online content tools (e.g., content creation, content publishing, content indexing, content management, content search) what have schools and school districts experienced when making purchasing decisions about the quality and availability of tools that meet their needs? If more time were available, K12HSN is interested in collecting district-level input to this answer. **Are there areas where needs are consistently unmet or under-served?** If more time were available, K12HSN is interested in collecting district-level input to this answer.

    c. How is digital content being integrated with traditional textbooks and other materials? Are there issues preventing this integration? If more time were available, K12HSN is interested in collecting district-level input to this answer.

4. Digital Literacy
    a. **Please provide case studies or data relating to the use of digital literacy training to improve access and use of online systems, and the educational, social or economic impact created by such work. Where has such digital literacy work been accomplished**

in a traditional classroom and where has it been accomplished in an online or blended model for developing these skills? What physical locations (if any) where used (libraries, schools, etc.)? If more time were available, K12HSN is interested in collecting district-level input to this answer.

b. **What barriers or issues have prevented implementation of such solutions?** If more time were available, K12HSN is interested in collecting district-level input to this answer.

5. Online Learning Systems
   a. **Please provide examples of schools and school systems currently supporting blended online/offline instructional planning and delivery as well as distance learning via broadband and computer-based learning. What online content systems (e.g., online text books, resource libraries, learning management systems, distance learning programs, student portfolio systems) have been successfully implemented? How do schools and school systems align online learning systems with other traditional instructional tools (e.g., textbooks, curriculum, scope and sequence)?** If more time were available, K12HSN is interested in collecting district-level input especially from the online programs that have been launched in Riverside Unified School District, Clovis Unified School District and San Diego Unified School District.

   b. **How do schools and school systems measure the effectiveness of online vs. blended vs. offline instruction? What are the benchmarks used to compare delivery approaches?**
   If more time were available, K12HSN is interested in collecting district-level input to this answer.

   c. **What barriers or issues have prevented implementation of such solutions?**
   If more time were available, K12HSN is interested in collecting district-level input to this answer.

6. **Accountability and Reporting Systems** and **7. Educational Data Interoperability,** are not being addressed at this time.

8. Communication and Video Systems
   a. **How have communication tools like instant messaging and online video conferencing supported instructional program implementation?**
   Response: As individual districts have found ways to use videoconferencing, students have benefitted from courses such as Algebra, Geometry and Physics being taught by a master teacher from a remote location (were some but not all of his/her students are located). In one specific case, small groups of 8th graders were ready for Geometry. One middle school campus had a teacher qualified and skilled at providing Geometry instruction while the others did not. One teacher taught the subject to small groups of

students in 4 schools (in three different school districts). The site from which the teacher addressed the students had 10 class members. The other sites had 2, 3 and 4 students respectively. None of these groups offered adequate Average Daily Attendance funding to make teaching the course practical from a fiscal standpoint. However, by grouping the students into one course, the 19 students all had the instruction they needed and wanted, and the respective schools worked out other challenges in order to be able to make it happen.

In a different example, a highly skilled Physics teacher in one district provided the instruction to students in two schools (and two separate districts). Not only did students of two districts receive the coursework they wanted, but in addition, the credentialed individual in the 2nd location – a novice mathematics teacher – received mentoring from the master teacher during the process.

b. Where have live video streaming programs been implemented to scale?
Response: Live video streaming is being implemented to scale in a cooperative effort between the California Department of Education and the K-12 High Speed Network. Last January when the State Superintendent of Public Instruction made his State of Education address, it was provided on live stream for invited participants. Since that first test of the interoperability of the systems, legislation has moved forward calling for the meetings of the State Board of Education and the State Allocation Board to be streamed enabling members of the public greater access to these meetings that are held regularly in Sacramento, California.

c. Where have social networking tools been implemented to support instructional goals?
Response: Social networking tools are in use to support instructional goals, including educational administrators' goals in these arenas, to name a few: Computer Using Educators NING-using special interest groups, http://community.cue.org/ ; my-eCoach, http://my-ecoach.com ; K-12 Calaxy, http://www.k12hsn.org/calaxy/ ; and TICAL administrator NING-cadre, http://portical.ning.com/groups/group/list .

d. **How have concerns of content appropriateness/content blocking been addressed in rollout to students (especially in kindergarten through grade 12)?** If more time were available, K12HSN is interested in collecting district-level input to this answer.

e. **What single sign-on and identity management tools and approaches have schools and school systems used to ensure security and seamless user experience across online tools?** If more time were available, K12HSN is interested in collecting district-level input to this answer.

