

NG911 INTEROPERABILITY TASK FORCE

GOVERNANCE MODEL

Section 1.0 Introduction

The goal of the NG911 Interoperability Task Force (“Task Force”) is to promote the development of an effective, efficient and non-cost prohibitive NG911 Testing Program (“Program”) that promotes standards conformance and interoperability of NG911 components, systems, and services. This goal aligns with the broad vision of the 911 community, which is to create an NG911 ecosystem that supports secure, end-to-end interoperability and helps to facilitate more effective and resilient emergency response.

The Program is expected to perform several interrelated functions including: (1) Promote a more uniform interpretation of NG911 standards; (2) Develop open-source testing tools that establish a reference test for NG911 products, services, and implementations; (3) Develop and manage a standards conformance and interoperability testing and certification program; and (4) Promote the work of the Program and publish the results of NG911 testing.

The Program will be established as a “stakeholder-led” program operated by both private and public sector representatives from the 911 community. It is not intended to be under the auspices of the Federal Government, though participation by relevant Federal agencies is welcomed. The success of the Program relies substantially on the creation of an effective governance framework to guide its implementation and ongoing operations. The NG911 Interoperability Task Force Governance Committee (“Committee”) has been tasked with making recommendations regarding such a framework including whether to use an existing Governance Structure for program management or whether to establish a new one. This document outlines the Governance Model that the Committee believes should be used in determining the most appropriate Governance Structure.

Section 1.1 Use of Normative Language

This document uses normative language that is typically used in technical standards documentation (see, e.g., IETF RFC 2119). Specifically, UPPER CASE qualifiers are used to indicate special significance beyond normal use. For example, this document uses “MUST” to indicate a requirement that the Committee believes should be an absolute, uses “SHOULD” to indicate a recommended requirement, and uses “MAY” to indicate a requirement that should be optional.

Section 2.0 Attributes of Effective Governance

Effective governance requires the Program to satisfy several principles or characteristics.

Inclusive: The effectiveness of our nation’s NG911 systems impacts a variety of individuals including those that call 911 to seek help, those that answer those calls, and those emergency responders dispatched to render aid. To effectively test conformance to NG911 standards and interoperability of NG911 systems, it is important that the Program is led by stakeholders that have experience with NG911 standards and technologies, an awareness of the importance of interoperability, and a commitment to further the development of an effective NG911 Testing Program. Each of these key stakeholders **MUST** be represented in the management and oversight of the Program (e.g., Executive Board). Efforts **SHOULD** also be made to ensure that the Governance Structure promotes goals of diversity and equity to represent the interests of all communities and improve NG911 accessibility.

Accountable: Accountability is crucial to good governance. Individuals tasked with making decisions about the management of the Program **MUST** demonstrate accountability, not only to the stakeholder group they represent, but also the 911 community of interest in their pursuit of the broader goal of promoting effective, interoperable, emergency communications.

Consensus-Oriented: Good governance requires securing agreement from a diverse group of individuals with different needs and perspectives. The Program **SHOULD** seek to deliver a broad consensus that serves the best interests of all affected stakeholders and not simply to satisfy a majority on the Executive Board. Consequently, an effort **SHOULD** be made to seek consensus whenever possible. The Program **MAY** resolve issues by majority vote where consensus does not exist.

Transparent/Ethical: The Program **MUST** be transparent and ethical in its dealings. Records, processes, and decisions **MUST** be transparent, and all information related to the operations of the Program **MUST** be made available in a timely and accessible manner, not only to all Executive Board members but to other stakeholders and the public at large. While much of the work of the Program is expected to be technical in nature, efforts **SHOULD** be made to communicate with Board Members, stakeholders, and the public at large in a manner that is clearly understood and avoids the use of jargon whenever possible.

Independent: Executive Board members **MUST** be selected based on their ability to provide independent judgment, and individuals serving on the Executive Board **MUST** not be compensated or receive any other personal benefit because of their participation. While the Program will need to have a close connection to the NG911 standards development process, it **SHOULD** operate in a manner that is independent of that process.

