

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission's Rules)	GN Docket No. 11-117
)	
Wireless E911 Location Accuracy Requirements)	PS Docket No. 07-114
)	
E911 Requirements for IP-Enabled Service Providers)	WC Docket No. 05-196
)	

**COMMENTS OF
THE NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION**

Rick Chessen
Steven F. Morris
Jennifer K. McKee
National Cable & Telecommunications
Association
25 Massachusetts Avenue, N.W. – Suite 100
Washington, D.C. 20001-1431
(202) 222-2445

October 3, 2011

TABLE OF CONTENTS

I. A TECHNICAL ADVISORY GROUP SHOULD EVALUATE POSSIBLE SOLUTIONS BEFORE THE COMMISSION CONSIDERS A POTENTIAL FRAMEWORK.....3

 A. Viable Solutions for Providing ALI for VoIP Providers Do Not Currently Exist.....4

 B. A Technical Advisory Body Can Best Identify the Most Viable and Expeditious Path to Meet the Commission’s Goals.....6

II. THE COMMISSION SHOULD CONSIDER VOIP LOCATION INFORMATION ISSUES CONSISTENT WITH APPLICABLE EXECUTIVE ORDERS.....8

III. IT WOULD BE PREMATURE TO EXTEND 911 OBLIGATIONS TO OUTBOUND-ONLY VOIP APPLICATIONS10

CONCLUSION.....13

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission’s Rules)	GN Docket No. 11-117
)	
Wireless E911 Location Accuracy Requirements)	PS Docket No. 07-114
)	
E911 Requirements for IP-Enabled Service Providers)	WC Docket No. 05-196
)	

**COMMENTS OF
THE NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION**

The National Cable & Telecommunications Association (NCTA)¹ hereby submits comments in response to the Commission’s Second FNPRM in the above-referenced proceeding.² In the Second FNPRM the Commission proposes to establish a “framework for developing solutions” to enable the adoption of automatic location information (ALI) rules for voice over Internet Protocol (VoIP) services,³ underscoring the Commission’s long-standing commitment to policies that facilitate the delivery of accurate ALI for enhanced 911 (E911)

¹ NCTA is the principal trade association for the U.S. cable industry, representing cable operators serving more than 90 percent of the nation’s cable television households and more than 200 cable program networks. The cable industry is the nation’s largest provider of broadband service after investing over \$170 billion since 1996 to build two-way voice interactive networks with fiber optic technology. Cable companies also provide state-of-the-art voice service to more than 23 million customers.

² *Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission’s Rules*, GN Docket No. 11-117, PS Docket No. 07-114, WC Docket No. 05-196, Notice of Proposed Rulemaking, Third Report and Order, and Second Further Notice of Proposed Rulemaking, FCC 11-107 (rel. July 13, 2011) (*Second FNPRM and Third Report*).

³ *Id.* at ¶ 70. The Commission’s use of the term “ALI” in this proceeding refers to the ability of providers to automatically detect a user’s location, as opposed to relying on a customer’s “Registered Location,” as currently required under section 9.5 of the Commission’s rules. 47 C.F.R. § 9.5. The term “ALI” is defined in section 9.3 of the Commission’s rules as “[i]nformation transmitted while providing E911 service that permits emergency service providers to identify the geographic location of the calling party.” 47 C.F.R. § 9.3. Non-mobile cable VoIP service providers currently provide ALI in accordance with section 9.3 through the use of the customer location provided at the time service is ordered. Our use of the term “ALI” in these comments refers to the Commission’s proposed automatic detection requirement.

calls. NCTA and its members share the Commission’s view that it is “imperative to continue working towards an automatic location solution for interconnected VoIP calls to 911.”⁴ At the same time, as the Commission also recognizes, it simply is too early to adopt ALI rules for VoIP emergency calls in light of current technological challenges.⁵