9. Collaboration and Community Systems: we seek comment on implementation of collaboration and best-practice-sharing online systems.

a. **Please provide examples of successful online collaboration systems rolled out to educators and/or students. How have projects measured success?** If more time were available, K12HSN is interested in collecting district-level input to this answer.

b. **If they were not successful, what were the major challenges?** If more time were available, K12HSN is interested in collecting district-level input to this answer.

c. **What subject matter(s) attracted the most use or were the most helpful for educators or students (e.g., instructional practice development, classroom management strategies, mentor/mentee relationships, administrative processes, student projects, student research)?** If more time were available, K12HSN is interested in collecting district-level input to this answer.

10. Innovation in Broadband and Online Systems: we seek comment on opportunities for government to support innovation in the education technology sector, both in terms of driving innovative program and product development, as well as driving adoption.

    a. **What are the opportunities for government to support technology literacy, access to devices, and adoption through school-based programs for students, their families and their communities?**

    Response: Community access systems would significantly assist not only the community at large, but also learning opportunities for students. There are significant learning opportunities in the home, however a significant lack of internet access (wireless, or other) in rural communities, most especially in homes, hinders deployment. An access initiated to the home will significantly improve the educational opportunities for students. These objectives may be better addressed by other USAC programs designed to serve local communities.

    b. **What are the opportunities for government in setting technology standards?**

    Response: Technology standards need to be a function of access to technology and professional development for integration into the classroom. Establishing minimum standards maybe challenging, yet could also assist in the USAC PIA review process so that reviewers do not have to question in the way the presently do, whether district planned technology deployments are excessive or not.

    c. **What are the opportunities for government to drive innovation in schools and school systems?**

    Response: There are opportunities by offering reliable, consistent, and simplistic funding sources. Schools are struggling with budget reductions in California and across the nation. Innovation requires commitment to on-going funding for core technologies such as broadband from school to the Internet, reliable local networks, and most importantly, local technical support that makes the technology in the classroom transparent and seamless to teachers and students using it in the classroom.

These reliant technology services will foster a "trust" by the classroom teacher that they can depend on and integrate into day-to-day instruction in the same way that other innovations have been adopted since the beginning of the education in the United States.

In addition, to reliability of Internet and local networks through consistent funding, the government can offer innovative technology grants that are easy to apply for. (Recent broadband funding by the AARA process was riddled with complexity and a short time frame added to the difficulty for districts to meet the expectations). With a districts' state-approved technology plan in place, the federal government could offer a simple application process for both broadband technology and classroom technology. There is simply insufficient staff to work on long, complex grants. Simplicity in accountability can be accomplished by staging the funding, with phased funding being released as positive results are reported. Such opportunities would enable districts to improve their use of technology to enhance student learning and academic achievement.

d. What are the opportunities for the government to support research and development to drive innovation to the education technology market?
Response: see responses above.

11. Erate Modifications

As part of the national broadband plan, we seek comment on how the Commission can modify the Erate program to more effectively meet the needs of applicants as well as whether the program can be a vehicle to stimulate the adoption of broadband throughout communities. For example, in Portugal researchers have found that the usage of broadband in schools creates a "spillover" effect that leads to greater broadband adoption in the community as students increase their Internet usage at home and transfer their technology skills to other family members.

Response: There are definitely benefits and studies that show the importance of broadband in the homes. The learning of 21st century students does not end when the student leaves school, and there is definitely a need for more community-serving networks, especially in rural and underserved areas – those same locations that typically have 80-90% discounts.