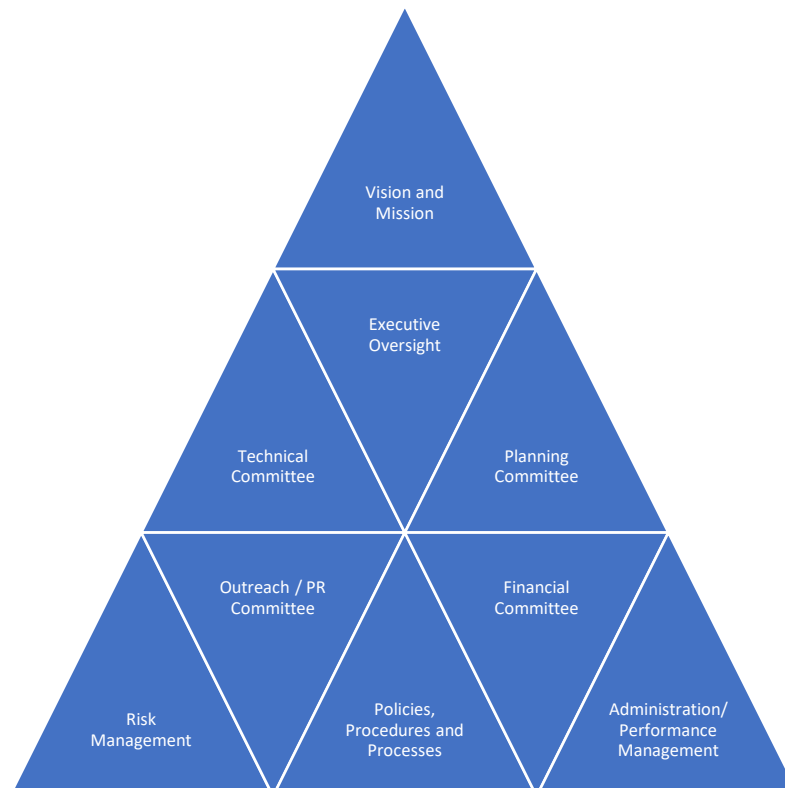
Effective/Responsive: Given the importance of NG911 standards conformance and interoperability to the ever-changing emergency response ecosystem, the Program **MUST** operate effectively and efficiently. This **MUST** include a strategic planning process that is agile in responding to technical, operational, and market changes and includes processes to evaluate program performance and manage risk.

Pro-Competitive: The Program MUST be operated in a procompetitive manner and MUST treat all vendors and service providers, whether existing or new entrants, in a fair and unbiased manner.

Section 3.0 Governance Framework

There are several key components of an effective governance framework. It MUST include a clearly defined vision and mission that aligns with that of the Public Safety community with which it is intended to work. As a stakeholder-driven initiative, it MUST be guided by an Executive Board comprised of leaders from organizations that represent key stakeholders in emergency response, with support from other individuals serving on various committees. Policies, procedures, and processes MUST be defined to align with the Program’s Vision and Mission and the scope of desired testing. Finances, risk, and change MUST be carefully managed. Figure 1 illustrates an effective governance framework that the Committee believes SHOULD provide the basis for the NG911 Testing Program.

Figure 1. An Effective Governance Framework



Section 3.1 Vision and Mission

Any Governance Structure, to be effective, **MUST** have a vision and mission that are clearly articulated. Based on the direction provided by the NG911 Interoperability Task Force Steering Committee (“Steering Committee”), the Vision and Mission can be represented as:

Vision

An NG911 ecosystem that facilitates timely, effective, and efficient emergency response through standards conformance and end-to-end interoperability of NG911 components, systems, and services.

Mission

- Promote uniform interpretation of NG911 standards and implementations consistent with those standards.
- Develop and provide open-source testing tools that establish a reference test for NG911 products, services, and implementations.
- Develop and manage a standards conformance and interoperability testing and certification program.
- Foster a cost-effective, revenue-neutral, healthy and competitive marketplace for NG911 systems and solutions.
- Publicize the work of the Program and the result of NG911 testing to accelerate adoption of interoperable solutions and services by public safety.