These technological challenges should deter the Commission from adopting a “framework,” “governing principles,” or other foundational approach in this area without further technical evaluation by an advisory group or comparable body and public review thereof. As the Commission is aware, industry efforts are underway to address the technical issues associated with VoIP ALI and develop a framework for implementing accurate ALI capabilities by VoIP providers. For one, the Commission’s Communications Security, Reliability and Interoperability Council (CSRIC) is currently evaluating these issues. However, it is not possible to establish general principles that can both operate as meaningful guideposts and ensure ample flexibility for viable solutions to develop. Any such principles would be either insufficient or stifling. Even a “framework” for regulation requires a demonstration of technical feasibility and a showing that the benefits of such approach will outweigh the costs. Neither of these two required showings is present here. Thus, as discussed herein, the Commission first should provide appropriate technical bodies the opportunity to more fully evaluate potential technologies and to make informed and appropriate recommendations for public review and

⁴ *Id.* at ¶ 70.

⁵ *Id.* at ¶¶ 70-71 (noting that “the provision of ALI in the interconnected VoIP context is particularly challenging” and declining to adopt specific rules, given a “lack of presently available solutions...”). Although it is premature for the Commission to adopt a framework for ALI requirements for interconnected VoIP providers at this time, if the Commission does impose such a framework, it should limit its applicability to VoIP providers and should make clear that any 911 ALI obligations do not apply to underlying broadband providers. As NCTA explained in its comments in the Commission’s network outage proceeding, broadband providers do not have an obligation to provide 911 service, and instead make their networks available to a range of service providers and applications. To the extent these service providers or applications offer over-the-top VoIP, the responsibility for ensuring that consumers can make 911 calls rests with them. NCTA Comments, PS Docket No. 11-82, at 3 (Aug. 8, 2011).

Commission consideration. Only then should the Commission consider a framework for VoIP ALI.

Similarly, the Commission should not impose 911 obligations on outbound-only VoIP services at this time. The Commission should instead first examine whether consumers have a reasonable expectation that such services would provide access to 911 emergency services before imposing costly compliance burdens that could stifle innovative and emerging services.

I. A TECHNICAL ADVISORY GROUP SHOULD EVALUATE POSSIBLE SOLUTIONS BEFORE THE COMMISSION CONSIDERS A POTENTIAL FRAMEWORK

The current lack of viable technological solutions for VoIP ALI weighs strongly in favor of further investigation, rather than premature regulation, even at the well-intentioned “framework” level. As the Commission recognizes in the Second FNPRM, the record compiled earlier this year in response to the VoIP E911 NOI⁶ demonstrates that “there is no technological or cost-effective means to provide ALI for interconnected VoIP service providers.”⁷ Moreover, although several technologies and applications were identified in the Second FNRPM as potential future solutions to the VoIP ALI problem, none of these technologies are workable today.

The Commission recognizes these shortcomings and appropriately refrains from proposing specific VoIP ALI requirements. However, if the lack of technical solutions has given the Commission pause in adopting specific rules, there is no basis for a different approach with respect to a “framework” or “governing principles” that will form the foundation for rules. In either case, the Commission should refer the question to one or more technical bodies, possibly

⁶ *Wireless E911 Location Accuracy Requirements; E911 Requirements for IP-Enabled Service Providers*, PS Docket No. 07-114, WC Docket No. 05-196, Further Notice of Proposed Rulemaking and Notice of Inquiry, 25 FCC Rcd 18957 (2010) (*VoIP E911 NOI*).

⁷ *Second FNPRM* at ¶ 64.

in the form of an E911 Technical Advisory Group (ETAG), to examine potential solutions and consider a viable and expeditious path forward.⁸

A. Viable Solutions for Providing ALI for VoIP Providers Do Not Currently Exist

Each potential solution identified in the Second FNPRM involves significant technical hurdles that would need to be overcome before it could serve as the basis of an ALI for VoIP regulatory regime. These shortcomings weigh against adoption of a framework, not simply against imposition of specific requirements. Reliance on any one technological path as the basis of a regulatory framework at this time could delay and frustrate the development of an ALI for VoIP solution that best serves the public interest.

For instance, the integration of Assisted Global Positioning System (A-GPS) and passive commercial mobile radio services (CMRS) receivers into portable VoIP devices to provide ALI is not currently a viable solution for fixed, indoor services.⁹ To provide accurate location information, A-GPS solutions generally require a clear view of GPS satellites, which creates challenges in indoor environments. Even AT&T, the proponent of studying A-GPS as a possible solution, recognized the limitations of GPS solutions in indoor and urban environments.¹⁰ Until these limitations are resolved, A-GPS is not a viable solution to provide ubiquitous VoIP ALI.

