

**THE PRESIDENT'S
NATIONAL SECURITY TELECOMMUNICATIONS
ADVISORY COMMITTEE**



***LEGISLATIVE AND REGULATORY GROUP
REPORT***

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EXECUTIVE SUMMARY

The National Security Telecommunications Advisory Committee's (NSTAC) Industry Executive Subcommittee (IES) charged the Legislative and Regulatory Group (LRG) to examine legislative, regulatory, and judicial actions that might have an impact on national security and emergency preparedness (NS/EP) telecommunications services and information systems. In addressing this charge, the group established a framework for analysis to consider the implementation of the Telecommunications Act of 1996 and the evolving telecommunications environment. This report presents the results of the LRG's investigation of two issues. First, the LRG investigated the legal and regulatory obstacles that would hinder service restoration during a widespread telecommunications service outage. Second, the group investigated the need to involve the NS/EP community in planning and implementing of "National Services," as discussed in the Network Reliability and Interoperability Council (NRIC) final report. The following recommendations and proposed charges are based on the deliberations and assessments of the group.

Potential Legal and Regulatory Obstacles to Widespread Outage Recovery

The LRG recommends that the IES charge the LRG to do the following:

- Consider how the role of the Federal Communications Commission (FCC) Defense Commissioner can be further adapted to ensure that NS/EP responsibilities can be acted upon in a timely and efficient manner by officials in that position
- Investigate the need for a Federal advisory body to advise the FCC on emerging NS/EP telecommunications issues.

The Network Reliability and Interoperability Council's Recommendations Concerning "National Services"

The LRG recommends that the IES do the following:

- Continue to assess the development of the NRIC recommendations regarding National Services
- Recommend that the Office of the Manager, National Communications System, play an active role in the National Services planning process on behalf of the NS/EP community
- Charge the appropriate IES subgroups to monitor the NRIC's activities for their relevance to NS/EP telecommunications issues
- Charge the LRG to review the President's Commission on Critical Infrastructure Protection final report and recommendations for potential legislative and regulatory implications for NS/EP telecommunications.

1.0 BACKGROUND AND APPROACH

The National Security Telecommunications Advisory Committee's (NSTAC) Industry Executive Subcommittee (IES) charged the Legislative and Regulatory Group (LRG) to examine legislative, regulatory, and judicial actions that might have an impact on national security and emergency preparedness (NS/EP) telecommunications services and information systems.¹ In addressing this charge, the group established a framework for analysis to consider the implementation of the Telecommunications Act of 1996 and the evolving telecommunications environment.

Although most issues did not reveal significant NS/EP implications, two specific issues warranted further investigation by the LRG. First, in response to a request from the NSTAC's Network Group, the LRG studied and reported on the legal and regulatory obstacles that would hinder service restoration during a widespread telecommunications service outage. Second, the LRG investigated the need to involve the NS/EP community in planning and implementing "National Services," as discussed in the Network Reliability and Interoperability Council (NRIC) final report.² For each of these issues, the LRG developed issue papers, including proposed recommendations to IES. The following is a summary of the two issue papers and their findings and recommendations. The complete issue papers are included as Annexes B and C, respectively.

2.0 FINDINGS AND RECOMMENDATIONS

As a result of its analysis of the two issues, the LRG reported the following findings and recommendations.

2.1 Potential Legal and Regulatory Obstacles to Widespread Outage Recovery

In April 1997, Dr. John Gibbons, Assistant to the President for Science and Technology, asked the NSTAC to assess the dimensions of potential widespread telecommunications service outages. As part of its response, the NSTAC's Network Group approached the LRG to investigate the legal and regulatory obstacles to network restoration during a widespread outage—one resulting from a fault in or interruption to a component or subsystem of the public network (PN).

¹ See Annex A for a list of LRG members.

² The Network Reliability Council was first organized as a Federal advisory committee in 1992 to provide expert advice to the Federal Communications Commission (FCC) on telecommunications issues. In April 1996, the FCC revised the Council's charter to advise the FCC on how it might best accomplish the responsibilities placed on it by the Telecommunications Act of 1996, specifically section 256, titled "Coordination for Interconnectivity." To reflect this mission, the FCC changed the name of the Council to the "Network Reliability and Interoperability Council." The Council's final report—*Network Interoperability: The Key to Competition*—was released on July 15, 1997.

2.1.1 Findings

The LRG found that the most significant legal and regulatory obstacle to successful recovery from a widespread outage is the apparent uncertainty about who can expeditiously address carriers' concerns regarding their compliance with relevant laws or regulations during emergency situations. The LRG's research revealed that the Federal Communications Commission (FCC) Defense Commissioner's responsibilities, as compared with those of other officials, could make that official more important than others in helping industry and Government overcome obstacles to network restoration. In subsequent discussions with the LRG and the IES, the Network Group proposed the following recommendations to the IES, which the LRG endorsed:

- The President should encourage the FCC to appoint and maintain a Defense Commissioner
- The President should encourage the FCC to clarify the Defense Commissioner's authority to:
 - Address NS/EP telecommunications regulatory concerns in Commission activities, rulemaking, and particularly during emergency situations
 - Establish a process for the expeditious resolution of NS/EP issues and other impediments affecting industry recovery from a widespread telecommunications service outage.