Section 3.2 Executive Oversight

Management of the Program **MUST** be overseen by an Executive Board that represents the interests of affected stakeholders. Representation on the Executive Board **MUST** satisfy the following overarching principles:

- The Executive Board **MUST** include representatives of all relevant stakeholder groups, with each representative having a vote in the Board’s decisions. Stakeholders chosen for the Executive Board **MUST** have direct relevancy to the Mission of the Program.
- Stakeholder representation on the Executive Board (e.g., number of seats) **SHOULD** be commensurate with the relative interests and expertise of the stakeholders and reflective of those who should have the greatest decision-making authority (i.e., 911 authorities).
- The Executive Board **SHOULD** be large enough to ensure all stakeholder groups are included, while small enough to ensure its effective operations.
- The Executive Board **SHOULD** include an odd number of members to reduce the potential for a tie vote on any Board decisions.

- The Executive Board **MUST** include individuals that represent broad organizations rather than individual agencies/interests (e.g., a representative from a law enforcement association rather than an individual police or sheriff department). Some seats **MUST** be reserved for specific organizations (i.e., NENA, NASNA, APCO), while other seats are reserved for certain categories of stakeholders.
- The Executive Board **MUST** include representatives of industry. However, care **MUST** be taken to ensure that all industry interests are fairly represented and there is no bias towards one company or groups of interests over any other.
- Federal Government agencies (e.g., NHTSA, DHS, DoD, NTIA, FCC) **MUST** be represented on the Executive Board and **SHOULD** participate in an advisory capacity and without a vote.

Establishing an Executive Board that conforms to these overarching principles will help to ensure that the Program satisfies the attributes of effective governance. For example, an Executive Board comprised of all relevant stakeholders will ensure it is “inclusive,” while assigning seats to individuals that represent national organizations will help to ensure accountability.

To include industry representatives on the Executive Board in a fair and unbiased manner, consideration **SHOULD** be given to the use of an “Industry Advisory Committee” or “IAC”. Such a committee could include a wide variety of companies and industry interests, and thus, would ensure that all industry players have a voice in the process. Representation on the Executive Board, however, would be limited to a few individuals that represent the interests of the entire IAC. For example, one IAC representative might represent the interests of originating service providers, while another might represent the interests of NG911 service providers. To ensure fairness, it may be prudent to restrict those seats to individuals from relevant industry associations, rather than individual companies.

Figure 2 provides a good example of an Executive Board that meets each of the overarching principles that have been identified. This example is provided for illustrative purposes only and does not represent a requirement that the Governance Committee believes **MUST** be satisfied.

Figure 2: Example of Executive Board

Executive Board Seat Designation	Status
NENA Representative	Voting
NASNA Representative	Voting
APCO Representative	Voting
Other Interoperability Representative ¹	Voting
State 911 Authority Representative ²	Voting
Local 911 Authority Representative ²	Voting
Sheriff Representative ³	Voting
Police Representative ³	Voting
Fire Representative ³	Voting
EMS Representative ³	Voting
State Government Representative ⁴	Voting
Local Government Representative ⁴	Voting
Organization rep. Disability Community ⁵	Voting
Organization rep. Citizens/Consumers ⁶	Voting
Industry Representative – e.g., OSPs ⁷	Voting
Industry Representative – e.g., NG911 ⁷	Voting
iCERT Representative	Voting
SDO Representative ⁸	Non-Voting
NHTSA Representative	Non-Voting
DHS Representative	Non-Voting
DoD Representative	Non-Voting
NTIA Representative	Non-Voting
FCC Representative	Non-Voting
Total Seats	22 (16 voting)

Notes:

¹ This representative **MUST** represent the interests of other organizations involved in the advancement of NG911 interoperability (e.g., NIOC).

² These representatives **SHOULD** represent the broad interests of state and local 911 authorities but **MAY** represent a specific state or local government agency.

³ These representatives **MUST** be individuals representing a national organization that represents a specific discipline (e.g., an individual representing the National Sheriffs Association or International Association of Fire Chiefs).