Similarly, although the Location Information Server (LIS) concept was identified as a possible solution, it cannot generate ALI for VoIP service providers.¹¹ The LIS is merely a “repository” that contains location information that is generated elsewhere. A LIS does not generate location information, and cable companies do not currently have a mechanism for

⁸ *Id.* at ¶ 12.

⁹ *Id.* at ¶ 67.

¹⁰ *Id.*

¹¹ *Id.*

generating ALI to populate the LIS. Thus, LIS should not serve as a basis for any VoIP ALI rules or framework.

Finally, ALI cannot effectively be *generated* by network access devices using recognized industry standards such as the IETF's HTTP Location Delivery (HELD) and Dynamic Host Configuration Protocol (DHCP).¹² These technologies only govern the *delivery* of ALI once it is generated and are not able to generate automatic location information for calls placed via VoIP services over cable plant. Generating ALI remains a significant obstacle. As NCTA previously explained:

The standards further assume that customer home addresses are stored in DHCP servers, but this is not the case in cable operators' networks. It would be extremely costly for providers to upgrade their servers to enable storage of consumer addresses. Absent these upgrades to enable automatic location information retrieval (assuming customer equipment were developed and deployed to access it), cable operators would have to engage in a manual process of linking IP addresses with network nodes. But such a manual method, in addition to being time consuming and costly to administer, would not necessarily yield accurate location information.

Cable operators may assign IP ranges to upstream paths or fiber nodes, and may combine fiber nodes. Rather than linking a single IP address to a specific physical address, this would identify only a range of IP addresses linked to a group of 200-500 households served by that node or nodes.¹³

These industry standards thus would be insufficient to promote development of VoIP ALI services and could prove not to be the most effective solution on which to base a framework.

As the Commission considers these issues, it must ensure that an actual technological solution – not merely the promise of one – exists, so that it can accurately assess the impact of a proposed framework or rule. Indeed, given the Commission's recognition that there currently is

¹² *Id.* at ¶ 94.

¹³ Letter from Rick Chessen, Senior Vice President Law and Regulatory Policy, NCTA, to Patrick Donovan, Public Safety and Homeland Security Bureau, FCC, PS Docket No. 07-114, WC Docket No. 05-196, PS Docket No. 10-255 at 2 (June 2, 2011).

no technological or cost-effective means to provide ALI for interconnected VoIP service providers, it cannot adopt a regulatory framework in this area unless it determines that such an approach is technically feasible.¹⁴ This limitation is particularly important given the wide variety of platforms and technologies involved in the provision of VoIP services. A solution identified as viable for one network platform, for example, may not work on others that utilize different hardware and technologies. The Commission must account for these technical distinctions when evaluating the costs and merits of different potential solutions to the ALI issue for VoIP providers.

B. A Technical Advisory Body Can Best Identify the Most Viable and Expedient Path to Meet the Commission’s Goals

The Commission presently does not have sufficient information to create the proposed framework. As recently recommended by CSRIC, efforts to facilitate VoIP ALI would benefit from convening industry stakeholders in an ETAG.¹⁵ An ETAG could thoroughly analyze the issue and identify potential solutions – fully vetted for technological viability – for the public’s review and the Commission’s consideration.

The Commission’s wireless E911 experience is instructive here. In that context, the Commission adopted ALI rules for wireless carriers before location-based technology had been fully developed. The rules effectively required network-based solutions for generating ALI for

¹⁴ *Bunker Hill Co. v. EPA*, 572 F.2d 1286, 1294 (9th Cir. 1977) (citing *Portland Cement Ass’n v. Ruckelshaus*, 486 F.2d 375, 402 (D.C. Cir. 1973)), *cert. denied*, 417 U.S. 921 (1974). More specifically, the “record must establish that the required technology is feasible, not merely *possibly* feasible.” *Bunker Hill Co.*, 572 F.2d at 1301 (emphasis in original); see *Essex Chemical Corp. v. Ruckelshaus*, 486 F.2d 427, 433 (D.C. Cir. 1973), *cert. denied*, 416 U.S. 969 (1974).