The LRG also identified other issues regarding the FCC Defense Commissioner's position that require further consideration. First, it is imperative that the designated Defense Commissioner (the position is currently vacant) and future officials in that position fully understand their duties to enable rapid response during a national emergency. Equally important is the need for the Defense Commissioner to keep abreast of the evolving threat, technological, and regulatory implications that may affect industry's and Government's ability to ensure a strong national security posture. The group determined that further consideration is warranted regarding how the NS/EP role of the Defense Commissioner can be further adapted to ensure that NS/EP responsibilities can be acted upon in a timely and efficient manner by officials in that position, and whether this would require a modification to existing rules.

Second, the group determined there is a need to investigate whether an advisory committee should be chartered to advise the FCC and the Defense Commissioner on NS/EP issues. That investigation should include consideration of the functions of previous Federal advisory committees to the FCC on NS/EP matters (e.g., the National Industry Advisory Committee and the NS/EP Advisory Committee) and whether existing advisory bodies (e.g., the NRIC) could serve the same purpose. The group concluded that such an NS/EP-related advisory committee must represent a broad range of existing and emerging telecommunications and information services providers, including wireless, cable, and others.

2.1.2 Recommendations to the IES

The LRG recommends that the IES charge the LRG to do the following:

- Consider how the role of the Federal Communications Commission (FCC) Defense Commissioner can be further adapted to ensure that NS/EP responsibilities can be acted upon in a timely and efficient manner by officials in that position
- Investigate the need for a Federal advisory body to advise the FCC on emerging NS/EP telecommunications issues.

2.2 The NRIC's Recommendations Concerning "National Services"

The NRIC provided the FCC with a series of recommendations aimed at improving National Services—telecommunications services intended or required to be deployed on a national or regional basis in the PN. The LRG agreed that a coordinated National Services planning process, as conceived by the NRIC, could serve as an effective means for promoting NS/EP telecommunications requirements. Consequently, the LRG assessed what actions should be taken to ensure that NS/EP requirements are considered during such a planning process.

2.2.1 Findings

The LRG found that implementation of the NRIC's recommendations regarding National Services would positively affect the reliability and interoperability of NS/EP communications. The group also found that active participation by industry and other stakeholders will be critical to the success of the NRIC's proposed National Services planning process. In addition, it will be important to secure the FCC's support for end-user organization and interest group participation in the National Services planning process and to coordinate with industry consensus groups (e.g., the Alliance for Telecommunications Industry Solutions) to ensure full participation in this planning process. The LRG concluded that IES action on this issue would provide a timely and effective contribution to ensuring that NS/EP interests are considered in future National Services planning and implementation efforts.

Separately, in October 1997, the President's Commission on Critical Infrastructure Protection (PCCIP) released its final report and recommendations on protecting the Nation's critical infrastructures, including the telecommunications infrastructure. The LRG found the need to also review that report's recommendations for potential legislative and regulatory implications for NS/EP telecommunications.

2.2.2 Recommendations to the IES

The LRG proposes the following recommendations:

- The IES should continue to assess the development of the NRIC recommendations regarding National Services

- The IES should recommend that the Office of the Manager, National Communications System, play an active role in the National Services planning process on behalf of the NS/EP community
- The IES should charge the appropriate IES subgroups to monitor the NRIC's activities for their relevance to NS/EP telecommunications issues
- The IES should charge the LRG to review the PCCIP final report and recommendations for potential legislative and regulatory implications for NS/EP telecommunications.

ANNEX A

Legislative and Regulatory Group Members

Legislative and Regulatory Group Members

COMSAT	Dr. Jack Oslund (Chair)
ITT	Mr. Joe Gancie (Vice Chair)
NTA	Mr. Bob Burns (Vice Chair)
AT&T	Mr. Dave Bush
Bellcore	Ms. Louise Tucker
CSC	Mr. Guy Copeland
GTE	Mr. Scott Randolph
Hughes	Ms. Jennifer Smolker
Lockheed Martin	Mr. Bruce Wallachy
MCI	Mr. Rein Kiewel (Nomination Pending)
Motorola	Dr. Jack Edwards
NORTEL	Mr. Ken Kato
Rockwell	Mr. Gordon Booker
Teledesic	Dr. Vern Junkmann
USTA	

ANNEX B

**Legislative and Regulatory Group Issue Paper:
Potential Legal and Regulatory Obstacles to Widespread Outage Recovery**

1.0 ISSUE

The Nation has grown increasingly dependent on telecommunications services while the very nature of the public network (PN) is undergoing significant technological change. Although the PN carriers historically have provided robust and reliable telecommunications service, this change has heightened the national security and emergency preparedness (NS/EP) community's perception that a widespread telecommunications outage—one resulting from a fault in or interruption to a component or subsystem of the PN—could occur. Concerns have arisen about whether the appropriate legal and regulatory procedures are in place to facilitate restoration from such an event, especially in light of the implementation of the Telecommunications Act of 1996 (Telecommunications Act) and the changing structure of the industry. This paper addresses such a widespread outage and the potential legal and regulatory obstacles to accomplishing a coordinated recovery.

