Federal Communications Commission

445 12th Street SW

Washington, DC 20554

Via: Electronic Comment Filing System (<https://www.fcc.gov/ecfs/>)

Re: PS Docket 18-261 Dated September 5, 2018

October 8, 2018

RedSky Technologies Inc., (RedSky) is grateful for the opportunity to provide our comments to the above referenced Docket. The matter of 9-1-1 for MLTS, specifically the provision of a dispatchable location and notification of a 9-1-1 call in progress have been of a great concern to us and our customers across the United States since our inception in 1999. We hope that our expertise and experience that is on point will be of use to the Commission as they create Rules as a result of both the Laws passed and the adopted Notice of Proposed Rule Making.

In the event that any of our comments require clarification or trigger additional questions, please feel free to contact us at the number or email below.

We are here to serve.

RedSky Technologies, Inc. Comments

*18. Applicability and Obligations. We propose direct dialing requirements for persons engaged*

*in the business of manufacturing, importing, selling, or leasing MLTS, as well as persons engaged in the business of installing, managing, or operating MLTS, that track the obligations in Kari’s Law. We seek comment on these proposed implementing regulations.*

RedSky Technologies Response: These requirements are reasonable and in the public interest. We support the intent of “Kari’s Law” and do not believe that there are any technical impediments to implementing the appropriate dialing plan in modern equipment.

*22. We propose to require that notification at a minimum include the following information: (1) the fact that a 911 call has been made, (2) a valid callback number, and (3) the information about the caller’s location that the MLTS conveys to the PSAP with the call to 911. Thus, under our dispatchable location proposal discussed in Section B.1 below, the notification to the enterprise would include the same dispatchable location information that the PSAP receives. Because the notification will help the enterprise to assist first responders, we believe it makes sense for the recipient of the notification to have the same information as the PSAP (and, indirectly, the first responders dispatched to the scene). In addition, because our proposal assumes the notification would only convey information that already exists for the 911 call, we tentatively conclude that providing the same information would minimize additional burdens. We seek comment on this proposed approach. Are there situations in which the callback or location information conveyed to the PSAP need not be included with an on-site notification? Instead of specifying the content of the notification, should we allow enterprises the flexibility to customize notification as they see fit? Is there an alternative approach that would be superior to the one proposed in terms of costs and benefits?*

RedSky Technologies Response: There are two sides to the matter of notification, MLTS capability to produce and user’s responsibility to consume. With regard to system capabilities, notification today can be originated by either the MLTS itself or a third party provider. We recommend that the Rule allow either approach. The data should include at a minimum: the DID of the calling device, the ELIN, if used associated with the dispatchable location of the device, the dispatchable location, and the date and time of the emergency call. This is the same data that the PSAP receives. With regard to the end user consumption of data, we do not believe that every MLTS user should be required to have access of an emergency call notification. There are many circumstances where there is no one to consume the data and react. For example, a college with no public safety department that occupies fifty (50) buildings. Forcing the college to install and maintain a display in each building that provides the same data the PSAP already has is unnecessary. Out of our entire customer base, where every individual customer has the ability to receive emergency call notifications, only a small percentage takes advantage of the no cost option.

1. *Are there situations in which the callback or location information conveyed to the PSAP need not be included with an on-site notification?* 
   1. No.
2. *Instead of specifying the content of the notification, should we allow enterprises the flexibility to customize notification as they see fit?* 
   1. No, the Commission should set minimum requirements and allow the end user to add additional data.
3. *Is there an alternative approach that would be superior to the one proposed in terms of costs and benefits?*
   1. As stated, notification serves no purpose or benefit if there is no one to consume and utilize the data that can improve the response to the caller. The alternative to the proposed language is to impose the requirement only where it is useful.

*23. Notification Timing and Destination Points. Kari’s Law is silent on when the notification must be provided. We believe that timely notification is essential, because delayed notification could impede coordination between enterprise management or staff and first responders seeking access to the enterprise premises. Therefore, we propose to require that MLTS covered by Kari’s Law be configured so that notification is contemporaneous with the 911 call and does not delay the placement of the call to 911. We seek comment on this proposal, as well as any alternatives.*

RedSky Technologies Response: We believe that the Rule should state that the initiation of the notification be contemporaneous with the connection of the emergency caller to the PSAP.

Notification of an emergency call can take place in many forms including: SMS text message, email, screen display, and conference call. The delivery of the first two are not within the control of the MLTS provider or the MLTS user.

*24. We also seek comment on whether there should be any requirements relating to the location, configuration, or staffing of notification destination points. Kari’s Law provides that the notification may be provided either to a “central location at the facility where the system is installed” or to “another person or organization regardless of location.” We believe this language indicates Congress’s recognition that in the enterprise settings in which MLTS are typically used, providing someone other than the PSAP with notice of the call can be critical to helping first responders gain timely access. At the same time, the language indicates that Congress sought to provide MLTS installers, managers, and operators with broad flexibility in selecting destination points to achieve this goal. For example, the notification could be directed to an on-site security desk that controls access to the premises, to an enterprise employee who may or may not be located at the facility where the MLTS is installed, or to a third party that provides security or safety services from an off-site location. MLTS notification could also be configured to combine these approaches, e.g., by having notifications during business hours go to a central on-site location and off-hours notifications go to an off-site person or organization. We seek comment on additional options for implementing such requirements.*

RedSky Technologies Response: With regard to the end user consumption of notification data, we do not believe that every MLTS user should be required to have access of an emergency call notification let alone staff to receive a notification. There are many circumstances where there is no one to consume the data and react. For example, a college with no public safety department that occupies fifty (50) buildings. Forcing the college to install and maintain a display in each building that provides the same data the PSAP already has is unnecessary. Out of our entire customer base, where every individual customer has the ability to receive emergency call notifications, only a small percentage takes advantage of the no cost option.

*25. We seek comment on whether the Commission should specify any criteria for destination points to ensure that notifications, whether on-site or off-site, are likely to be received by someone able to take appropriate action to facilitate or assist the 911 response. Where on-site notification to a “central location” is provided, should we specify that the destination point must be a location that is normally staffed or, alternatively, a location where on-site staff are likely to hear or see the notification? This would afford the flexibility to direct the on-site notification to a security guard or facilities manager, to personnel who are otherwise employed and can support monitoring notifications as a part of existing duties, or to an on-site location where staff are normally present. We seek comment on this approach. Where notification is provided to a “person or organization regardless of location,” should we require that the person or organization be one that is authorized to provide first responders with access to the location from which the MLTS 911 call originated?51 This would allow notification to be directed to any offsite location, as the statute clearly allows, while furthering the statute’s objective of facilitating access to first responders answering a 911 call. We seek comment on this approach.*

RedSky Technologies Response: With regard to the end user consumption of notification data, we do not believe that every MLTS user should be required to have access of an emergency call notification let alone staff to receive a notification. There are many circumstances where there is no one to consume the data and react. For example, an automobile dealership with five buildings that operate with different hours of operation. Either on site or off site notification may not provide any benefit to either the dealership or first responder. Out of our entire customer base, where every individual customer has the ability to receive emergency call notifications, only a small percentage takes advantage of the no cost option.

*26. We also seek comment on the cost and expected benefit of the above-mentioned options for implementing the notification requirement of Kari’s Law. We note that while some state MLTS statutes include notification requirements, these statutes either expressly provide that the enterprise does not have to make a person available to receive a notification,52 or they are silent on whether the destination point must be staffed.53 We do not believe Congress intended to impose staffing or monitoring requirements that would impose unreasonable costs or limit the flexibility of MLTS installers, managers, and operators to develop efficient and cost-effective notification solutions that are appropriate for the technology they use, such as visual alerts on monitors, audible alarms, text messages, and/or email. Rather than requiring staffing or monitoring, we believe that allowing notifications to be directed to the points where they are likely to be seen or heard by existing staff achieves these goals at a negligible cost above what an MLTS manager would already spend when purchasing an MLTS. We seek comment on this approach. What means are available to reasonably ensure that notification will be timely received by a person with authority to act on it? For example, could alarm companies, security firms, or similar entities create efficiencies by providing 911 notification monitoring for multiple customers? Are there other means to reduce these costs?*

RedSky Technologies Response: RedSky concurs with the Commission’s interpretation of Congressional intent with respect to unreasonable cost and burden in terms of developing technology or required staffing.. The notification technology discussed, already exists. RedSky Technologies offers our customers the ability to receive either a SMS based text message or an email notification whenever an emergency call is placed at no additional charge. The benefit depends on the unique situation at each location. For example, a secured facility like a power generation plant would have a higher benefit of being notified a 9-1-1 call has been made because access could be granted as opposed to a garden center which is open to the public and has good visibility to all areas of the facility.