Given this, the Erate program remains important and it is paramount that the E-rate program continue to provide the currently eligible services to the currently eligible entities. There will be a need to increase the cap for broadband demands over the coming years, so any expansion of E-rate discounts to new services or new entities should be undertaken only with great caution.

a. **Currently, schools and libraries may obtain discounts on various services that provide high-speed access to the Internet as telecommunications and Internet access (priority 1) services. We are aware that applicants may characterize their funding requests according to terminology used on the eligible services list, such as DSL, "internet access via cable modem," ATM, frame relay, T-1, T-3, Ethernet, OC-3, OC-12, ATM, "internet access via fiber optics," etc. We seek information that would enable us to better understand at a more granular level what services eligible applicants are buying today. Overall, what percentage**

of priority 1 funding is subsidizing broadband services at what speed levels, and what percentage is subsidizing basic voice service (wireline or wireless)? Can we segment the applicant community that receives discounts on higher capacity broadband services based on specific characteristics (such as number of students, rural vs. urban, discount level, etc.)?

Response: In California we have a statewide K-12 Education Network. We connect 87% of the Districts in the state to this network. This is part of a statewide education network that connects not only K-12, but higher education. At various points in the network, we have 1 GIG connections to the Commodity Internet. There are multiple connection points with 1 Gig connections. We also, as part of our state education network (CalREN), have significant peering contracts that reduce the overall demand for commodity Internet thereby reducing costs for the program. (Note: The consortium application submitted for the circuits engaged in serving K-12 does not seek federal Erate reimbursements for any Internet charges to ensure no issues arise for the program or the districts that join the consortium).

b. **When applicants develop their technology plans, what factors do they consider in determining their bandwidth needs?**

Response: It is determined by current technology implementation and demands. In addition, to anticipated future demands. There is also a key element of cost of the connection. With limited and shrinking funds, the affordability of bandwidth can limit what is purchased at a school site.

c. **We seek comment on program modifications to maximize the use of broadband connections that are subsidized by the E-rate program. Recognizing that the statute requires that discounts be provided on services used for "educational purposes," we seek information on whether, and if so, how past interpretations of the "educational purposes" requirement have restricted demand aggregation at the community level to support higher capacity broadband. For example, the program could be modified to allow for use of broadband facilities at schools by the general community, rather than just by school faculty and students. We seek specific examples of whether and if so, how, expanding the permissible use of E-rate supported services could confer benefits to a larger community or encourage partnerships with private or public organizations to pool resources to maximize broadband utilization. What practical or operational impact would such a change have?**

Response: The current complexity of the E-rate process and interpretation of the rules has made the opportunity to utilize school networks for after-hours community usage a huge obstacle. We support the concept of having the opportunity of opening schools to the community for on-line education and resource access.

d. **We seek comment on any legislative changes that would expand the classes of eligible users. For example, the statute currently limits E-rate support to elementary schools and secondary schools, which are defined by each individual state. What would the impact be of modifying the statute to permit colleges, community colleges, pre-kindergarten, Headstart, or other entities to participate in the E-rate program?**

Response: Expanding the eligibility without additional funding would be catastrophic to current beneficiaries of the program. There are various program issues, application complexity, delays in funding disbursements, unclear rules that are subject to interpretation by applicants, etc. These issues need to be resolved before opening up the eligible entities beyond current eligible entities.

The focus should be not only resolving these operational items, but also working to raise the funding cap beyond the original amount of $2.2 Billion annually.

e. To what extent does the fact that the E-rate program does not currently fund computers and other end user equipment inhibits the use of broadband by schools and libraries? Likewise, to what extent does the fact that the E-rate program does not currently fund training for teachers or librarians in the use of technology inhibit the use of broadband by schools and libraries? We seek specific information regarding what types of services are not available to teachers, students and library patrons due to lack of funding for end user equipment and training. If the E-rate program were to fund computers and training, what would the projected demand be? From a policy perspective, what are the potential negative consequences if such a change were adopted?