2.0 BACKGROUND

In April 1997, Dr. John Gibbons, Assistant to the President for Science and Technology, sent a letter to Mr. Charles Lee, Chairman of the President's National Security Telecommunications Advisory Committee (NSTAC), requesting the NSTAC's assistance in studying the dimensions of potential widespread telecommunications outages. In response, the NSTAC's Network Group, in coordination with the Operations Support Group, established the Widespread Outage Subgroup. The subgroup determined that, unlike relatively common interruptions of telecommunications due to cable cuts, a widespread outage would:

- Interrupt telecommunications service in at least one region of the country (including at least one major metropolitan area)
- Last at least the majority of one business day
- Involve both interexchange and local exchange services
- Significantly hamper the functional ability of other essential infrastructures
- Have strategic significance to Government, industry, and the general public.

Despite the lack of precedent for a telecommunications outage of this magnitude, NSTAC members' prior experiences with smaller-scale outages have raised concerns that legal and regulatory barriers to the swift and effective restoration of service could arise during a widespread outage. In 1991, BellSouth Corporation asked the Department of Justice (DOJ) to support its petition seeking an exemption from part of the Modification of Final Judgment (MFJ) in order to provide emergency interLATA communications to the State of South Carolina.¹ Over one year

¹ March 18, 1991, letter from Mr. Ted Lightle, Director, Division of Information Resource Management, State of South Carolina, to Ms. Constance K. Robinson, Esq., Chief, Communications and Finance Section, Antitrust Division, U.S. Department of Justice.

later, following an extensive public comment and review period, the DOJ endorsed BellSouth's petition.² In 1991, Bell Atlantic Corporation asked Bellcore's assistance in restoring part of the PN serving the mid-Atlantic region, including Washington, D.C. and the Federal Aviation Administration's air traffic control system at Newark International Airport, following an outage. As a Regional Bell Operating Company (RBOC) affiliate, however, Bellcore was concerned that physical repairs made to the network might be viewed as "manufacturing" and thus violate then-existing MFJ provisions prohibiting the manufacturing of telecommunications equipment by the RBOCs or their affiliates.

Although these incidents took place prior to the passage of the Telecommunications Act and the removal of the MFJ, NSTAC members continue to be unsure about what their legal obligations under the Telecommunications Act would be during a crisis situation. These concerns remain valid because while Sections 271 and 273 of the Telecommunications Act replace MFJ provisions and respectively allow RBOCs into in-region interLATA and telecommunications equipment manufacturing markets, RBOCs still must satisfy a number of requirements and receive Federal Communications Commission (FCC) approval to offer these services. No RBOC currently has such approval to perform these services, and no one can predict whether any RBOC will have met these requirements prior to the occurrence of a widespread outage at some point in the future.

Meanwhile, the Telecommunications Act's transfer of many telecommunications policy enforcement responsibilities from a single judicial official (Judge Harold Greene) to the FCC and, to a lesser extent, the DOJ, has raised questions among NSTAC members about the appropriate official(s) or organization(s) the RBOCs or their affiliates could approach who could provide timely and consistent legal guidance. Also, it is unclear whether the FCC could act in the public interest to grant temporary waivers of applicable sections of the Telecommunications Act during a widespread outage recovery effort.

3.0 DISCUSSION

The major focus of the Telecommunications Act is to increase competition in the telecommunications industry. The Telecommunications Act requires existing carriers to allow new carriers to interconnect with existing networks. It is unclear what effect the entry of new common carriers will have on NS/EP communications. Given industry's concerns, it seems desirable to have in place a single point of contact to respond to them. As described below, however, existing regulations addressing the NS/EP responsibilities of various Federal officials and organizations apparently do not place a single Federal official in charge of deciding whether to enforce or waive carriers' compliance with applicable laws or regulations.

² April 24, 1992, letter from Mr. Richard L. Rosen, Esq., Acting Chief, Communications and Finance Section, Antitrust Division, U.S. Department of Justice, to Mr. Michael Schwartz, Esq., General Attorney, BellSouth Corporation.

3.1 The FCC

Executive Order (E.O.) 12472 requires the FCC to perform functions during national non-wartime emergencies, including the investigation of violations of pertinent law and regulations and the initiation of appropriate enforcement actions.³ The FCC's rules accordingly assign the FCC Defense Commissioner the specific duties of assuring continuity of the Commission's NS/EP functions and of approving NS/EP plans and programs (including the provision of service by common carriers and the investigation and enforcement of violations of Federal law).⁴ These regulations task the Defense Commissioner to uphold carriers' compliance with applicable law. The rules are unclear, however, as to whether they extend to the Defense Commissioner or the entire Commission (with or without consultation with the DOJ) the power to forbear from enforcing relevant provisions of the Telecommunications Act during a crisis.