⁴ These representatives **MUST** be individuals representing a national organization that represents their stakeholder group (e.g., National Association of Governors or National Association of Counties).

⁵ This representative **MUST** be an individual representing the interests of the disability community and **SHOULD** be a representative from a national organization.

⁶This representative **MUST** be an individual representing the interests of general consumers and **SHOULD** be a representative from a national organization.

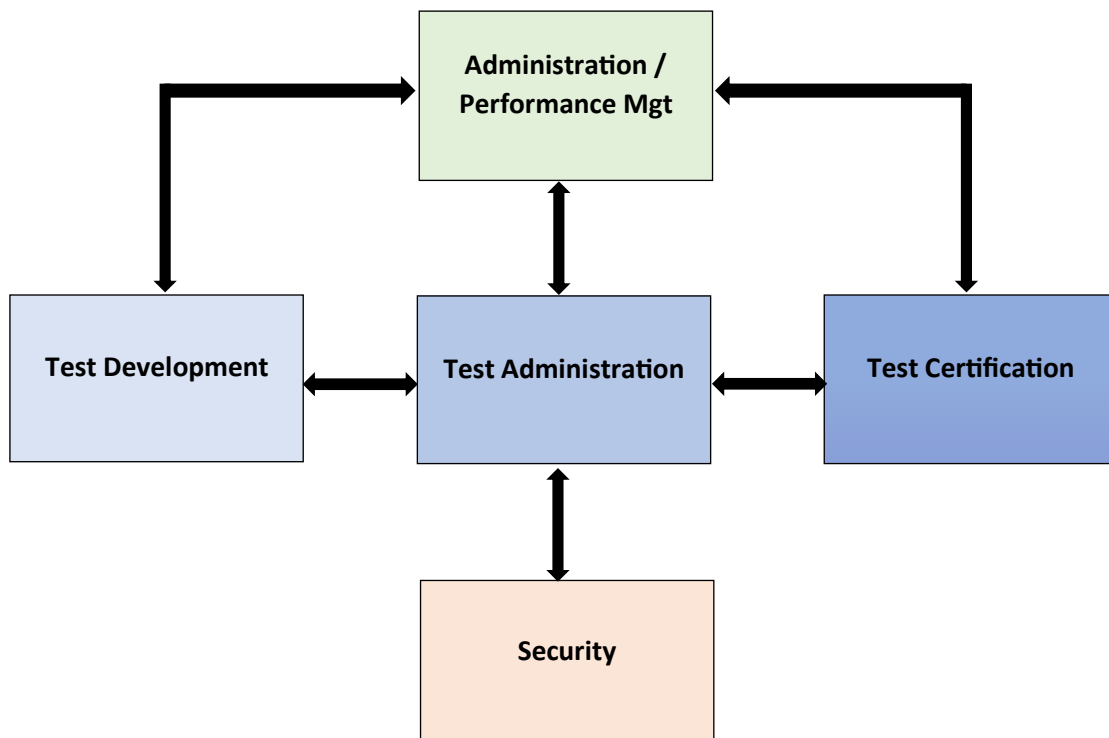
⁷ Industry representatives **MUST** represent the interests of a wide variety of industry interests; Industry **MAY** be represented through an Industry Advisory Committee.

⁸ The standards development organization (SDO) representative **SHOULD** come from an SDO that is not otherwise represented on the Board, i.e., not NENA or APCO. (ATIS is preferred).

Section 3.3 Program Functions

Effective management of the Program will require the Executive Board to perform or oversee various functions important to the development, administration, and certification of various tests associated with NG911 components, systems, and services. Efforts will be required to ensure the quality of the Program is regularly maintained, modifications to test procedures are incorporated as needed, and the testing process is fully secure. Figure 3 provides a broad illustration of the Program’s various functions.

Figure 3. Program Functions



Test Development, Administration & Certification

The Program MUST oversee activities related to the development of required tests, administration of tests by certified testing laboratories, and certification of test results in accordance with Program policies.