¹⁵ *Second FNPRM* at ¶ 12 (citing Technical Options for E9-1-1 Location Accuracy, Communications Security, Reliability and Interoperability Council Working Group 4C Final Report, (Mar. 14, 2011), available at http://transition.fcc.gov/pshs/docs/csric/CSRIC_4C_Comprehensive_Final_Report.pdf (CSRIC 4C Report)).

CMRS carriers.¹⁶ Three years later, the Commission was forced to re-evaluate its rules to permit carriers to deploy far more accurate handset-based solutions because “the record contain[ed] substantial evidence that a handset-based solution may be the most rapid and effective method of providing 911 ALI in many important applications.”¹⁷ Carriers that developed and deployed network-based solutions to satisfy the wireless E911 requirements ultimately spent years and tens of millions of dollars to meet those requirements and are now transitioning to handset-based and hybrid solutions.¹⁸ The wireless E911 experience demonstrates that well-intentioned but premature regulation that dictates technological outcomes is likely to delay and undermine, rather than promote, the Commission’s goals.

Instead, the most effective way to facilitate VoIP ALI is to first identify through a collaborative industry process one or more solutions to the problems associated with ALI for facilities-based and over-the-top interconnected VoIP services. Parties can then comment on the specific merits of the solution(s) (i.e., whether they will work on all networks and technologies), allowing the Commission to ultimately move forward with a framework that responds to these technological findings to reach rules that optimize safety and accuracy while empowering technological change.

In this instance, a technical advisory group may find that the proposed “governing principle” – that an underlying broadband provider “be capable of providing location information regarding the access point being used by the device or application, using industry-standard

¹⁶ *Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, RM-8143, Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 18676, 18732, ¶ 111 (1996).

¹⁷ *Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, RM-8134, Third Report and Order, 14 FCC Rcd 17388, 17403, ¶ 28 (1999).

¹⁸ *Third Report* at ¶ 18.

protocols on commercially reasonable and non-discriminatory terms”¹⁹ – is infeasible or inferior to an alternative approach. The group may propose that a better course would be to pursue location information at the consumer device level, rather than the access point level. Indeed, since routers are replaced much less frequently than end-user devices that are used by consumers of interconnected VoIP services, it is quite possible that an advisory group could conclude that automatic location capabilities could be deployed more rapidly to the public if integrated at the consumer level rather than at the broadband provider (i.e., router) level.

If the Commission declines to convene an ETAG to study potential solutions for VoIP ALI, the CSRIC itself may be able to offer many of the same benefits. The CSRIC recently was re-chartered with a primary focus on analyzing 911 and NG911 issues.²⁰ The first CSRIC goal under the new charter is to “[d]evelop and recommend best practices and actions the FCC can take that promote reliable 911, E911, and NG911 service.”²¹ As part of this mandate, the CSRIC could be tasked with identifying and evaluating potential ALI solutions for the Commission’s consideration.

II. THE COMMISSION SHOULD CONSIDER VOIP LOCATION INFORMATION ISSUES CONSISTENT WITH APPLICABLE EXECUTIVE ORDERS

In considering potential ALI requirements for VoIP providers, the Commission must comply with long-standing mandates set forth in various Executive Orders requiring an assessment of the costs of potential regulations *before* rules are proposed. No such assessment has been undertaken to date. Although the *Second FNPRM* proposes to adopt a framework or governing principles, rather than specific requirements, this action nonetheless will have a real-

¹⁹ *Second FNPRM* at ¶ 72.

²⁰ Charter of the FCC’s Communications Security, Reliability, and Interoperability Council, <http://transition.fcc.gov/bureaus/pshs/advisory/csric3/CSRIC%20Charter%20Renewal%202011%20FINAL.pdf>, at 1-2 (Mar. 18, 2011) (2011 CSRIC Charter).

²¹ *Id.* at 1.

world effect as companies try to anticipate where the Commission is headed. Accordingly, the Commission should act consistently with the Executive Orders.