3.2 The President

Section 706(e) of the Communications Act of 1934, as amended, empowers the President to suspend or amend, during a national emergency, FCC rules applicable to any wire communications facilities. Section 706(g), however, prohibits the President from making any amendment to the FCC's rules that the agency would not itself be authorized by law to make.⁵ Since it is questionable whether the FCC Defense Commissioner or the entire Commission by itself could grant to service providers waivers from complying with relevant portions of the Telecommunications Act, it follows that the President's power to do so is questionable as well.

3.3 The National Security Council (NSC) and Office of Science and Technology Policy (OSTP)

Section 2(c)(1)(a) of E.O. 12472 instructs the NSC to coordinate the development of policy, plans, programs, and standards within the Federal Government for the use of the Nation's telecommunications resources during non-wartime conditions. Section 2(b)(2) charges the Director, OSTP, to provide appropriate guidance and assistance to the President and other Federal organizations responsible for the provision, management, or allocation of telecommunications resources during such conditions. Section 2(b)(3) further assigns the Director, OSTP, with establishing and chairing a Joint Telecommunications Resources Board (JTRB) to assist the Director in exercising his/her non-wartime telecommunications functions.⁶

³ Executive Order 12472, Assignment of National Security and Emergency Preparedness Telecommunications Functions (April 3, 1984).

⁴ Federal Communications Commission rules, Defense and Emergency Preparedness Functions, 47 C.F.R. 0.181-0.186.

⁵ Section 706 of the Communications Act of 1934 (47 U.S.C. 606), War Emergency—Powers of President.

⁶ Executive Order 12472, Assignment of National Security and Emergency Preparedness Telecommunications Functions (April 3, 1984). The JTRB's membership consists of the Assistant Secretary of Defense, Command, Control, Computers, and Intelligence; the Assistant Secretary, Communications and Information, of the Department of Commerce; the Commissioner, Federal Telecommunications Services, of the General Services Administration; the Associate Director, Operations Support, of the Federal Emergency Management Agency; the Defense Commissioner of the FCC; and the Manager, NCS.

While the NSC and the JTRB might help craft future policy initiatives to address the industry's legal concerns prior to the occurrence of a widespread outage, it is unclear whether either group would play a significant role during an actual recovery effort.

4.0 CONCLUSION

The most significant legal and regulatory obstacle to the successful recovery from a widespread telecommunications outage is the apparent uncertainty about who can expeditiously address carriers' concerns regarding their compliance with relevant laws or regulations during emergency situations. There is an additional concern about the possible impact on NS/EP communications of industry restructuring, especially considering the entry of new carriers under the Telecommunications Act. The relative specificity of the rules governing the FCC Defense Commissioner's responsibilities, as compared to those of other officials, suggests that this individual could be more important than others in helping industry and Government overcome this obstacle. The President should encourage the FCC to appoint and maintain a Defense Commissioner. Moreover, the FCC should clarify the Defense Commissioner's authority, as set forth on page B-3, to address NS/EP telecommunications regulatory concerns in Commission activities, especially during emergency situations, including widespread telecommunications service outages.

The Office of the Manager, National Communications System (OMNCS), should meet with the Defense Commissioner (once he/she is appointed) to discuss the role of the NCS and its relationship with the FCC and the telecommunications industry. This meeting should discuss both the ability of the FCC to act in the public interest during crises and whether there is a need for rules clarifying what services RBOCs are allowed to provide during emergencies until restrictions on the normal provision of such services are lifted. The OMNCS meanwhile should continue to coordinate closely with industry and other Federal and State organizations with NS/EP responsibilities to ensure that future changes to the existing regulatory and legal framework are understood and are incorporated into emergency planning exercises.

ANNEX C

**Legislative and Regulatory Group Issue Paper:
Review of the Network Reliability and Interoperability Council's Recommendations
Concerning "National Services"**

1.0 ISSUE

The Network Reliability and Interoperability Council (NRIC) recently provided to the Federal Communications Commission (FCC) a series of recommendations aimed at improving the National Services planning and implementation process. While it is unclear exactly what form this process will ultimately take, a coordinated National Services planning process as conceived by the NRIC nevertheless could serve as an effective means for promoting national security and emergency preparedness (NS/EP) telecommunications service requirements. What, if any, actions can be taken to ensure that NS/EP requirements are considered during National Services planning?

2.0 BACKGROUND

“National Service” designates a telecommunications service intended or required to be deployed on a national or widespread basis in the public networks (PN).¹ Numerous widely available services, including dial tone, toll-free (800/888) service, local number portability (LNP), and emergency 911 service, are recognized as National Services. Deployment of such services results from an industry-led planning process designed to promote service interoperability across the PN. That process typically includes evaluating many network architectural alternatives as well as the services’ effects on operations support activities, network switching, and transmission elements.