Test Development MUST be a core function of the Program. Currently, the Task Force is working to develop testing requirements through its Technical Subcommittee and in cooperation with Texas A&M University ITEC (“TAMU”). These tests are expected to include those required to demonstrate conformance to applicable NG911 standards, as well as those required to demonstrate interoperability. Even if the Technical Committee and TAMU were to complete their work prior to the establishment of the Program under a new Governance Structure, continued test development work would still be required as NG911 standards evolve and as operational needs change. Test scripts and methods must be made available for free to those that develop solutions for NG911 market.

Test Administration involves the efficient, effective, and non cost prohibitive performance of required tests by certified test laboratories in accordance with established criteria, and it MUST be a core function of the Program. Currently, the initial test laboratory is expected to be established by TAMU. However, the Program SHOULD include multiple test laboratories to address expected demand for testing services and to ensure effective competition in the delivery of testing services. Test Administration MUST address competitive fairness by ensuring that no NG911 vendor is advantaged or disadvantaged by the way the testing is conducted.

Test Certification involves the attestation that tests have been conducted in accordance with Program policies and test results have been certified. Test Certification MUST be a core function of the Program, MUST be performed by a credible entity, and MUST be performed in a manner that is transparent and unbiased. Based on the guidance of the Steering Committee, it is expected that a Federal Government agency, e.g., DHS Science & Technology, would serve as the NG911 Testing Certification Authority.

Administration / Performance Management

The long-term effectiveness of the Program requires that there be strong administrative oversight of all aspects of the Program. This MUST include regular evaluations of Program performance and adjustments, as necessary. Test development activities, for example, should be regularly assessed to ensure conformance to evolving NG911 standards, and test administration processes should be regularly evaluated for effectiveness. Incorporation of quality control best practices will help to ensure effective performance. Evaluations of the Program’s performance should be documented and communicated publicly along with details of other Program activities.

Security

The Program MUST ensure that testing software is fully secure and the overall test administration process is not manipulated or compromised.

Section 3.4 Committee Structure

To ensure the Executive Board has the required expertise and resources to undertake these functions, it SHOULD establish Committees or Work Groups comprised of individuals with relevant expertise. These committees SHOULD, at a minimum, include a Planning Committee, a Finance Committee, a Communications/Public Relations Committee, and a Technical Committee. While these committees MAY be comprised of any individuals the Executive Board believes will help it achieve its Mission, the first three committees SHOULD be comprised largely of Executive Board members, with additional volunteers or hired contractors added, as necessary. The Technical Committee will likely need a level of expertise that goes beyond that of Executive Board members and SHOULD include volunteers and/or hired contractors with appropriate expertise.

To ensure accountability, transparency, and alignment with the Program’s Mission, all Committees MUST be led by an Executive Board member. Each of the four recommended committees is described briefly below. It can be expected that other committees MAY be required as the Program is implemented and/or as Program objectives change. At this stage, however, the Task Force should not be overly prescriptive in defining which committees are likely to be needed.

Planning Committee – The Planning Committee is responsible for providing, reviewing, and monitoring the strategic direction of the Governing Body. It provides policy and operational guidance to the Executive Board, considering the evolving nature of the 911/NG911 ecosystem and standards environment. Ensuring effective program governance, providing administrative resources to support the Program, and regularly evaluating the performance of the Program are all responsibilities of this committee.

Finance Committee – The Finance Committee is responsible for overseeing the financial management of the Governing Body including developing and implementing its financial policies and procedures. Responsibilities include developing budgets, monitoring financial performance, ensuring financial reports are accurate and complete, and conducting financial audits.

Communications/PR Committee – The Communications and Public Relations Committee is responsible for outreach efforts with various stakeholders, policymakers, government agencies, and media outlets. Its objective is to promote the activities and interests of the Governing Body and the Test Program.

Technical Committee – The Technical Committee is responsible for developing and/or assisting others to develop the testing tools, scripts, procedures, etc. necessary to support the development and operation of an NG911 Test Program. It is also responsible for reviewing changes to technical standards and operational procedures and recommending changes to the NG911 Test Program that may be warranted by such changes.