In 1993, President Clinton adopted an Executive Order to reform the process for adopting regulations.²² This Executive Order requires agencies to “assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating” before adopting new regulations.²³ In particular, agencies are required to “propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs.”²⁴

In January of this year, President Obama reaffirmed these requirements through adoption of Executive Order 13563.²⁵ Section 1 of this Executive Order states that agencies must evaluate potential regulations “based on the best available science” and “identify and use the best, most innovative, and least burdensome tools for achieving regulatory ends.”²⁶ In July, President Obama issued another Executive Order specifically extending Executive Order 13563 to “independent agencies”²⁷ and stating that regulatory decisions “should be made only after consideration of their costs and benefits . . .”²⁸

If adopted, the proposal in the *Second FNPRM* would run counter to these mandates because it fails to quantify the costs of imposing an ALI requirement on VoIP providers. In fact,

²² Executive Order 12866, 58 Fed. Reg. 51735 (Sept. 30, 1993).

²³ *Id.* at § 1(a).

²⁴ *Id.* at § 1(b)(6).

²⁵ Executive Order 13563, 76 Fed. Reg. 3821 (Jan. 18, 2011); Memorandum for the Heads of Executive Departments and Agencies, and of Independent Regulatory Agencies from the Office of Management and Budget, Executive Order 13563, “Improving Regulation and Regulatory Review,” <http://www.whitehouse.gov/sites/default/files/omb/memoranda/2011/m11-10.pdf> (Feb. 2, 2011).

²⁶ Executive Order 13563, § 1(a).

²⁷ Executive Order 13579, 76 Fed. Reg. 41587, § 1(c) (July 11, 2011).

²⁸ *Id.* at § 1(a). In response, Chairman Genachowski issued a statement noting that the Commission has “incorporated cost-benefit analysis into our decision-making.” *Statement from FCC Chairman Julius Genachowski on the Executive Order on Regulatory Reform and Independent Agencies*, New Release, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-308340A1.doc (July 11, 2011).

it would be impossible to conduct the required review based on currently available information. At this stage, there is simply too much unknown to conduct the analysis required by the aforementioned Executive Orders. Although some solutions to the VoIP ALI issue have been proposed, the record developed in response to the *VoIP E911 NOI* demonstrates that such solutions are technically infeasible and often too costly to implement.²⁹ Absent viable, identified solutions for generating VoIP ALI, the Commission cannot adequately assess the costs and benefits of any proposed framework.

III. IT WOULD BE PREMATURE TO EXTEND 911 OBLIGATIONS TO OUTBOUND-ONLY VOIP APPLICATIONS

The Commission should apply the same cost-benefit analysis described above in deciding whether to extend 911 obligations to “outbound-only” VoIP offerings.³⁰ Under this analysis, any benefits would be speculative at best, while the costs would be heavy. As a result, the Commission should not subject outbound-only VoIP to 911 requirements at this time.

Extending 911 requirements to outbound-only VoIP would require providers to develop and implement costly and complicated solutions in a challenging economy. To achieve these ends, moreover, providers would have to divert resources away from competition and innovation. Any such diversion would be unfortunate, since VoIP applications and technology are currently evolving in exciting ways, spurred by new entrants and by innovative offerings, including VoIP applications for mobile devices and as part of a suite of services offered by providers to customers.³¹ The Commission should not put these developments at risk by imposing new 911 obligations whose benefits are, at best, only speculative at this point.

²⁹ *Second FNPRM* at ¶ 64.

³⁰ *Id.* at ¶ 48.

³¹ Other innovations may include VoIP-capable devices and applications (such as mobile soft clients) that use WiFi and/or that support communications capability across multiple platforms.