Prior to the passage of the Telecommunications Act of 1996 (Telecommunications Act), de-facto National Services planning was done by AT&T (pre-divestiture) and generally by the Regional Bell Operating Companies (post-divestiture). The pro-competition, deregulation-oriented policy framework for the Nation’s telecommunications industry established by the Telecommunications Act, however, has complicated National Services planning. Increased interconnection to the PN and technological innovation have heightened Government and industry’s concern about whether the services (including National Services) offered under this new pro-competitive regime will be both interoperable and reliable.

Responding to these concerns and to the requirements placed on it by Section 256 of the Telecommunications Act, the FCC revised the charter of the Network Reliability Council, its Federal advisory committee, to advise the Commission on how it might best establish procedures to oversee coordinated network planning by telecommunications service providers.² It also changed the Council’s name to the Network Reliability and Interoperability Council to reflect this mission.

¹ NRIC, *Network Interoperability: The Key to Competition* (July 15, 1997) (NRIC Report), section 4.2.1 (Key Learnings).

² Section 256 of the Telecommunications Act (47 U.S.C. 256), “Coordination for Interconnectivity,” requires, among other things, that the FCC establish procedures to oversee coordinated network planning by telecommunications service providers and permits the FCC to participate in developing PN interconnectivity standards by appropriate industry standards-setting bodies.

On July 15, 1997, the NRIC released a report recommending ways the Commission and industry should address various interoperability and reliability issues affecting the PN in the deregulated environment contemplated by the Telecommunications Act.³ In its report, the NRIC observed, among other things, that the newly expanded telecommunications industry has minimal experience planning and implementing National Services in such an environment. The NRIC also made a series of recommendations to the FCC aimed at maintaining the reliability and interoperability of National Services in light of this inexperience. These recent recommendations have led the Legislative and Regulatory Group (LRG) of the President's National Security Telecommunications Advisory Committee (NSTAC) to consider whether industry's adherence to a proposed Services Planning Process Model and its implementation of the NRIC's recommendations concerning National Services would enhance the reliability and interoperability of NS/EP telecommunications.

3.0 DISCUSSION

The LRG's analysis of the NRIC's recommendations found that NS/EP telecommunications services could benefit significantly from industry's adherence to the Services Planning Process Model and to the NRIC's recommendations on National Services. The Services Planning Process Model was developed by the NRIC in response to that body's earlier identification of a number of key issues affecting coordinated telecommunications network planning activities. See Figure 1 (appendix A). Those issues included the need to—

- Identify the differences between national and regional services planning
- Identify the differences between network architecture planning and network implementation
- Examine the transition of architectures, products, and services from a proprietary to a public status
- Determine the kinds of service planning activities of existing industry fora
- Evaluate the effects of protecting competitive information on planning and designing services
- Examine timing issues relative to matching the availability of network products and services with user and vendor needs
- Develop a recommendation on the FCC's role in coordinated network planning.⁴

The model depicts a succession of National Services planning, design, and implementation activities that could balance industry's need to keep certain information proprietary with the need

³ NRIC, *Network Interoperability: The Key to Competition* (July 15, 1997).

⁴ *NRIC Report*, section 4 (Interoperability Planning).

to ensure that industry cooperation is maintained throughout this process. Specifically, in the model's "open forum" activities, participants (such as the FCC, service providers, users, vendors, and interest groups) provide input to an industry consensus forum while that forum (1) defines National Service requirements, (2) develops standards, and (3) documents requirements. National Services planning subsequently is completed when (4) industry manufacturers build and offer products based on readily available requirements documentation, and, finally, (5) service providers implement the services. These two final steps involve individual service providers alone or individual service providers and their chosen vendor(s). Steps 4 and 5 are generally performed as "closed forum" activities not open to outside participation. However, the model does include a feedback loop mechanism to facilitate industry's cooperation during the transition between planning steps and "closed forum" and "open forum" activities.⁵

The Services Planning Process Model formed the basis for the NRIC's recommendations regarding National Services. (See appendix B for the complete list of recommendations.) The NRIC recommended that a future National Services planning effort, among other things, should—

- Compel the FCC to develop a short list of National Services and require that no telecommunications service providers make any system wide changes that would cause a subscriber to lose such services unless those changes were a product of the services planning process and allow the customer to maintain uninterrupted service⁶
- Begin with the development of a National Service definition providing feature service characteristics, including geographic (e.g., nationwide) and service provider scope (e.g., all local exchange or cellular carriers); backwards compatibility requirements; and the extent of interconnection and interoperability required for each service⁷
- Function as part of the industry consensus process to accomplish many of the functions of a Federal advisory committee, though not be formally impaneled as such⁸
- Be monitored by the FCC to ensure that interoperability is maintained during National Services development.⁹

The LRG realizes that the National Services planning process proposed by the NRIC potentially could serve as an effective means for promoting NS/EP telecommunications service requirements. Specifically, the process can do this by helping ensure that these services will be reliable, interoperable, and available on a widespread basis during crisis situations. The LRG also realizes that efforts to define NS/EP services and/or relevant standards as National Services will depend on telecommunications industry members' cooperation. These efforts additionally will

⁵ *NRIC Report*, section 4 (Interoperability Planning).