*27. We also seek comment on how the statute’s notification requirements should be applied to small enterprises. Large enterprises such as hotels, hospitals, and schools frequently have on-site personnel that control access to the premises, and notification of 911 calls to such personnel can improve outcomes by enabling them to assist first responders in accessing the premises and reaching the caller’s location.54 Do the benefits and costs of notification apply differently to small businesses? Small businesses are less likely to have personnel controlling access, and first responders may not need the same level of assistance to reach a 911 caller. At the same time, small enterprises using MLTS may find benefits to notification in addition to access and support. For example, on-site personnel can intervene when 911 is dialed in error, enabling them to contact the PSAP and avoid sending emergency responders to a location that does not require a response.55*

RedSky Technologies Response: With regard to the end user consumption of notification data, we do not believe that every MLTS user should be required to have access of an emergency call notification let alone staff to receive a notification. There are many circumstances where there is no one to consume the data and react.

1. *Do the benefits and costs of notification apply differently to small businesses?*
   1. From our perspective, the entry level costs are the same, independent of building size. Free. SMS notifications are a good solution for small businesses that desire to implement notifications as there are typically no additional costs. The benefits are directly correlated to the ability of the end user to consume notification data and do something with it when received.
2. *Small businesses are less likely to have personnel controlling access, and first responders may not need the same level of assistance to reach a 911 caller. At the same time, small enterprises using MLTS may find benefits to notification in addition to access and support. For example, on-site personnel can intervene when 911 is dialed in error, enabling them to contact the PSAP and avoid sending emergency responders to a location that does not require a response.*
   1. We do not believe that from the time a notification is received and the subject is investigated, there is sufficient time to call 9-1-1 and inform any call taker that a response in not necessary. Please consider that in larger PSAPs, there is no guarantee that the same call taker will receive both calls.

*30. We seek comment on our proposed definition of the term MLTS. Are there other ways in which the Commission should clarify the meaning of MLTS, and if so, what are they? Should we define MLTS to include systems that allow outbound calls to 911 but not inbound calls, as proposed above? How common are such systems? Are 911 calls from such systems identified as outbound-only at the PSAP? Are outbound-only systems ever deployed together with systems that allow two-way calling? If so, how do enterprise managers address the potential for end user confusion over the ability to receive a return call from the PSAP over a particular system?*

RedSky Technologies Response: We believe that the term MLTS should not be limited to any specific type of end point device. Our customers utilize a mix of physical devices including telephones and multi-media devices as well as soft-phones, which include multiple form factors of computing devices running an application that mimics the functionality of a physical device. Our customers also include MLTS that support call center operations. Devices can be programmed for inbound only, outbound only, or two way calling. The end users do not appear to have any confusion regarding dialing capabilities, primarily based on the configuration provided to them. For example, an inbound call taker may not have access to a numeric keypad, instead provided with buttons or virtual keys that present a mechanism to accomplish their job related tasks. In outbound only systems, an extension can be programmed to be answered on a main telephone number if so desired.

1. *Are there other ways in which the Commission should clarify the meaning of MLTS, and if so, what are they?*
   1. Open up the terminology regarding end points as the technology is constantly evolving.
2. *Should we define MLTS to include systems that allow outbound calls to 911 but not inbound calls, as proposed above?* 
   1. Yes.
3. *Are 911 calls from such systems identified as outbound-only at the PSAP?* 
   1. Not to our knowledge. This would be done with a specific Class of Service.
4. *Are outbound-only systems ever deployed together with systems that allow two-way calling?* 
   1. Yes.
5. *If so, how do enterprise managers address the potential for end user confusion over the ability to receive a return call from the PSAP over a particular system?*
   1. We are not sure that the subject of PSAP Callback is part of end user telephone training. If it is, it would typically be done with the personnel or physical positions that would receive a PSAP Callback that is delivered to an endpoint other than the originating caller.

*32. Second, we propose to define “configured” to refer to the settings or configurations implemented for a particular MLTS installation. To meet this definition, the MLTS must be fully capable when installed of dialing 911 directly and providing notification as required under the statute and rules. As with “pre-configured,” an MLTS may be configured to support additional dialing patterns, but manufacturers (and importers, sellers, or lessors) must ensure that they are in addition to the default direct dialing pattern. We seek comment on this proposed definition. Cisco noted in its comments on the ECS NOI that “[c]onfiguring [MLTS] is an entirely different line of business than manufacturing [MLTS].”62 Under our proposed definitions, is the difference between “pre-configuring” an MLTS and “configuring” an MLTS sufficiently clear? If not, how can we clarify the differences?*

RedSky Technologies Response: The manufacturer of a MLTS has the responsibility to provide proscribed and desired capabilities. It is up to the end user or their agent to configure the MLTS to meet their needs. It is incumbent upon the end user to ensure that the MLTS is operating as required, the manufacturer has only provided the capabilities for the end user to do so. This is no different than the manufacturer of a computing device that will be used as a telephone by installing a soft phone application. It is beyond the capabilities of the manufacturer to ensure the device is used as proscribed.

*33. Improvement to the hardware or software of the system. Kari’s Law provides that the notification requirements of the statute apply only if the system can be configured to provide notification “without an improvement to the hardware or software of the system.”63 We propose to define the term “improvement to the hardware or software of the system” to include upgrades to the core systems of an MLTS, as well as substantial upgrades to the software and any software upgrades requiring a significant purchase.64 We seek comment on this proposed definition. Are there types of routine hardware or software changes that should be included in or excluded from the definition? For example, should we clarify that (1) improvements to the hardware of the system do not include the provision of additional extensions or lines,65 and (2) improvements to the software of the system do not include minor software upgrades that are easily achieved or made to improve the security of the system?66 What changes should we consider minor? Should upgrades requiring a significant purchase be determined based on total cost alone, or should we interpret significant to be a relative determination based on the size of the entity making the purchase?*

RedSky Technologies Response: We do not agree with the proposed definition. RedSky offers its customers the ability to meet the notification requirement without any modification to the hardware of any PBX that is capable of configuring the MLTS to route all 9-1-1 calls to a PSTN number other than 9-1-1. To the best of our knowledge, only some “Key Systems” that are electromechanical in nature cannot support this type of configuration. As this technology was developed in the 1930’s, we rarely run across this type of technology. The result is that the vast majority of deployed MLTS systems can meet the envisioned notification requirements today, without any modification of the core systems.

1. *Are there types of routine hardware or software changes that should be included in or excluded from the definition?* 
   1. It is important to note that the notification requirements can be met from almost all MLTS without modification to hardware or software beyond configuration.
2. *For example, should we clarify that (1) improvements to the hardware of the system do not include the provision of additional extensions or lines,65 and (2) improvements to the software of the system do not include minor software upgrades that are easily achieved or made to improve the security of the system?*
   1. No.
3. *What changes should we consider minor?*
   1. Programming configurations.
4. *Should upgrades requiring a significant purchase be determined based on total cost alone, or should we interpret significant to be a relative determination based on the size of the entity making the purchase?* 
   1. It is important to note that the notification requirements can be met from almost all MLTS without modification to hardware or software beyond configuration.

*34. A person engaged in the business of manufacturing, importing, selling, or leasing an MLTS. Kari’s Law prohibits the manufacture or importation for use in the United States, or sale or lease or offer to sell or lease in the United States, of non-compliant MLTS. We tentatively conclude that the meaning of the term “person engaged in the business of manufacturing, importing, selling, or leasing an MLTS” is self-evident, and we do not propose to modify or add to this definition in our rules. We nonetheless seek comment on whether any additional clarification of this term is necessary for implementation or enforcement of Kari’s Law. For instance, should we clarify that a person engaged in the business of manufacturing, importing, selling, or leasing MLTS includes a distributor or reseller of MLTS?*

RedSky Technologies Response: Our comment relates to the use of the word “person”. We believe that it should be replaced with “person or entity’. This approach should be taken through the entire document for consistency.

*35. A person engaged in the business of installing an MLTS. We propose to define a person engaged in the business of installing an MLTS as a person who installs or configures the MLTS or performs other tasks involved in getting the system ready to operate.67 These tasks may include, but are not limited to, establishing the dialing pattern for emergency calls, determining how calls will route to the Public Switched Telephone Network (PSTN), and determining where the MLTS will interface with the PSTN.68 We note that these tasks are performed when the system is initially installed, but they may also be performed on a more or less regular basis by the MLTS operator as the communications needs of the enterprise change. The MLTS installer may be the MLTS manager or a third party acting on behalf of the manager.69 We seek comment on our proposed definition.*

RedSky Technologies Response: Our comment relates to the use of the word “person”. We believe that it should be replaced with “person or entity’. This approach should be taken through the entire document for consistency.