Response: There is great value in providing additional funds for computers, training, etc. The demand would be in the billions nationwide. However, E-rate is not currently the mechanism to do this, with all of the items being considered to aid in simplifying and cleaning up the program, other sources and mechanisms should be considered first as alternative means of procuring the equipment and services mentioned above. Expansion of the eligible services would be detrimental to the overall political and operational health of the current E-rate program.

f. **Currently, WANs are not eligible for support "to the extent that states, schools, or libraries build or purchase a wide area network to provide telecommunications services." Would modifications to this rule regarding WANs, which link schools and libraries within a district or link several school districts together, result in greater broadband deployment?**

Response: Clarification of these rules and allowing Educational Service Agencies the opportunities to build WANs would help preserve public funds and facilitate innovation. These WANs would be sustainable and more cost effective potentially if criteria were well thought out, and limited to public agencies so that it does not compete with telecommunication companies' work with private and other sectors.

g. Are there any programmatic rules and policies that have the effect of deterring requests for broadband funding? For instance, we understand that some libraries have suggested that compliance with filtering requirements under the Children's Internet Protection Act represents a deterrent to program participation. Are there other statutory provisions or Commission rules or policies that may reduce program participation by entities that otherwise would utilize discounts on broadband services? Commenters should be specific in identifying which current rules may create barriers to broadband deployment.

Response: CIPA compliance can pose issues to some applicants, especially the library applicants. There is no specific recommendation other than allowing local educational boards

to have the authority to make decisions in these areas when moving forward with clarification for CIPA items.

There are significant barriers in two general areas of E-rate. One of which was mentioned in above answers. The complexity of the application process and the rules being clearly defined is one area where significant progress could be made. Applicants have had to rely solely on power point presentations over the years for clarifications on very specific and technical questions. From year to year the power point changes to clarify issues. Sole reliance on the power point information means that applicants are left to reconcile differing version the best way they can.

The final area is that of invoicing and payment for funding commitments. Applicants must work through their own application paperwork, and then work through a vendor's maze of paperwork that they are required to do for certification purposes for USAC. An applicant can have done all the paperwork for USAC, but then has to turn around and interpret vendor reimbursement requirements and frequently suffer delays in receipt of payments that last into the next funding year.

In closing, we cannot emphasize enough the importance of developing a Form 470 and Form 471 process for smaller applicants that would address only telecommunications services and Internet Access (Priority 1). In California 62% of our districts have fewer than 3,000 students. We estimate that a good portion, at least 20% of these smaller districts seek telecommunication reimbursements of $25,000 or less. A simplified process that allows these applicants (usually a Superintendent, business manager, or a clerk) to simply click, "same as last year" as their process once a multi-year telecommunications contract is in place (or in cases when there is only one carrier available in the area) would be a tremendous relief to these smaller education agencies. The vision is something like a "Form 470/471 EZ." This change alone would help significantly in the quest to bridge the digital divide.

h. **We seek comment on these ideas and on other suggestions for changing E-rate eligibility to improve broadband deployment.**
Response: See above comments.

E-Rate Disbursement

12. **We seek comment on how changing the E-rate disbursement and discount methodology might maximize the deployment of broadband.**

a. **One possible modification would be to create a new priority level for schools and libraries that do not have broadband or that have extremely slow Internet speeds to permit those entities to receive funding in advance of other eligible requests, which could enable such entities to "catch up." An alternative would be to provide increased E-rate discounts for entities that wish to implement certain levels of connectivity. We seek comment on other methods by which the Commission could implement such changes, if they were proposed.**

Response: The scenario being described above is one that needs a one-time solution that might have substantial funding requirements. After the construction and implementation of

the annual recurring costs, needs would be more conducive to utilizing the existing E-rate program.