⁶ *NRIC Report*, section 7.1.2.2.

⁷ *NRIC Report*, section 4.2.2.1 (Service Definition for National Services).

⁸ *NRIC Report*, section 4.2.2.2 (Participation and Activities in Planning for National Services).

⁹ *NRIC Report*, section 4.2.2.5 (FCC Services Planning Oversight).

necessitate industry's close cooperation with relevant Government organizations (e.g., the National Communications System [NCS]), telecommunications service users, and interest groups. This understanding is consistent with the NRIC's advice that National Services planning be led by a field of industry participants, perhaps through an industry forum such as the Alliance for Telecommunications Industry Solutions (ATIS).¹⁰ The LRG's observations also are compatible with the NRIC's recommendation that planning efforts conducted through the industry consensus process include the participation of telecommunications services users and anyone else with a vested interest in telecommunications products or services.¹¹ Given that the NCS is a "focal point" for joint industry-Government NS/EP telecommunications planning (pursuant to Executive Order 12472), NCS participation in this process on behalf of its member organizations is both desirable and appropriate.¹²

4.0 CONCLUSION

To positively affect the reliability and interoperability of NS/EP communications, the NRIC's recommendations regarding National Services should be implemented. Moreover, if the proposed National Services planning process is to be successful, active participation by industry and other stakeholders will be critical. In conjunction with these activities, it is important to secure the FCC's support for end-user organization and interest group participation in the National Services planning process and to coordinate with industry consensus groups, such as ATIS, to assure its participation in this planning process. Such action would be consonant with FCC Chairman Reed Hundt's recent statement that the next NRIC will need to work closely with groups like the NSTAC in order to successfully meet the challenges posed to network reliability and interoperability by new technologies.¹³ IES action in the areas discussed below would provide a timely and effective contribution to ensuring that NS/EP issues are considered in future National Services planning and implementation efforts.

4.1 Recommendation to the IES

The LRG recommends the following:

- The IES should continue to assess the development of the NRIC recommendations regarding National Services
- The IES should recommend that the Office of the Manager, NCS play an active role in the National Services planning process on behalf of the NS/EP community

¹⁰ *NRIC Report*, sections 4.2.2.2 (Participation and Activities in Planning for National Services), 4.7.2.2 (National Services [Mandated or Voluntary]), 4.7.2.3 (Issue Resolution).

¹¹ *NRIC Report*, section 4.2.2.2 (Participation and Activities in Planning for National Services).

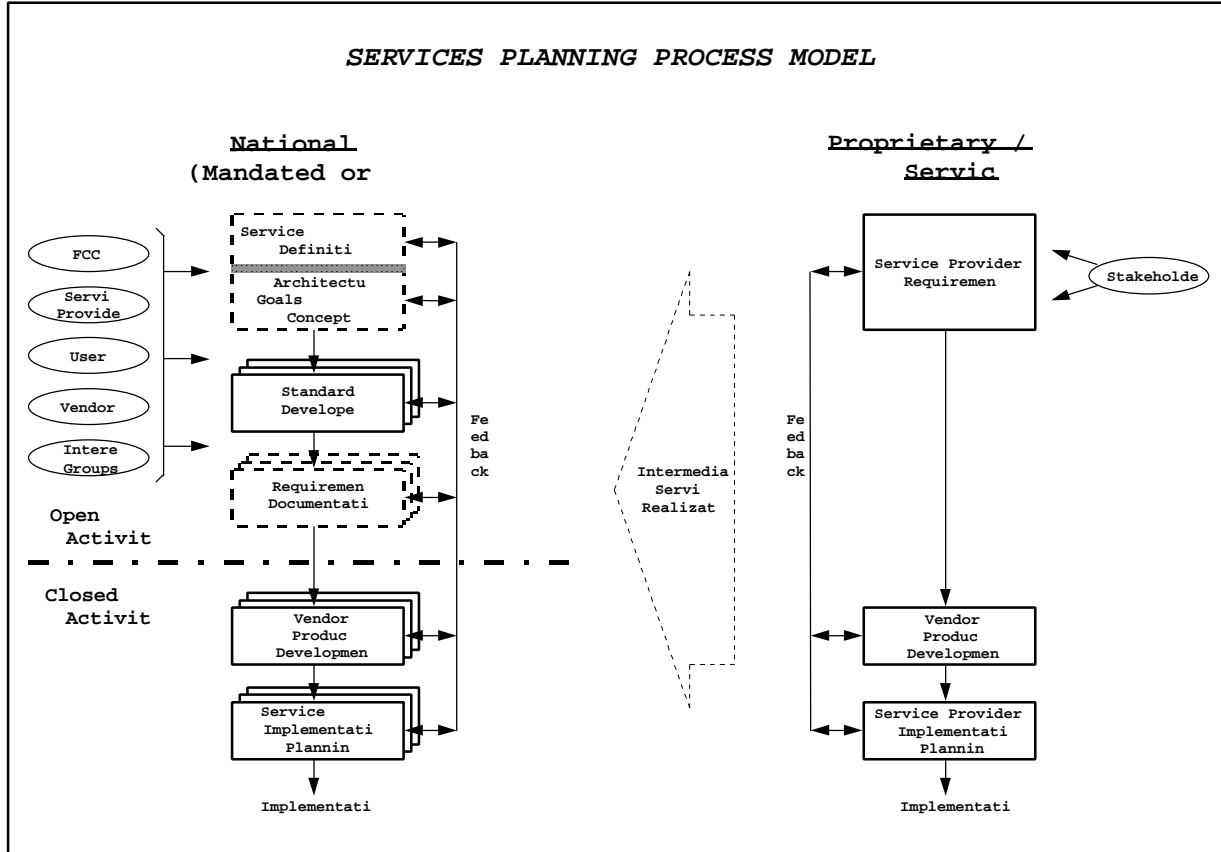
¹² Section 1(d)(1), Executive Order 12472, "Assignment of National Security and Emergency Preparedness Telecommunications Functions" (April 5, 1984).