*36. A person engaged in the business of managing an MLTS. We propose to define a person engaged in the business of managing an MLTS as the entity that is responsible for controlling and overseeing implementation of the MLTS after installation. These responsibilities include determining how lines should be distributed (including the adding or moving of lines), assigning and reassigning telephone numbers, and ongoing network configuration. We also propose to interpret the definition to mean that a user of MLTS services that does not own or lease the MLTS or exercise any control over it would not be deemed to be engaged in the business of managing the MLTS. Thus, an enterprise that contracts with a third party to provide a total solution for MLTS, including acquiring the MLTS equipment, configuring the system, completing calls, and providing services such as maintenance and end user support, would not be deemed to be engaged in the business of managing the MLTS unless it exercised actual control over the system. We seek comment on this proposed definition.*

RedSky Technologies Response: We do not agree with this definition. No end user will use an MLTS, no matter how it is provided, without providing direction to the MLTS operator or MLTS manager on its requirements.

*37. A person engaged in the business of operating an MLTS. We propose to define a person engaged in the business of operating an MLTS as an entity responsible for the day-to-day operations of the MLTS. As with our proposed definition of MLTS manager above, we also propose to interpret this term to mean that an MLTS user that does not own, lease, or exercise control over the MLTS would not be deemed to be engaged in the business of operating the MLTS. We seek comment on our proposed definition.*

RedSky Technologies Response: The term operator is not as pertinent as the term and concept of provider. Instead, the terms MLTS provider and MLTS user should be introduced to capture the actual business environment.

*38. We also seek comment on whether there are circumstances in which our proposed definitions of MLTS “manager” or “operator” should extend to enterprise owners. Commenters on the ECS NOI emphasized that some enterprise owners purchase, operate, and maintain their own on-premises telephone systems with PBX equipment, while others enter contractual arrangements with third-party providers of network and hosted services.70 AT&T noted that the decision whether to purchase and implement an MLTS solution lies with the enterprise owner and that the owner “must have a role to play in ensuring that 911 capabilities are functioning as intended.”71 As noted above, we do not believe that Kari’s Law was intended to extend liability to enterprise owners that purchase MLTS services but do not exercise control over the manner in which such services are configured or provided. Nevertheless, there may be instances where enterprise owners purchase, operate, and maintain their own MLTS systems, or they may exercise active control over the configuration and provision of MLTS by third parties. In such instances, should enterprise owners be deemed to be MLTS managers or operators? What indicia of active control should be considered in making this determination?*

RedSky Technologies Response: Our contention is that no MLTS user can be successful in a vacuum. They have to provide their operational requirements to the MLTS provider. These requirements can and must include direction to meet appropriate regulatory requirements. It is incumbent up on the MLTS provider to ensure that the provided system or service is capable of meeting these requirements.

*39. Compliance date. Consistent with the provisions of Kari’s Law,72 we propose that the compliance date for our implementing regulations will be two years from the date of the law’s enactment, i.e., on February 16, 2020. Thus, the proposed direct dialing and notification requirements would apply to MLTS that are manufactured, imported, offered for first sale or lease, first sold or leased, or installed after February 16, 2020. We seek comment on this proposed compliance date for implementing regulations, as well as on alternatives. Those offering alternatives should explain how any proposed date that differs from the one that we propose would be consistent with the statutory language.*

RedSky Technologies Response: We do not believe that this requirement meets the intention of Kari’s Law. We believe that the intention is to prevent the needless loss of life as soon as practicable. The requirement should require any MLTS system that is capable to meet the technical requirements of Kari’s Law either directly without modification of core functionality or through the use of a third party shall do so no later than February 16, 2020.

*41. We also seek comment on whether we should adopt transitional rules to inform consumers of the 911 capabilities of grandfathered MLTS. For example, the state version of Kari’s Law enacted in Texas requires enterprises to place a sticker adjacent to or on non-compliant MLTS devices that provides instruction in English and Spanish on how to call 911.74 Similarly, the Commission’s interconnected VoIP E911 rules require service providers to distribute stickers or labels warning subscribers that E911 service may be limited.75 We seek comment on whether to require MLTS installers, operators, and managers to notify callers how to dial 911 from grandfathered systems, as well as options for doing so and their related costs. In addition, we seek comment on potential sources of statutory authority for such requirements.*

RedSky Technologies Response: Based on technology that is readily available and affordable today, we do not feel that there is any technical or financial reason to grandfather any MLTS user from these requirements with the possible exception of an electromechanical key system.

*42. Enforcement. Under Kari’s Law, the Commission is empowered to enforce the statute under Title V of the Communications Act, “except that section 501 applies only to the extent that such section provides for the punishment of a fine.”76 We seek comment on how the Commission should enforce and provide oversight of the requirements of Kari’s Law. As a general matter, we envision following the framework set forth by the statute. For example, a manufacturer could face enforcement action for offering to sell an MLTS that is not pre-configured to support direct 911 dialing, and an MLTS operator could face enforcement action for operating the system when it was not configured so that users could dial 911 directly. We seek comment on the potential use of this enforcement approach for Kari’s Law.*

RedSky Technologies Response: All levels of the MLTS ecosystem have some responsibility to meet the requirements of Kari’s Law. The MLTS system must be technically capable. The MLTS provider must be able to configure the MLTS to meet the requirements of Kari’s Law. The MLTS user must not request any upstream provider to configure the MLTS not to meet the requirements of Kari’s Law. Enforcement action is appropriate at all levels. Enforcement should be in proportion to the number of provisioned telephone numbers affected by the action.

*43. Additionally, we seek comment on who, or which entities, should bear responsibility for violations of the proposed rules. Verizon comments that there can be great variation in the business relationships between MLTS installers, operators, and managers: “In some cases the service provider and the system operator or vendor will each have a direct relationship with an enterprise customer. In other cases the service provider may be a subcontractor to the system operator, and only provide certain components of the service (such as MPLS circuits for transport or other trunking services), with limited or no say in the design or configuration of the product. Or the reverse may be true—i.e., the enterprise system operator is a subcontractor of the service provider, and the service provider maintains the direct contractual relationship with the customer.”77*

RedSky Technologies Response: Enforcement actions should be taken against the MLTS user or the next closest level of responsibility. For example, it the MLTS manufacturer provides a MLTS that cannot meet the Kari’s Law requirements, they should receive the enforcement action as their lack of compliance prevents all others from meeting the requirements. Continuing along this thought process, if the system is technically capable, but the MLTS provider doesn’t offer the capability, it is out of the MLTS user’s control. If the MLTS providers offers the capability, but the MLTS end user declines or directs non-compliance, the enforcement action should be directed at the MLTS user.

*44. We propose to apply a presumption that the MLTS manager bears ultimate responsibility for compliance with our proposed rules implementing Kari’s Law.78 For example, if an MLTS fails to comply with our proposed rules, the MLTS manager would be presumed to be responsible for that failure, at least in part, unless the manager can rebut that presumption by demonstrating compliance with its obligations under the statute and our proposed rules. We seek comment on this proposal. How should we apportion liability in situations where multiple parties may be responsible for compliance with the statute and our proposed rules? For example, in a case where the MLTS manager contracts with a third party to install and operate an MLTS, but the third party fails to comply with the Commission’s rules, should the MLTS manager and third-party contractor be held jointly or individually responsible?79 What evidence or factors should we look to in apportioning or rebutting a presumption of liability?*

RedSky Technologies Response: Enforcement actions should be taken against the MLTS user or the next closest level of responsibility. For example, it the MLTS manufacturer provides a MLTS that cannot meet the Kari’s Law requirements, they should receive the enforcement action as their lack of compliance prevents all others from meeting the requirements. Continuing along this thought process, if the system is technically capable, but the MLTS provider doesn’t offer the capability, it is out of the MLTS user’s control. If the MLTS providers offers the capability, but the MLTS end user declines or directs non-compliance, the enforcement action should be directed at the MLTS user. Evidence must demonstrate that the MLTS user directed the MLTS provider not to comply with Kari’s Law.

1. *How should we apportion liability in situations where multiple parties may be responsible for compliance with the statute and our proposed rules?* 
   1. If the MLTS manufacturer does not provide a system that can meet the requirements, they bear 100% of the responsibility. If the MLTS manufacturer provides a system that can meet the requirements and the LTS operator chooses not to offer the required services, they should bear 100% of the responsibility. If the MLTS manufacturer and the MLTS operator offer to meet the required services, then the MLTS end user should bear 100% of the responsibility.
2. *For example, in a case where the MLTS manager contracts with a third party to install and operate an MLTS, but the third party fails to comply with the Commission’s rules, should the MLTS manager and third-party contractor be held jointly or individually responsible?79* 
   1. If the MLTS manufacturer does not provide a system that can meet the requirements, they bear 100% of the responsibility. If the MLTS manufacturer provides a system that can meet the requirements and the LTS operator chooses not to offer the required services, they should bear 100% of the responsibility. If the MLTS manufacturer and the MLTS operator offer to meet the required services, then the MLTS end user should bear 100% of the responsibility.
3. *What evidence or factors should we look to in apportioning or rebutting a presumption of liability?*
   1. Determine if the MLTS is meeting the Rules in any other environment. If it is, this is sufficient to demonstrate that it is capable. If the MLTS Operator has contractual or marketing language that offers a service to meet the requirements of the Rule, this is sufficient to demonstrate that the Operator has met their obligations. If the MLTS has documentation directing the MLTS Operator top provision the MLTS to meet the requirements of the Rule, this is sufficient to determine liability.