Section 3.5 Policies, Processes, and Procedures

Effective management will require that the Program establish policies, processes, and procedures that guide the organization and its activities. For the purposes of this document, we define “policies” as that set of broad rules or guidelines that the organization must follow. We define “processes” and

“procedures” as the instructions for satisfying those policies. For example, a policy might be compliance with a Conflict-of-Interest (COI) requirement, while a related process might be an annual (or other regular) COI review of Board members, and a related procedure might be the details used by the organization to conduct the review, document results, and take actions to address potential conflicts. This document does not address the detailed processes and procedures that the Executive Board might need to establish to ensure effective governance and effective operation of the Program. Rather, it simply notes that such processes and procedures will need to be established. This includes processes and procedures necessary to ensure compliance with established policies, as well as those designed to support other critical Program functions.

There are certain policies that the Governance Committee believes are required to ensure effective governance and support the overall operations of the Program. This includes some that may be legally required. Following is a description of those policies:

Conflict-of-Interest. The Program **MUST** have a Conflict-of-Interest policy, as it is necessary to ensure transparency, ethical behavior, and decisions made by the organization’s Board that are independent of any personal financial interests of its members. Such a policy **MUST** require those with a conflict (or potential conflict) to disclose said conflict and **MUST** prohibit voting Board members from voting on any matter in which there is a conflict.

Financial Management. Financial management involves the planning, directing, and controlling of financial resources. While it has not yet been determined what financial resources the Program will need or have access to, it **MUST** have policies in place to effectively manage those resources. The Program’s Financial Management policies should include details about the roles of individuals responsible for managing financial activities, requirements related to seeking grants or other funding, the authority of the Board or individual members to authorize expenditures and contracts, a requirement to conduct regular financial audits, and other matters related to financial activities.

Document Management. The Program **MUST** have policies addressing the retention, destruction, and protection of various types of documents. This **MUST** include documents related to decisions made by the Board, documents related to financial and legal requirements, and all documentation related to the development, administration, and certification of the testing process, as well as Program activities associated with performance management and quality control. It **SHOULD** also include documentation related to the work of the Program’s various committees including meeting minutes. Of course, all Documentation Management policies **MUST** comply with relevant state and federal laws and regulations.

Licensing. It has been noted that the Program will need to develop open-source testing tools to support testing of NG911 components, systems, and services. As a result, the Program **MUST** have policies addressing licensing of open-source software that supports testing. These licensing policies, as well as associated processes and procedures, **SHOULD** support testing by qualified test labs identified by the Program, as well as testing by individual vendors wishing to conduct pre-certification testing of their own.

Intellectual Property / Confidentiality. The nature of the Program’s work, which involves testing NG911 components, systems, and services, will necessarily involve access to technical and service-related information about a particular vendor’s product that may be proprietary or competitively sensitive. As a result, the Program **MUST** have a policy in place to protect the intellectual property rights of all parties and to ensure the confidential treatment of information, as appropriate. This policy would necessarily intersect with the Program’s Document Management policies.

Public Communications. The Program **MUST** operate in a transparent manner and is expected to communicate information about its activities and performance to the public. As a result, the Program **MUST** establish policies that identify what information is provided and how it is provided, e.g., through a Program website and various social media outlets. The Program’s Public Communications policies will likely intersect with its IP/Confidentiality policies regarding how to handle confidential information, as well as how and when to publicize the results of any vendor-specific testing.

Gift Acceptance. The Program **MUST** establish clear policies on when, how, and under what circumstances it is acceptable for it to accept “gifts” from others. Such a policy will be especially important if the Program intends to rely on financial donations rather than applying for funds through a grant process. If such donations are accepted, the Program **MUST** ensure that they do not have any undue influence over administration of the Program, especially as it relates to testing of a particular vendor’s product.

Whistleblower. A whistleblower policy is a regulatory and compliance issue that’s outlined in the Sarbanes-Oxley Act. It is a requirement for non-profit organizations. Its purpose is to prevent retaliation against individuals who report illegal or dishonest behavior. The Program **MUST** establish a whistleblower policy.