¹³ See speech of FCC Chairman Reed E. Hundt, "Avoiding Digital Disruptions," to the International Engineering Consortium Network Reliability and Interoperability Comforum, Reston, Virginia (September 16, 1997).

- The IES should task the appropriate IES subgroups to monitor the NRIC's activities for their relevance to NS/EP telecommunications issues and their cost implications.

APPENDIX A

Figure 1. Services Planning Process Model



APPENDIX B

**Network Reliability and Interoperability Council Recommendations
Concerning National Services**

4.2.2.1 Service Definition for National Services

The process for National Services planning should begin with the development of a service definition which provides the feature characteristics of the service. Included in the definition are details on the geographic scope as well as service provider scope of the service. The intent of geographic scope is obvious, but service provider scope can vary widely. Some services may be mandated for a particular segment, e.g., all LECs, but another segment, e.g., cellular, may not be required to offer the capability. A major point, however, is that the service definition should include information that will permit network participants that may want to provide a service to be able to, regardless of whether they may be initially obligated to do so by regulatory fiat. It also includes backwards compatibility requirements and the extent of interconnection and interoperability required for the service. As to level of detail, the service definition needs to be sufficiently specific to provide a planning basis that identifies all of the characteristics that must be achieved in practice as a result of completion of the implementation process.

4.2.2.2 Participation and Activities in Planning for National Services

The planning for National Services, like the planning for Network Architectures (see 4.1.2.1), specifically Service Requirements/Definitions as shown on the Services Planning Process Model (Figure 1), should be performed by a field of industry participants that includes, but is not limited to, service providers or their representatives, equipment suppliers, regulatory bodies, industry consultants, users, interest groups and anyone with a vested interest in telecommunications products or services. Additionally, since the ability to comply with network reliability obligations and interconnectivity requirements and offer nondiscriminatory accessibility hinges on such participation, mandatory participation should be encouraged.

The proposed new environment presented in the Telecommunications Act of 1996, in regard to National Services planning, must fairly take into account all of the issues involved in the deployment of services on a widespread basis. Provisions must be made for functions known to be required such as specification development, trials and testing, and large scale interoperability testing when necessary. Effects of new services on support systems and the requirement that new network functions and services must not compromise the utility of existing services or network reliability must be established.

National Services planning should make use of the currently available structural resources of the telecommunications industry and develop one additional function that would provide an overall coordination capability for the management of both planning and coordination activities. This new function should have the following characteristics:

1. The National Services planning and coordination function should be organized as part of the industry consensus process. It should accomplish many of the functions of a federal advisory committee, but should not be formally impaneled as such.
2. Each National Service should have its own dedicated planning and coordination activity, managed by a service-specific group.

3. A specific group of industry experts should be assigned by industry entities to populate each service-specific planning and coordination function.
4. The planning and coordination function should serve as a voluntary industry management resource, acting on behalf of the industry and its regulators.
5. Each group will utilize resources in the industry necessary to complete all of the work necessary to accomplish successful service introduction.
6. The management activities can be disbanded upon successful service introduction continued in a maintenance mode. National Services must be maintained as such. An example is expansion of 800 Service to include the 888 code (877 and additional expansions in the future will require management and coordination in the same manner as did the initial deployment of 800 Service).

It is clear that not every conceivable function that might be required is currently active. What is available within the ANSI-accredited structure and the industry consensus forum structure are all of the basic structural resources needed. If a new standard is required, and an ANSI-accredited activity is warranted, it can be accomplished in an existing forum or a new one can be initiated under the existing structure. If new issues requiring industry consensus arise, either existing structures can be utilized or new ones developed.