*45. Complaint Mechanisms and Other Issues. We envision relying on existing Commission complaint mechanisms to facilitate the filing of complaints for potential violations of Kari’s Law. For example, PSAPs and the public could report problems via the Public Safety and Homeland Security Bureau’s Public Safety Support Center or the Commission’s Consumer Complaint Center.80 We seek comment on this.*

RedSky Technologies Response: Assuming appropriate staffing to investigate and response to these submissions, we agree that the existing mechanisms are appropriate.

*46. We also seek comment on whether to modify our equipment authorization rules as they apply to MLTS equipment manufactured after February 16, 2020. Should MLTS applications for equipment authorization under Parts 2, 15, or 68 constitute a representation that such equipment complies with MLTS 911 requirements?81*

RedSky Technologies response: Yes.

*47. Finally, we ask commenters to identify voluntary best practices that can improve the effectiveness of direct dialing and notification for MLTS. For example, the Michigan State 911 Committee has developed guidelines that call for MLTS operators to work directly with their local public safety entities to ensure compliance.82 The Michigan State 911 Committee also “strongly recommend[s] that every MLTS operator work with their local 911 system manager/director to test the ability to dial 911 from the station lines associated with MLTS systems any time an MLTS has been installed or upgraded.”83 We seek comment on this and other recommended or potential best practices that would help enterprises ensure the effectiveness of direct dialing and notification. Are there best practices for the training of on-site emergency personnel and others responsible for the implementation of direct dialing and notification? Similarly, are there best practices for the operation of an on-site or offsite notification point of contact?*

RedSky Technologies Response: There are two aspects to consider. First, the proposed Rule will affect the MLTS ecosystem at all levels in every State and Territory. The true benefit of this approach is that all MLTS users will have equal access and potentially receive equal 9-1-1 service. Second, an outreach program is needed. Guidance must be made available on a national platform. For example, either the FCC website or the 911.gov website. This should be combined with a recommended outreach program through industry associations like ATIS and though conferences like Enterprise Connect. The content should be formulated by consensus of both the originator, i.e. the MLTS community, and the consumer of data, i.e. the public safety community.

*48. According to a Congressional Budget Office analysis, most MLTS systems already are configured to meet the direct dialing and notification requirements of Kari’s Law.84 In evaluating the Senate and House versions of Kari’s Law, Cisco stated that it was not aware of any technological barriers to the implementation of Kari’s Law as applied to MLTS.85 In addition, eight states and some local governments already have laws that require direct dialing for 911 from MLTS.86 For these state and local jurisdictions, our proposed rules would generally not affect the status quo and so would likely have little to no impact from a cost perspective. Moreover, the existence of state-level requirements has driven the manufacture of MLTS equipment that supports 911 direct dialing, much of which may have been marketed and sold in jurisdictions that do not have state or local requirements. We seek comment on the number of MLTS systems currently deployed that do not allow direct dialing of 911 and/or cannot be configured to provide notification of 911 calls to an MLTS manager.*

RedSky Technologies Response: While we do not have information regarding the number of MLTS systems in use that cannot support direct dialing of 9-1-1, we are confident to assert that through the use of a third party, every MLTS in use can meet the proposed notification requirements.

*49. Consistent with Kari’s Law, our proposed rules would apply only with respect to MLTS that are manufactured, imported, offered for first sale or lease, first sold or leased, or installed after February 16, 2020, which means that there should be no immediate costs or stranded investment with respect to existing MLTS or systems that first come into service on or before February 16, 2020. As noted above, many existing, installed MLTS support direct dialing to 911 and notification. Therefore, we tentatively conclude that there will be no immediate costs or benefits associated with meeting the requirements of our rules. For systems coming into service after February 16, 2020, we seek comment on the costs and benefits of satisfying our proposed rules. Are there alternative methods of meeting the requirements of Kari’s Law that would reduce costs and/or increase benefits? Will any barriers exist for those wishing to replace their MLTS after this date that would be costly to overcome? We also seek comment on the expected lifespan of existing MLTS that are not currently able to meet the requirements of our proposed rules. What is the prevalence of such systems today, and what will the expected prevalence of such systems be in 2020? We seek comment on the cost of upgrading to an MLTS that supports the requirements of our proposed rules. Because most of the currently deployed MLTS are capable of being configured to meet the requirements of our rules today, without improvement to the hardware or software of the system, we tentatively conclude that our rules will impose no incremental costs to those who replace their MLTS as they come to the end of their useful life. We seek comment on this tentative conclusion.*

RedSky Technologies Response: We support the FCC’s conclusion that requiring existing MLTS to permit direct dialing on or before February 16th, 2020 will not cause an undue financial burden. The benefits are obvious. Faster response time by first responders solely due to reduced misroutes and having a dispatchable address upon receipt of the 9-1-1 call. In an industry where seconds save lives, there is no humane method to calculate the benefit in terms of monetary value. It is simply the right thing to do.

1. *Are there alternative methods of meeting the requirements of Kari’s Law that would reduce costs and/or increase benefits?*
   1. Yes. RedSky offers a no cost notification service when our E911 Anywhere® call routing service is used.
2. *Will any barriers exist for those wishing to replace their MLTS after this date that would be costly to overcome?* 
   1. No. The cost with or without support to meet the requirements of the Rule should be equivalent.
3. *We also seek comment on the expected lifespan of existing MLTS that are not currently able to meet the requirements of our proposed rules.* 
   1. We believe that the vast majority of existing MLTS can meet the requirements of the Rule without significant modification.

*50. Specifically as to notification, we tentatively conclude that the costs of implementing our proposed requirements will not exceed the value of their benefits. As discussed above, notification can assist MLTS managers in large enterprises in dealing with first responders. Prepared with information about a 911 call, a manager will be able to quickly direct and assist first responders at large enterprises, rather than spending time trying to gather such information. Notification will also benefit the 911 caller and first responders by allowing quicker response time. This analysis is supported by RedSky’s ECS NOI comments, which state that, in its experience, ECS customers that receive these types of notifications “can save 2-3 minutes in emergency response time when a 911 call is made.”87 We also anticipate that notification will provide MLTS managers with opportunities to efficiently notify the PSAP of accidental 911 calls, preserving first responder resources and allowing the MLTS manager to avoid state or municipal fines or penalties for accidental 911 calls.88 We observe that some states already have laws and regulations that require on-site notification for 911 calls from MLTS.89 Similar to our proposed rules, the largest of these states defines notification to include the fact that a 911 call has been made, the caller’s telephone number, and the caller’s location.90 For these state and local jurisdictions, we anticipate that our proposed rules would have minimal impact. Moreover, the existence of state-level requirements has likely driven the manufacture of MLTS equipment that supports notification for 911 calls, much of which may have been marketed and sold in jurisdictions that do not have state or local requirements or to small businesses that are exempted from state or local requirements. We seek comment on our tentative conclusion, as well as particular costs involved in imposing the notification requirement and alternative methods consistent with Kari’s Law that may reduce costs and/or improve benefits. We seek comment on the costs and benefits associated with our proposed definitions.91 We also seek comment on the benefits and costs associated with any additional notification requirements the Commission might adopt, such as requiring grandfathered MLTS to inform consumers of the 911 capabilities of those systems.*

RedSky Technologies Response: We support the FCC’s conclusion that requiring existing MLTS to provide notification of a 9-1-1 call on or before February 16th, 2020 will not cause an undue financial burden. The benefits are obvious. That being said, we wish to reiterate that notification is not pertinent for every MLTS user and therefore, deployment should not be required. The MLTS user should be permitted to determine if a notification system will provide any benefit. The FCC has previously noted that in some environments, there is no one to consume the notification or react to it. Also, with all due respect, we do not believe that the mere existence of a notification that a 9-1-1 call has been made will reduce false 9-1-1 calls or create the ability to call off the response by the recipient of the notification. The NFPA 1221 Standard (2016) states in Section 7.4.2 that *“90 percent of emergency alarm processing shall be completed within 64 seconds and 95 percent of alarm processing shall be completed within 106 seconds.”* If this Standard is met by the PSAP, there is not enough time for the notification recipient to react, investigate, and contact the PSAP to prevent the dispatching of resources.