Indeed, it is unclear whether consumers reasonably expect to be able to place 911 calls using outbound-only VoIP.³² Skype has been marketing its outbound VoIP application for years and has millions of users,³³ notwithstanding the fact that it makes clear to all users that this application is not a replacement for the user's telephone and cannot be used for emergency calling.³⁴ To determine whether consumers have a reasonable expectation that 911 service would be available via an outbound-only VoIP service, the Commission should analyze data regarding the extent to which users of outbound-only VoIP applications also have either CMRS service, landline phones, or interconnected VoIP service (as currently defined under the Commission's rules). It is likely that the great majority of users have such alternatives and use an outbound-only VoIP application only as a supplemental service that provides a lower-cost alternative or is integrated with some other feature, such as video calling capability. Such users can be expected to continue to rely on their CMRS, interconnected VoIP service or landline phone to make 911 calls. Imposing 911 requirements on yet another technology – particularly a technology that is still evolving and for most people supplements but does not replace their CMRS and/or landline phones – would appear to be unnecessary.

If the Commission nonetheless were to subject outbound-only VoIP to 911 requirements, it should ensure that any new or modified definitions in section 9.3 of its rules do not harm competition or innovation or disrupt settled expectations.³⁵ In particular, if the Commission, notwithstanding NCTA's recommendation above, expands its 911 requirements to cover

³² See *Second FNPRM* at ¶ 48 (seeking comment on whether consumers expect outbound-only VoIP services to provide access to 911 services).

³³ See *id.* at ¶ 45 (Skype reported 20 million users in the United States in 2010).

³⁴ For instance, Skype's home page states prominently: “**No emergency calls with Skype**”; and “Skype is not a replacement for your telephone and can't be used for emergency calling.” Skype Homepage, <http://www.skype.com/intl/en-us/homepage> (last visited Sept. 27, 2011).

³⁵ *Second FNPRM* at ¶ 49; 47 C.F.R. § 9.3.

outbound-only VoIP, it should do so by adopting a separate rule and definition for “outbound-only VoIP” rather than expanding the current definition of “interconnected VoIP” to include outbound-only VoIP. In this way, the Commission would avoid complications arising from statutes and rules that cross-reference section 9.3’s definition of “interconnected VoIP.”³⁶ For example, modification of section 9.3’s definition of “interconnected VoIP” in this proceeding could result in the imposition of a broad range of *other* regulatory requirements on outbound-only VoIP providers without sufficient notice and comment.³⁷ The imposition of any such requirements should be the subject of a separate notice that explicitly identifies the issues at stake and gives interested parties a full opportunity to comment on those issues.³⁸

³⁶ The Commission also seeks comment on modifying the second prong of the definition of interconnected VoIP service to specify that such a service is provided over an “Internet connection” (including a dial-up connection) as opposed to a broadband connection. *Id.* at ¶ 49. This proposed change does not appear to be necessary, as nearly all VoIP customers, including those of cable companies, rely on broadband connections to obtain VoIP service. If the FCC, however, were to adopt this change, it should make clear that in doing so it is not intended to change settled expectations reflected in existing contracts or state commission regulatory rulings regarding the treatment of interconnected VoIP services as a “broadband service.”

³⁷ Many Commission rules that cross-reference section 9.3’s definition of “interconnected VoIP service” subject interconnected VoIP providers to significant substantive obligations (*e.g.*, porting obligations, discontinuance requirements). *See id.* at ¶ 101 n.226 (listing rule sections that cross reference the definition of interconnected VoIP service in section 9.3).

³⁸ The Commission should also avoid making any revisions to its 911 requirements and definitions that could be interpreted as removing any type of interconnected VoIP service – whether developed in the past, present, or future – from the scope of the “grandfather” clause in the Twenty-First Century Communications and Video Accessibility Act (CVAA). 47 U.S.C. § 617(f); *see also* NCTA Comments, CG Docket Nos. 10-213 and 10-145, WT Docket No. 96-198, at 6-9 (Apr. 25, 2011).

CONCLUSION

For the reasons set forth above, the Commission should defer further consideration of a framework for VoIP ALI until a technical body has had an opportunity to more fully evaluate potential technologies and to make informed and appropriate recommendations for the Commission's consideration, and should not impose 911 requirements on outbound-only VoIP services at this time.

Respectfully submitted,

/s/ Rick Chessen

Rick Chessen
Steven F. Morris
Jennifer K. McKee
National Cable & Telecommunications
Association
25 Massachusetts Avenue, N.W. – Suite 100
Washington, D.C. 20001-1431
(202) 222-2445

October 3, 2011