4.2.2.3 National Services Planning and Network Architecture Planning Linkage

National Services planning and Network Architectural planning activities need to be closely coordinated and interactive. Early in the planning process, the necessary architectural resources must be identified. From that, assessments can be made as to the utility of existing architectural assets, in order that effective and timely planning may begin early for enhancements to existing resources or additional resources identified as may be required.

4.2.2.4 Feedback Loops

Both processes that make up the SPPM, the Planning for National Services and the Planning for Proprietary/Regional Services, need to provide information to and feedback from all service providers that are affected in order that they may accomplish the necessary activities and acquisitions in their portions of the network on a known and reasonable schedule.

4.2.2.5 FCC Services Planning Oversight

The FCC should oversee the planning of National Services as recommended in Section 4.7.2 of this report. For the planning of Proprietary/Regional Services, the process will continue to be outside of the Commission's oversight until and unless, formal action occurs to change such services to National Services, with the obvious exception that any Proprietary/Regional Service structure cannot interfere with or defeat the intent of any service that is national in scope. In such

cases, the Commission could well take action as necessary to prevent interference, but would still not play an affirmative role in planning the elements of a sub-national service.

4.4.2.1 National Services and Products Forum

For National Services and Products, a new Forum should be established as per [NRIC report] recommendation 4.2.2.2 (Participation and Activities in Planning for National Services). Moreover, ATIS, or other telecommunications industry committees or organizations, should develop a proposal, for industry review, for the establishment and management of such a forum.

4.4.2.2 Network Architecture Planning Activities Forum

Network Architecture planning activities as described in [NRIC report] recommendation 4.1.2.3 (Activities Considered Part of Planning Network Architectures), should be pursued with the newly formed Network Interconnectivity/Architecture (NIA) Committee. To accomplish this, the chair of the NIA should develop a proposal, for industry review, to add the management of Network Architecture Planning activities as an additional functional area to their Committee's responsibility.

Additionally, because of the required close working relationship between both a National Services and Products Forum and a Network Architecture Planning Activities Forum, if the outcome results in two separate forums, there should be a requirement in place that they be managed under a common "umbrella" organization to insure the requisite integration of the individual activities is accomplished.

4.5.2.2 National Services (Mandated or Voluntary)

As shown on the Services Planning Process Model (Figure 1), the interaction and sharing of information between telecommunications service providers, vendors, users, interest groups and regulatory agencies is necessary for the efficient development of National Services (Mandated or Voluntary) (see 4.2.2.2 [of the NRIC report]). The Requirements Documentation activity of the SPPM for National Services will specify, along with a number of other outputs, the appropriate interface requirements for the product or service providing each telecommunications service provider and vendor the means to understand the interoperability issues involved. Telecommunication vendors are then able to develop proprietary technical specifications that are required for their equipment. Such vendor-specific implementations may be considered proprietary but can still be capable of meeting interoperability and interconnectivity requirements if there is strict adherence to the national specifications and requirements.

4.7.2.2 National Services (Mandated or Voluntary)

The role of the federal government in monitoring network planning in the telecommunications industry should be that of oversight. The FCC should monitor telecommunications Standards Forums (Accredited and Consensus) activities, as recommended by Focus Group 2, to ensure that interoperability is maintained as a goal during the development of National Services and/or Products. This can be accomplished by advising the FCC of the industry forum activities during the early stages of National Services definition. See Section 9.4 [of the NRIC report].

4.7.2.3 Issue Resolution

The FCC should work cooperatively with the industry processes (e.g., consensus forums, standards bodies, etc.) in order to accomplish key interoperability and reliability objectives. The FCC should respond to industry forum requests for action (issue resolution) that emanate from either the Service Requirements/Definitions or the Architectures Goals/Objectives/Concepts activities of the National Services Planning process and are specific to Section 256 of the Telecommunications Act of 1996, using the most expeditious mechanism available to respond to the industry's needs. A process should be created to allow the industry to escalate such issues directly to the FCC for resolution. The Commission need not take any action, other than their oversight role, unless requested to do so, using the escalation process, by one or more of the industry forums.

7.1.2.2 (No Title)

The Council recommends that the FCC develop a short list of nationally accepted services and require that no telecommunications service provider make any system-wide changes in or extensions to such services that would cause a subscriber to lose such services unless those changes or extensions (1) are the product of the National Planning Process discussed in Section 4 [of the NRIC report] and (2) provide an opportunity to the customer to maintain uninterrupted service.

7.5.2.2 (No Title)

For National Services, a basic level of connectivity must be ensured for each [customer premises equipment]. (See Section 4 [of the NRIC report].) For more local services, competitive features, additional to the basic level of connectivity may be allowed. The NRIC encourages vendors to work with [Telecommunications Industry Association] engineering committees and Committee T1 to develop standards which ensure that each interface provides a basic level of connectivity and interoperability. At this level, the associated standard should be as simple as possible, allow no options and be based on the best available technical solution. Beyond this basic level, options to accommodate new features for the purpose of competition and innovation can be allowed. If vendors are to provide interoperability at this higher level, they would need to agree among themselves on a common set of features and tests, and specify the additional conditions for interoperability.