*54. We propose to proscribe the manufacture, import, sale, or leasing of MLTS in the United States unless the system is pre-configured such that, when properly installed, the dispatchable location of the caller will be conveyed to the PSAP with 911 calls. Further, we propose to proscribe the installation, management, or operation of MLTS in the United States unless the system is configured such that the dispatchable location of the caller will be conveyed to the PSAP with 911 calls. And we propose to apply these proscriptions to the same entities subject to Kari’s Law. We seek comment on these proposals.*

RedSky Technologies Response: It is important to note that in addition to the actual MLTS, incremental systems exist to provide dispatchable location data. We recommend that the Rule incorporate this concept as it will lead to the a quicker and more complete adoption. This approach will also lessen the burden on manufacturers and therefore the cost to the end user.

*55. In its comments to the ECS NOI, NCTA observed that “ECS involves not only the service provider and end user, but also manufacturers and ECS programmers. Coordination and assignment of responsibilities among these ECS functions must be done seamlessly to ensure that 911 services function properly.”93 For this reason, our proposals for dispatchable location parallel the direct dialing and notification requirements of Kari’s Law in that they would apply to the participants in the MLTS marketplace we believe are best positioned to ensure that all installed MLTS are capable of conveying an accurate location to the appropriate PSAP. We seek comment on our approach to addressing the division of responsibilities when deploying and operating MLTS. Should more granular requirements be placed on any of the MLTS market participants to which our proposed rules would apply? Are new rules necessary to ensure that communication service providers (such as fixed telephony, mobile carriers, and interconnected VoIP service providers) that complete 911 calls originating from MLTS convey dispatchable location, or are existing 911 rules sufficient?94 Similarly, are rules needed to ensure that manufacturers and importers of MLTS incorporate capabilities in their products to enable them to convey dispatchable location information? Do standards exist for conveying dispatchable location information from MLTS? If so, should MLTS be required to conform to these standards? How should conformance of MLTS to such rules and standards be demonstrated?*

*56. Defining Dispatchable Location. RAY BAUM’S Act defines “dispatchable location” as “the street address of the calling party, and additional information such as room number, floor number, or similar information necessary to adequately identify the location of the calling party.”95 We note that the statutory definition of dispatchable location is nearly identical to the dispatchable location definition in the Commission’s mobile E911 location accuracy rules.96 Given the substantial similarity between the two definitions, we propose to construe them as functionally identical, aside from the specification of the technological platform to which each definition applies. We seek comment on this proposal.*

RedSky Technologies Response: We support the Commission’s proposal. This removes one of the challenges faced by 9-1-1 call takers, having to consider the source of the call to determine the meaning of the location data.

1. *Should more granular requirements be placed on any of the MLTS market participants to which our proposed rules would apply?* 
   1. No.
2. *Are new rules necessary to ensure that communication service providers (such as fixed telephony, mobile carriers, and interconnected VoIP service providers) that complete 911 calls originating from MLTS convey dispatchable location, or are existing 911 rules sufficient?*
   1. Rules that apply consistently across platform technologies, deployed geography, and user size are required.
3. *Similarly, are rules needed to ensure that manufacturers and importers of MLTS incorporate capabilities in their products to enable them to convey dispatchable location information?*
   1. Yes. These rules should state that the MLTS must natively meet the requirements or be capable of supporting third party solutions to meet the requirements.
4. *Do standards exist for conveying dispatchable location information from MLTS?*
   1. Yes, but they are not enforceable. Also, they do not take into account the evolving technology of end point capabilities i.e dynamic location.
5. *If so, should MLTS be required to conform to these standards?*
   1. The existing Standard is a minimum and does not meet the requirements of the proposed Rule.
6. *How should conformance of MLTS to such rules and standards be demonstrated?*
   1. This belongs at the lowest level of the ecosystem, the MLTS user and the PSAP. Joint certification of functionality of causing a dispatchable location to be generated by the MLTS user and received by the PSAP would be sufficient.

*57. The mobile E911 definition of “dispatchable location” further requires that, when delivering dispatchable location, “[t]he street address of the calling party must be validated and, to the extent possible, corroborated against other location information prior to delivery of dispatchable location information by the CMRS provider to the PSAP.”97 We seek comment on whether we should require similar validation for dispatchable location information associated with MLTS 911 calls. Is there any reason why street address validation would be more difficult or costly for MLTS than for mobile E911?*

RedSky Technologies Response: Not every end point connected to a MLTS has an associated street address. We have customers in the utility and transportation industries that have various facilities located on private service roads, along railroad tracks, or near power generating facilities. In these cases, we have provisioned the dispatchable location as a combination of latitude and longitude and free form text to guide the first responder. The latitude and longitude are validated to be within the service boundaries of a PSAP to ensure proper routing. We utilize the same capabilities for displaying a location as any Phase II capable Wireless PSAP uses to display the location of a cellular 9-1-1 caller. This method does not impose any additional cost to any party. If each location was forced to establish a civic address prior to establishing 9-1-1 service, there would be additional costs in terms of resources on the part of the MLTS user, the addressing authority, and the MSAG or GIS authority.

*58. We also seek comment on whether our rules should further define “additional information” that may be necessary in an MLTS context to “adequately identify the location of the calling party.” In the Indoor Location Fourth Report and Order, the Commission found that the definition of dispatchable location applicable to mobile carriers “strikes the appropriate balance between specificity and flexibility,”98 and therefore does not necessitate further specification of types of location information to be conveyed. We seek comment on applying the same approach for MLTS dispatchable location. We believe MLTS installers, managers, and operators will be able to identify situations in which street address is sufficient for first responders to quickly and accurately find the calling party. We also expect that street address would serve as a dispatchable location for the smallest enterprises. Nonetheless, should we specify the situations in which street address is not sufficient, and more granular location information is needed? For example, NENA’s model federal MLTS legislation generally requires business MLTS to provide location information for each floor of each property served, as well as each 7,000 square feet of workspace beyond the first.99 Several commenters on the ECS NOI supported this approach to providing dispatchable location for MLTS.100 If commenters believe we should specify when more granular information is needed, what should be our criteria for identifying those situations? When more granular information is needed, what elements of location, in addition to room, floor, suite, or apartment number, could be used to locate a 911 caller using MLTS?*

RedSky Technologies Response: We advise our MLTS customers to put themselves in the position of a first responder. If one floor of a four thousand square building is open, with good visibility all around, the first responder should be able to reasonably find the caller. If the floor directly above it is not an open floor plan, but instead contains thirty offices, each with a door that closes, the first responder might have to knock on and open thirty doors to find the caller. Seconds save lives. The point being that the square footage model does not consistently serve the needs public safety. As an alternative, language can state the dispatchable address must ensure the ability to locate the 9-1-1 caller in an efficient manner. This approach allows both the MLTS user and the Authority Having Jurisdiction to cooperate applying a common sense approach.

*59. We agree with TIA that we “should be careful [not] to impose burdensome regulations that would eliminate the robust choices enjoyed by enterprises of all types in today’s marketplace.”101 Accordingly, we do not propose to require implementation of specific location technologies or solutions but rather seek comment on functional requirements that would give participants in the MLTS marketplace flexibility to please remember that MLTS develop dispatchable location solutions.102 We believe that this approach will allow the entities affected by these proposed rules to implement them in a manner that is appropriate in terms of cost, enterprise size, site layout, and technical sophistication. We note that several states already place requirements on MLTS providers to obtain and convey location information that is more detailed than street address alone.103*

RedSky Technologies Response: RedSky supports the Commissions approach noting several important concepts. First, the availability of third party solutions will allow an MLTS manufacturer and MLTS user to meet the intent of the Law. Second, please remember that today’s technology allows user mobility. This functionality allows an end user to maintain MLTS functionality anywhere network connectivity is available. Simply put, whether I am at a coffee shop with free Wi-Fi, a public park with my cellular hot spot providing Wi-Fi, or at home using my cable television provided Wi-Fi, I can use a computing device running a soft telephone client to have full connectivity and functionality as any hard telephone does when connected to a MLTS. The rules around providing a dispatchable address must consider the complete set of technology that has been in use for several years.

*60. Feasibility of Conveying Dispatchable Location from MLTS. We tentatively conclude that it is feasible for 911 calls that originate from MLTS to convey dispatchable location to the appropriate PSAP, as several commenters to the ECS NOI indicate that they are already offering methods for dynamically determining and conveying an MLTS end user’s location.104 We seek comment on this tentative conclusion. We observe that potential dispatchable location solutions for MLTS include solutions that require the customer to identify their own location and solutions that calculate a location by leveraging data available from the 911 caller’s device and the network.105*

RedSky Technologies Response: We concur with the Commission’s conclusions.