Given this, it is suggested that a separate special start up or one-time broadband fund be created. This would be a more effective means of assisting those non connected or hard to connect locations. The process also needs to discourage waste, fraud, and abuse, and should not be characterized with a high degree of complexity. Those that need the funding most already suffer from such barriers to their access to the funds.

b. **Currently, the program's funding varies for applicants based on the number of their students who qualify for free or reduced lunch and based on their geographic location. Using this measure, discounts range from 90 percent to 20 percent of the pre-discount price for eligible services, with the poorest schools receiving funding to pay for 90 percent of eligible services. Some rural schools receive additional discounts. The Commission could recalculate these Erate discount levels to factor in not just poverty and whether the school is located in a rural area, but also whether the entity lacks broadband services. In addition, the Commission could change its priority structure to give preference for those schools that have not received funding for internal connections in several years. We seek comment on the extent to which schools that have not received funding for internal connections (Priority 2 funding) need to improve their internal connections in order to most efficiently use their broadband connections now and in the future.**

Response: Any approach that the Commission takes needs to do no harm to the existing program and applicants. There could be a simple addition to the current paperwork program to add some additional information to Block 5 on the Form 471 --which the applicant uses to notify USAC that a special need is being addressed – the lack of connectivity and said request relates specifically to broadband and Internet access. These should be funded first, and then the other Priority 1 requests could be considered for funding. This position hinges on the condition that additional funding will be required and will be sought as it is critical for the success of this approach.

c. To what extent have current rules inhibited the development of or expansion of existing state, regional or local broadband networks? Are there changes to the Commission's rules that would facilitate these types of networks?

Response: There are some definite improvements that can assist state and other types of broadband networks. By encouraging consortium applications and decreasing barriers to their progress through the system, significant opportunities to efficiently fund broadband deployment is achievable. In California, our state consortium has been able to provide greater bandwidth at cheaper rates, and continue to improve access and capacity in areas that were not previously served adequately.

Specifically the rules can assist these applicants by:
1. Having more efficient review cycles that allow funding commitments for state networks to be released earlier in the year would be very helpful. State budgets are impacted, and funding to these applications is critical to on-going connectivity for the 87% of districts relying on the Network.

2. If a state has legislation that created the existence of this network through state funds, the requirement of LOA (letter of agency) should be eliminated. The requirement is time consuming, and adds significant time and overheard to the USAC review, i.e. wanting copies of every LOA from a state with over 1,000 districts, and then working on spelling errors, clerical errors with county-district-school (CDS) codes etc. for 2-6 months. This will also significantly reduce USAC staffing work, and move in the right direction toward simplification.
3. The Block 4 upload is large. In general applicants can upload a comma delimited file to the system. In California because of our 1,000+ districts, we are required to submit a manual Form 471, Block 4. For this single section of the application, over 1,000 pages are required. This fact alone increases the time required for application review and results in approval delays, and possible errors.
4. Allow for corrections to the Block 4 entities at any time prior to the Funding Commitment Decision Letter (FCDL) being issued. This change would be very helpful, and encourage state networks to come into being, or expand to serve additional entities. As stated previously, such consortia ultimately save FCC dollars as the economies of scale translate into greater service for lower costs.

d. **If the Commission established a national broadband goal for schools or libraries, what effect would that have on demand for E-rate funding?**

Response: This would be a great advantage to schools and libraries for this goal to be obtained. However, the demand for the Priority 1 funding will grow exponentially, and will have challenges potentially funding Priority 1 services and definitely may result in zero funding of Priority 2. If this goal is established, the E-rate funding cap will need to be increased.

e. We seek comment on these issues as well as other ideas to modify E-rate disbursements and discounts to maximize the deployment of broadband.
Response: See Above responses.

E-Rate Funding

13. We seek comment on the implications of modifying E-rate funding to support additional broadband deployment and how changes to the E-rate program would improve the ability of the program to meet applicant needs for broadband.

a. To what extent does the annual E-rate funding cap of $2.25 billion limit the extent of broadband deployment by eligible schools and libraries? What are the financial or programmatic implications of increasing the cap to fund additional services not currently covered by E-rate? What are the implications of indexing the cap to inflation? Would there be specific implementation issues that would arise related to such changes?