Code of Conduct. A code of conduct policy outlines the appropriate behavior individuals working within the Program are expected to follow when working with their colleagues. Admittedly, such a policy is most applicable in organizations where employees and others interact daily. Nonetheless, the Program **SHOULD** consider establishing such a policy to foster a respectful and collaborative environment.

Section 3.6 Financial Plan and Oversight

The Program **MUST** have a financial plan that ensures the availability of sufficient financial resources to run the Program and **MUST** have processes in place to ensure ongoing oversight of the Program’s financial activities. This includes producing regular financial reports and conducting periodic audits. Ultimately, the responsibility for financial management and oversight falls to the governing body that oversees the Program.

A clear and effective Financial Plan is necessary to ensure accountability and transparency. It **MUST** provide a detailed, multi-year analysis of sources of revenues, anticipated expenses, and projected cash flow. It **MUST** use sound accounting principles including use of a balance sheet, income statement, budgets, etc. It **MUST** include an analysis of the opportunities and challenges that may impact the Program’s finances, strategies for addressing those opportunities and challenges, and a contingency plan for potential risks and uncertainties.

Section 3.7 Legal Issues

The Program will need to comply with any applicable legal requirements, though the extent of those legal requirements may depend on how the Program is organized. The Governance Committee believes that the Program **MUST** be managed by an entity that has been established as a formal legal entity (e.g., 501(c)(3) non-profit organization) as this would be required to be eligible for government grants and would establish greater credibility with the stakeholder community. The Governance Committee also recommends obtaining legal advice from a licensed attorney regarding the types of legal entities best suited to the Program and the legal requirements applicable to each.

Special consideration should be given to legal liability issues. Specifically, does the Program's certification of a 911 component, system, or service as being compliant with a particular standard or other requirements, e.g., interoperability, expose the Program and/or its Executive Board to potential liability if the component, system, or service does not operate as expected in practice? Today, legal statutes exist that provide liability protections to providers of 911 services. However, it is unclear whether those statutes, or others, would provide liability protections for the Program and/or the individuals overseeing it. The Governance Committee recommends that the Steering Committee seek legal advice on whether existing legal statutes (Federal and/or State) provide adequate protections and what actions might need to be taken when establishing the Program to ensure protections from liability.

Section 3.8 Risk Management

The Program **MUST** have processes in place to identify, evaluate, and mitigate risk in various areas. This includes, but may not be limited to, risks associated with finances, technological changes, liability, stakeholder acceptance, and cybersecurity. Each of these is discussed briefly below (listed alphabetically).

Financial Sustainability. The primary financial risk for the Program will be its ability to secure and sustain sufficient funding to manage the Program. Development of a sound financial plan and effective oversight of progress in implementing the plan will help to minimize risk in this area. However, the Program will need to identify contingencies in the event expected sources of funding don't materialize, costs increase above expectations, or both.

Liability. The potential for legal liability associated with certifying an NG911 system that is later found to be deficient in some respect has already been noted. The Program will need to develop a plan for mitigating liability and have a contingency plan for addressing any liability challenge that may arise.

Security. As with any enterprise that is data-intensive, there is always a risk that the Program's data or testing processes will be compromised by cyber-based attacks. The Program will need to have an effective cybersecurity strategy to address those risks.

Stakeholder Acceptance. The Program's success will largely hinge on how well it is accepted by key stakeholders, including the state and local 911 authorities that are expected to rely on test results to support their NG911 implementations and/or upgrades and the NG911 vendors that choose to have their products tested. An effective outreach program will be needed to promote and retain strong stakeholder acceptance.

Technological Changes. The Program will need to stay apprised of the standards development process and any changes in technology relevant to NG911 systems. Processes will need to be established to ensure that any changes can be incorporated quickly into the testing process to avoid significant delays in system implementation.

While the Governance Committee believes it is important for effective risk management processes to be in place, we do not believe that the inability to fully anticipate, minimize and/or avoid risk (fully or in part) should necessarily be reason to abandon efforts to establish the Program, or to terminate the Program once it has begun. There will always be risk. The important point is to manage risks as effectively as possible. Ultimately, it will be the Executive Board that decides how various risks affect the Program.