*61. We also seek comment on whether additional dispatchable location solutions can be implemented for MLTS. Are there technical elements necessary for supporting dispatchable location that are shared by these solutions? Do technical elements differ across dispatchable location solutions, and if so, how? Are the required technical elements consistent across types of MLTS solutions, including on-premises solutions, hosted cloud solutions, and over-the-top application-based solutions? Are the required technical elements shared by legacy MLTS and IP-based MLTS, and if not, should differing requirements be placed on them? In its comments on the ECS NOI, West Safety observed that “[l]egacy-based solutions may not be able to support E9-1-1 routing for users accessing the ECS remotely.”106 We seek comment on that observation. Should we place differing requirements on premises-based, cloud-based, and over-the-top application-based solutions? Should we require MLTS to convey particular types of location information, such as room number or floor number, when it is available? If an MLTS handles calls initiated by remote users, e.g., off-site workers, should we require it to convey the remote user’s location information?*

RedSky Technologies Response: RedSky has previously submitted to the FCC that there are indeed alternative solutions for providing a dispatchable address to the answering PSAP beyond the proposed “built in” to the MLTS solution described herein. RedSky Technologies was founded in 1999 to do this. As MLTS technologies have evolved over the decades, our products and services have kept pace. Our solutions are available to support one hundred percent of the MLTS systems deployed in the United States through manual location identification in a low cost web based solution, an integrated on premise or cloud based solution for the largest MLTS vendors including: Atos, AVAYA, BroadSoft, Cisco, Genesys, Microsoft, and Ribbon. RedSky technology can provide dispatchable location with every 9-1-1 call to both the legacy 9-1-1 network and any Next Generation 9-1-1 ESINet using our commercially available products and services. In addition, the products and services we above, including our Next Generation 9-1-1 products, have been approved for use within the Department of Defense by the Joint Interoperability Test Command (JITC) and are listed on the Defense Information Systems Agency (DISA) Approved Product List (APL). In our responses to this NRPM, we refer to these solutions as “Third Party Solutions”.

RedSky solutions supports any remote user that meets the following criteria: has access to the internet to login in to a secure RedSky portal; utilizes a physical device or a soft phone application that runs on Windows, MAC, Android, or IoS. In our experience, neither of these requirements are a technical impediment to providing a dispatchable address for remote users. We support a proposed rule that will require all MLTS endpoints to be associated with a dispatchable address for consumption by a PSAP with an associated 9-1-1 call.

There are two technical requirements that the RedSky relies on: first, the MLTS can create an alternative route for 9-1-1 calls in order for emergency calls to be delivered to our service. Second, the MLTS can out pulse the calling party number associated with the device. As this concept is commonly known as either Caller ID or alternatively, ANI. In our experience, neither of these requirements are a technical impediment to providing a dispatchable address for MLTS currently in use, whether large or small in nature.

*62. We seek comment on whether the technical elements necessary for conveying dispatchable location with a 911 call are currently available in MLTS that are deployed today. We observe that several MLTS offered today provide 911 location solutions that are capable of conveying dispatchable location to PSAPs.107 Can currently-deployed MLTS that do not support provision of dispatchable location be upgraded to do so? If they can be upgraded, what would those upgrades entail, and what would they cost? For support of dispatchable location, what technical elements must be present in MLTS-related hardware, such as handsets, the device on which a softphone or voice application is installed, or other elements of the system? Which elements can be supported with updates to software or applications? If some MLTS in use today are not capable of supporting dispatchable location, we seek comment on whether those systems should be exempted from a dispatchable location requirement. For example, should we adopt compliance date provisions that track the provisions of Kari’s Law as discussed above?108 Should we adopt disclosure requirements for grandfathered MLTS that are not subject to the rules? What should such disclosure rules require?*

RedSky Technologies Response: There are two technical criteria that are currently available in the vast majority of existing MLTS that can be configured with minimal cost: re-directing a 9-1-1 call to a different POTS telephone number and include the DID of the calling party. RedSky and others offer a service that accepts a 9-1-1 call and correlates the incoming DID to a dispatchable location that is passed on to the PSAP. According to responses from NENA to the ECS NOI on this subject, the costs were negligible. We offer our E911 Anywhere® service to MLTS customers for $100.00/month that supports 58 dispatchable addresses. No change other than configuration to the core infrastructure is required.

*63. We also seek comment on the steps that an MLTS manager or operator must take, if any, to ensure that dispatchable location is conveyed to the PSAP. What is the most effective, least burdensome means to ensure that this happens? For example, some commenters on the ECS NOI suggest that managers of cloud-based MLTS are in a unique position to administer, maintain, and update location information for the enterprise.109 Should we adopt rules requiring MLTS managers to provision location information for the enterprise to the MLTS operator? To what extent does our legal authority under these new statutes or our existing authority extend to such entities? What information should be initially provisioned and how frequently should we require that information to be updated? What are the costs associated with such provisioning and updating? For situations in which MLTS operators are capable of calculating a dispatchable location by inputting one or more sources of device-generated location data into a location information server, what requirements, if any, should we place on (1) MLTS manufacturers and importers; (2) sellers and lessors; (3) MLTS installers, managers, and operators; and (4) communications service providers to ensure that this information or the resulting dispatchable location information is conveyed to the PSAP?*

RedSky Technologies Response: In any multi-tiered approach, the level closest to the end user has the most accurate device to location data and should be held responsible for the provisioning of data and the final rules should enforce that responsibility. The device to location data should be provisioned in real time as anything else can lead to an improper dispatch. As mentioned herein, the MLTS manufacturer must be required to make the minimum capabilities of 9-1-1 call routing and calling party number assertion available. It then should be up to every level of provider and manager to determine what is appropriate in terms of methodology to provide a dispatchable location associated with every 9-1-1 call.

*64. Although RAY BAUM’S Act directs the Commission to consider rules to ensure that dispatchable location is conveyed with 911 calls, there may be instances where location information that does not meet the definition of dispatchable location could still be useful to PSAPs and first responders, either as supplemental information to validate the dispatchable location or as an alternative in instances where dispatchable location information is not available. We therefore believe that our rules and policies should not preclude -- and in fact should allow and encourage -- potential alternatives to dispatchable location. We seek comment on this view. Could other types of location information (for example, x/y/z coordinates) be conveyed with a 911 call originating from MLTS? If we adopt dispatchable location requirements, should we allow provision of x/y/z/ coordinates or other approaches to conveying location information to be alternatives to dispatchable location? We also seek comment on the usefulness of x/y/z coordinates to PSAPs and first responders for responding to MLTS 911 calls. Are they currently equipped to receive and use such information?*

RedSky Technologies Response: We believe that there are many examples where latitude and longitude are not only useful, but the only location information available. We have utility and other similar industrial customers that have telephones deployed in locations that do not have civic addresses. In these cases, we provision a device telephone number along with a latitude and longitude and location free form text, all of which is delivered to the PSAP using existing technologies.

*65. We also seek comment on whether the National Emergency Address Database (NEAD), the location database being developed by the major mobile carriers to provide dispatchable location for indoor mobile 911 calls, could potentially assist MLTS managers and operators in determining the dispatchable location of MLTS end users. Could MLTS managers and operators leverage the NEAD? What actions, if any, should we take to facilitate access to the NEAD for MLTS managers and operators? What obligations, if any, should be placed on entities that seek to access the NEAD? As it has been contemplated that dispatchable location information from third-party sources will be integrated into the NEAD, we seek comment on whether MLTS managers and operators are positioned to contribute dispatchable location reference points to the database. If they are capable of making such contributions, should they be required to do so as a condition of leveraging the NEAD? Similarly, should they required to contribute to the operating costs of the NEAD as a condition of leveraging it?*

RedSky Technologies Response: The value of NEAD to the MLTS operator is minimal due to the fact that the number of end points connected over Wi-Fi is minimal. For a hard wired end point, there is no ability to poll Wi-Fi access points or Bluetooth beacons. Additionally, within a physical enterprise, the number of outside Wi-Fi access points that are not provided by the enterprise, either owned or outsourced, is minimal. In our office, there are no external access points that can provide a better location in terms of dispatchable address than one RedSky would have provisioned. In terms of an MLTS operator provisioning location data into the NEAD, there are many challenges to be overcome including credentialing, authorization, address validation, upkeep, the ability to delete a location and cost/benefit. If the MLTS cannot use the NEAD to its benefit, there is no reason to contribute. For nomadic enterprise end points, there are other methods of determining a dispatchable location without using the NEAD. Therefore, we do not believe that any entity in the MLTS ecosystem should be compelled to participate in NEAD in any way.

*68. We seek comment on whether it is technically feasible for fixed telephony carriers to convey dispatchable location with a 911 call. In many instances, as noted above, fixed telephony 911 calls from single family homes, feasibility appears to be established because fixed telephony carriers already provide validated street address information to the PSAP and first responders do not typically require additional room or floor level information. We seek comment on the extent to which fixed telephony carriers also provide other information, such as floor level and room number, for 911 calls from multi-story buildings and similar environments. How frequently do fixed telephony 911 calls convey only street addresses where additional information would be needed to locate the caller? What obstacles exist, if any, to fixed telephony carriers conveying dispatchable location to PSAPs? If obstacles exist, how could they be overcome, and at what cost? Could the NEAD or similar databases assist fixed telephony carriers in providing dispatchable location with 911 calls? What obligations, if any, should be placed on fixed telephony carriers that seek to access the NEAD? If so, what steps could the Commission take, if any, to facilitate the use of such databases by fixed telephony providers? Are there any alternatives to dispatchable location that fixed telephony carriers could use to provide in-building location information beyond street addresses, e.g., coordinate-based information?*

RedSky Technologies Response: There are at least two challenges to this concept. First, when a telephone line is connected to a home of any number of stories, internal wiring is beyond the purview of the carrier. Second, typically many end points share the same circuit with no ability to distinguish between them on an outgoing call. We do not think that a fixed telephony carrier will benefit from access to NEAD and therefore should not be required to participate.