Response: There are the definitely financial issues with the cap at the current level, it has been seen that Priority 2 funding has been limited to the mid 80% discount rate for years. Broadband deployment would also eventually be limited since there has not been an increase to the fund since its inception. We definitely support raising this cap, but with study and analysis of the anticipated growth that will be needed. This will help anticipate the funding level that will be needed prior to implementation of an increase. At a minimum an inflationary factor must be used in raising the funding level.

b. To the extent the Commission modifies its E-rate rules to encourage additional requests for funding for broadband services under priority 1, how would that change likely impact the availability of funding for priority 2 services?

Response: Priority 2 services will be low or non-existent without an increase to the overall program funding cap.

c. To the extent that commenters believe that providing additional funding above the current cap would advance broadband deployment, we seek comment on what additional amounts would be needed to achieve specific levels of broadband connectivity. Commenters should identify all assumptions regarding their dollar estimates.

Response: Although it is hard to determine the demand, it has been estimated by professionals in the field at panel presentations, that the $2.2 Billion dollar cap would need to at least double, and possibly triple. However, there are opportunities to preserve these funds if public agencies are allowed to create permanent network infrastructure that they own and maintain on the public's behalf.

d. The Commission could decrease the discount levels for basic telecommunications, or otherwise modify the existing discount levels, to increase the amount of E-rate funds available for broadband deployment. What would be the effect of such a change?

Response: It would be immediately devastating to schools and libraries. However, if the commission decides to head in this direction, and advance notice of this policy decision is provided, it would afford them with an opportunity to gear up for the change with deployment of VOIP systems. It is only an estimate, but it would take between 5 and 7 years for the gearing up to occur and protect any recent investments in non VOIP based systems.

e. Would eliminating some of the services currently eligible and expanding eligibility to other services result in greater levels of broadband connectivity? Commenters should specifically articulate how proposed changes in the eligible services list would enable greater broadband deployment.

Response: As mentioned in previous comments, no changes should take place to the eligibility until complexity, invoicing, and funding disbursements issues are resolved first.

f. What other costs not currently covered under the E-rate program would be incurred if schools and libraries could purchase additional broadband capacity? Would schools and libraries have to upgrade personal computer equipment, internal wiring, servers, and other hardware?

Response: There would definitely be the need and the desire to upgrade these local systems and technology with additional bandwidth. Even with the movement of cloud computing and other lower cost devices, there will still be a significant financial struggle to provide the equipment and related on-going support costs. This is a systemic issue that all government agencies face.

g. **Additionally, we seek comment on suggestions for coordinating with federal or state agencies on grant programs that could supplement the Commission's E-rate program. For example, the United States Department of Education's Enhancing Education Through Technology State Program (Ed Tech) provides grants to state educational agencies to improve student achievement through the use of technology in elementary and secondary schools. Money from grants such as this, in combination with E-rate funds, could greatly increase a school's broadband connectivity.**

Response: There definitely needs to be coordination among these funding sources. They currently complement each other to some extent, since E-rate provides infrastructure, and EETT provides equipment and professional development. The fear is with the decreasing EETT funding, there will be a significant struggle to maintain the support, professional development and innovation that EETT funding has provided. This is a potential systemic funding model issue that could damage the ability of teachers in classrooms to integrate technology into their day-to-day instruction.

h. **Alternatively, E-rate funds could be used in conjunction with funds from other entities to support broadband projects. For example, upon a state's recommendation, a particular project might be funded by having the state pay for the computers and training. and providing E-rate discounts for the broadband connection. Are there other specific ways the Commission could better leverage the benefits of E-rate funding through coordination with other federal, state, local or non-profit programs that seek to advance broadband deployment?**

Response: A direct coordination of ARRA funding could assist significantly, and should definitely be reviewed prior to the ARRA funding commitment. As mentioned in previous comments, the ability of schools and libraries to open their campuses to community use after hours without a rule violation will be significant and very beneficial in leveraging the technology investment by E-rate.

i. **We seek comment on these suggestions and other ideas to increase the amount of E-rate funds available for broadband technologies, or to more effectively use E-rate funding to improve broadband deployment.**

Response: See above.

14. Is not being addressed at this time.