*74. Fixed VoIP. With respect to fixed VoIP, we believe it is feasible for 911 calls that originate from interconnected VoIP services to convey dispatchable location to the PSAP, in that the current Registered Location obligations are sufficient for this purpose. In this respect, we note that the Registered Location information that is already conveyed with such calls today typically includes street address information, which should be sufficient for dispatchable location in the case of single family homes and small buildings where the PSAP and first responders do not require additional room or floor level information. In addition, interconnected VoIP providers can also enable customers in multi-story buildings and similar environments to provide room or floor level information as part of the Registered Location when needed. We seek comment on this proposal.*

RedSky Technologies Response: We concur.

*75. Nomadic VoIP. With respect to nomadic VoIP, we seek comment on whether Registered Location satisfies a dispatchable location requirement. In particular, we note that a Registered Location that was recorded when service was initiated is less likely to accurately identify the real-time location of an end user that moves frequently between home, work, and other locations. Is Registered Location a sufficient proxy for dispatchable location in a nomadic environment, where the relevant device is able to prompt the user for an updated location when it has been moved? We seek comment on what technical elements would be required in the end user’s device and/or the service provider’s network to support the provision of real-time dispatchable location as proposed, and the degree to which those technical elements are already in place. For example, as we have noted in the discussion of MLTS location in Section B1 above, there appear to be IP-based solutions currently available for providing MLTS dispatchable location dynamically in buildings, campuses, and similar environments. We seek comment on whether these solutions could also be leveraged by interconnected VoIP providers when their customers call 911 from such environments.*

RedSky Technologies Response: RedSky Technologies and others currently have deployed solutions that track the location within an enterprise programmatically, without user intervention. When the end point is physically off of the enterprise, the user has the ability to self-provision their dispatchable location. This self-provisioned dispatchable location meets the proposed requirements for a dispatchable location. The technology and capabilities vary based on the platform. Windows and MAC based devices typically do not have access to GPS based location. Android and IoS based devices typically have access to GPS data which can form the basis for a dispatchable location with an assist from the user to add specific data like floor and room. The technology available does not necessarily apply to interconnected VoIP providers and their customers. This is due to the nature of the connection and type of end point device. For example, Vonage allows a user to connect a standard POTS end point directly to a physical gateway. There is no mechanism to natively provide an update when using this technology.

*76. We note that in the Registered Location context the burden is on the end user to update the Registered Location whenever the end user moves from one location to another. We seek comment on whether nomadic interconnected VoIP providers have, or can develop in the near term, the means to provide automatic dispatchable location with 911 calls in lieu of conveying the customer’s Registered Location. We believe that automatic provision of location is preferable because end users under stress in emergency situations may have difficulty providing manual updates and the updating process may delay the 911 call or subsequent location and dispatch. Therefore, we seek comment on the degree to which mechanisms exist for interconnected VoIP providers to dynamically determine the location of end users (1) when they are at home or their usual place of work, (2) when they move frequently between multiple locations, and (3) when they are at locations they do not regularly visit. How accurate is the location information acquired in these scenarios, and would it be sufficient to meet the proposed definition of dispatchable location? Could the NEAD assist interconnected VoIP providers with dynamic determination of the location of end users? If so, what steps could the Commission take, if any, to facilitate the use of the NEAD by interconnected VoIP providers? What obligations, if any, should be placed on interconnected VoIP providers that seek to access the NEAD?*

RedSky Technologies Response: RedSky Technologies has developed the technology to support limited end point technologies (Cisco, PolyCom, Yealink) self-reporting a dispatchable location within an enterprise that utilized an interconnected VoIP service provider for line level service. We deploy the same technology to support nomadic soft phone based end points for an interconnected VoIP service provider. We do not envision using NEAD to support the soft phone location determination as it would not benefit all devices equally.

*77. While we prefer to encourage the development of dispatchable location solutions that do not require manual end user updates, we recognize that such solutions may not be feasible or cost-effective in all circumstances. For example, as part of the 911 call session, if real-time dispatchable location information cannot be generated automatically, the VoIP provider may need to send an interactive query to the end user to confirm the location identified by the provider, and to correct the location if needed. To enable interconnected VoIP providers to appropriately balance technical feasibility, functionality, customer impact, and cost, we propose to allow providers flexibility in implementing dispatchable location solutions, and to fall back to Registered Location options when dispatchable location is not feasible. Thus, solutions may include, but are not limited to, determining the customer’s location dynamically, pre-populating a previously-supplied Registered Location based on the network attachment point, or requesting a new Registered Location from the customer when the customer initiates a new connection or attachment to the network. We seek comment on this approach.*

RedSky Technologies Response: We concur as this matches our current deployed solution set.

*78. Finally, we seek comment on any alternative approaches that would achieve the same aims as the proposed rules. Are there mechanisms or best practices for refreshing or validating location information that should be encouraged or required? Are there alternatives to dispatchable location that interconnected VoIP providers could use to provide location information, e.g., coordinate-based information? We seek comment on whether these, or other approaches, would provide the greatest likelihood of conveying an accurate location to the PSAP while minimizing the burdens on the interconnected VoIP service provider and the end user.*

RedSky Technologies Response: Within the Telcordia document on the Location Information Server, the concept of location data refresh is clearly established. This was a big issue in the design of the NEAD as well. To this end, it is important to ensure location data is fresh, especially when the possibility of user mobility exists. The RedSky Technology user mobility client for Android and IoS provides a location update whenever the IP address changes or the end point moves outside a configurable geo-fence. This ensures that the end point’s dispatchable address is always fresh. The Rules should require the technology to provide the capability to refresh the location data whenever a change in environment is determined.

*80. As in our discussion of interconnected VoIP above, although RAY BAUM’S Act does not require reconsideration of previously adopted E911 location rules, we believe it is appropriate as part of the Act’s “all-platforms” approach to consider revising our TRS E911 rules. Specifically, we seek comment on whether TRS providers can develop the means to provide updated dispatchable location. In particular, we seek comment on the feasibility of using existing Registered Location mechanisms to provide dispatchable location for fixed and nomadic VRS and IP Relay users, paralleling the rules we propose above for interconnected VoIP service. Is Registered Location sufficient in the fixed TRS environment? If a mechanism exists for manual updates by the user when a nomadic TRS device is used, is Registered Location sufficient to satisfy a dispatchable location requirement? As with VoIP, we also seek comment on the feasibility of having TRS devices and and/or networks support the automatic provision of real-time dispatchable location without requiring registration or manual location updates by the end user. What technical elements would be required in the end user’s device and/or the service provider’s network to support this capability, and to what degree are such technical elements already in place? To what degree are TRS providers able to dynamically determine the location of end users (1) when they are at home or their usual place of work, (2) when they move frequently between multiple locations, and (3) when they are at locations they do not regularly visit? How accurate is the location information acquired in these scenarios, and would it be sufficient to meet the proposed definition of dispatchable location?*

RedSky Technologies Response: No response.

*81. To enable TRS providers to balance technical feasibility, functionality, customer impact, and cost, we propose to allow TRS providers flexibility in implementing dispatchable location solutions, and to fall back to Registered Location options when real-time dispatchable location is not feasible. We seek comment on this approach. We also seek comment whether there are differences between Internet-based TRS and interconnected VoIP that might require taking a different approach to TRS dispatchable location from the approach proposed for interconnected VoIP. As with interconnected VoIP, we seek comment on whether the NEAD or a similar database could assist TRS providers in implementing dispatchable location solutions. If so, what steps could the Commission take, if any, to facilitate the use of such databases by TRS providers? What obligations, if any, should be placed on TRS providers that seek to access the NEAD? Finally, we seek comment on any alternative approaches that would achieve the same aims as our proposed rules for TRS.*

RedSky Technologies Response: No response.

*82. We seek comment on whether we should consider adopting 911 rules for any other communications services that are not covered by existing 911 rules but provide the capability for users to make a 911 call. RAY BAUM’S Act defines a “911 call” as a voice call that is placed, or a message that is sent by other means of communication, to a PSAP for the purpose of requesting emergency services. What communications services that are not covered by existing 911 rules are capable of making 911 calls that fall within this definition? Are there any services that provide one-way voice communications that are capable of making such a 911 call? How often do consumers use these services to call 911? How do these services complete calls to PSAPs? What kinds of information, including callback numbers and location information, is or could be conveyed to PSAPs with these calls? What are PSAPs’ experiences in answering these calls? What do consumers using these services understand about the limitations on any 911 services provided? Are these 911 calls effective at conveying location information to the PSAP? Do any specific communication services from which these 911 calls originate create difficulties in locating the caller? Is there consistency in the way calls originating from a specific communication service are received and are presented to the PSAP? Would outcomes for 911 callers be improved if we adopted 911 rules for these communications services that parallel existing rules, including any requirements for conveying dispatchable location? Would new rules that are specifically tailored for those communications services be more effective at improving outcomes?*

RedSky Technologies Response: Some states do not allow automated dialers or alarm systems to initiate a 9-1-1 call. It would be counter intuitive for the FCC to create rules that counter existing State law. Other technologies that meet the criteria of “*or a message that is sent by other means of communication, to a PSAP for the purpose of requesting emergency services.”* include a SMS textmessage to 9-1-1 or a future RTT message. Any device that is location aware or is supported by a network that is aware of the device’s location should meet the Rules for dispatchable location.

*84. Based on the concerns noted above and in light of our previous proposal, we seek comment on expanding the scope of those IP-based services subject to our 911 rules to include not only interconnected VoIP, but to also include “911 VoIP Services,” defined as those services that enable real-time, two-way voice communications that require Internet protocol-compatible customer premises equipment and permit users generally to initiate a 911 call, even if the service does not permit users generally to receive calls that originate on the PSTN.133 Is there any reason to exempt outbound-only VoIP services that allow 911 calls from our 911 requirements simply because the service is incapable of receiving an incoming call from the PSTN? Does the public expect all VoIP services that allow the completion of 911 calls to meet the same minimum standards, without regard to whether the service can receive an incoming call? We seek comment on our proposal.*

RedSky Technologies Response: We believe that any device capable of initiating a 9-1-1 call should be subject to the Rules for dispatchable location. In addition, the concept of PSAP Call back should be addressed. One potential technology associates a common call back number with a multiplicity of outbound only extensions.

*85. For each of the communications service categories discussed above, we seek comment on common issues that are related to the implementation of dispatchable location requirements for 911 calls. We seek comment on how dispatchable location requirements for MLTS may interact with dispatchable location requirements for other 911-capable services. Are there situations in which the value of dispatchable location to first responders is diminished due to the availability of on-site notification to enterprises, or vice versa? In what situations, if any, should communications service providers be exempted from a dispatchable location requirement? Should providers be allowed or required to provide other types of location information, e.g., coordinate-based information, in addition to or as an alternative to satisfying a dispatchable location requirement? If communications services and/or certain types of providers (e.g., of a specific size, or with a specific number of consumers) are exempted from dispatchable location requirements, should we require them to provide consumer disclosure regarding the limitations of their 911 location capabilities? We also ask commenters to identify voluntary best practices that can improve the effectiveness of acquiring a 911 caller’s dispatchable location.*

RedSky Technologies Response:

1. *Are there situations in which the value of dispatchable location to first responders is diminished due to the availability of on-site notification to enterprises, or vice versa?*
   1. No. The lack of availability of on-site notification does not diminish the value of the PSAP receiving dispatchable location in any way.
2. *In what situations, if any, should communications service providers be exempted from a dispatchable location requirement?*
   1. Only if the on premise equipment is not capable of delivering calling party number and/or redirecting a 9-1-1 call to a number other than 9-1-1.
3. *Should providers be allowed or required to provide other types of location information, e.g., coordinate-based information, in addition to or as an alternative to satisfying a dispatchable location requirement?*
   1. Yes, a coordinate based location should be allowed.
4. *If communications services and/or certain types of providers (e.g., of a specific size, or with a specific number of consumers) are exempted from dispatchable location requirements, should we require them to provide consumer disclosure regarding the limitations of their 911 location capabilities?*
   1. Communications services and/or certain types of providers (e.g., of a specific size, or with a specific number of consumers) should not be exempted from the Rule.
5. *We also ask commenters to identify voluntary best practices that can improve the effectiveness of acquiring a 911 caller’s dispatchable location.*
   1. The most important aspect outside of the technology is end user education on the use of location determination technology and equally important, what location determination capability will not be used for i.e. employee tracking. We recommend that the FCC or another entity create a document that explains the benefits of dispatchable location being made available to 9-1-1. This will allow a common message to be delivered to assist in uniform adoption.

*86. As noted above, we believe MLTS installers, managers, and operators will be able to identify situations in which street address is sufficient for first responders to quickly and accurately find the calling party.134 We also expect that street address will suffice as a dispatchable location for the smallest enterprises. Accordingly, we do not propose size-based exceptions to the dispatchable location requirement. We seek comment on this approach.*

RedSky technologies Response: We concur with the Commission’s approach.

*87. Compliance dates. For all communications platforms that are to be covered by the dispatchable location requirements proposed in this Notice, we propose to require compliance on the same date as our proposed implementation of Kari’s Law, i.e., February 16, 2020. We believe a uniform compliance date will promote efficiency by enabling MLTS manufacturers to implement dispatchable location upgrades on the same timeline as any upgrades needed to comply with the direct dial and notification requirements of Kari’s Law. In addition, applying the same compliance date to dispatchable location requirements across all platforms will encourage the development of common dispatchable location solutions that can support multiple platforms. We seek comment on this approach, as well as alternatives. With respect to MLTS, is it reasonable to anticipate that by the February 16, 2020 compliance date for Kari’s Law, newly manufactured MLTS will be capable of conveying dispatchable location with 911 calls? Are there dispatchable location solutions that can be widely and inexpensively implemented into MLTS being manufactured today? Do technical standards currently exist that would be appropriate for governing conveyance of dispatchable location from MLTS, or do such standards need to be developed? If the latter, how much time is needed to develop those standards, and who should develop them?*

RedSky Technologies Response:

1. *We seek comment on this approach, as well as alternatives.*
   1. Due to the fact that technologies, products, and services exist today to provide the PSAP with a dispatchable address, we strongly suggest that all capable MLTS systems meet the requirement for dispatchable address on or before February 16, 2020. There is no technical reason not to make this demand.
2. *With respect to MLTS, is it reasonable to anticipate that by the February 16, 2020 compliance date for Kari’s Law, newly manufactured MLTS will be capable of conveying dispatchable location with 911 calls?*
   1. Yes.
3. *Are there dispatchable location solutions that can be widely and inexpensively implemented into MLTS being manufactured today?*
   1. Yes.
4. *Do technical standards currently exist that would be appropriate for governing conveyance of dispatchable location from MLTS, or do such standards need to be developed?*
   1. Standards exist today for the conveyance of location data, including the ability to enhance a civic address into a dispatchable location.

*88. We also seek comment on our proposal to apply the same February 2020 compliance date for our proposed dispatchable location requirements for fixed telephony, interconnected VoIP, and TRS. We also seek comment on alternatives. Is there any reason to establish a compliance date or dates for these services that is either earlier or later than the proposed compliance date for implementation of Kari’s Law? Should compliance for different service types be phased as a way to require greater accuracy over time or to provide additional time to small businesses to come into compliance? Will PSAPs be capable of receiving dispatchable location by February 16, 2020, or are there additional steps that either some or all PSAPs must take to achieve this capability? Are existing class of service definitions sufficient to support PSAP receipt of dispatchable location or must new ones be developed?*

RedSky Technologies Response: We believe based on the current capabilities within fixed telephony, interconnected VoIP, and call initiation into a TRS, that there is no reason to delay the implementation of the final rule requiring compliance in February, 2020.

1. *Is there any reason to establish a compliance date or dates for these services that is either earlier or later than the proposed compliance date for implementation of Kari’s Law?*
   1. No.
2. *Should compliance for different service types be phased as a way to require greater accuracy over time or to provide additional time to small businesses to come into compliance?* 
   1. No.
3. *Will PSAPs be capable of receiving dispatchable location by February 16, 2020, or are there additional steps that either some or all PSAPs must take to achieve this capability?*
   1. Any PSAP that is capable of receiving an Enhanced 9-1-1 call can receive a dispatchable location.
4. *Are existing class of service definitions sufficient to support PSAP receipt of dispatchable location or must new ones be developed?* 
   1. We assert that existing Class of Service definitions are sufficient.

*89. We seek comment on whether providing dispatchable location for 911 calls from MLTS and other communications services would improve emergency response and the health and safety of the public, and whether this benefit would exceed the cost of providing it. Commenters to the ECS NOI argued that the life-saving benefits of adopting E911 requirements for MLTS are apparent. For example, NASNA asserted that just as E911 for landline, wireless, and VoIP has resulted in improvements in the speed at which emergency responders are able to reach the caller, so would E911 for ECS.135 NASNA stated, “The magnitude of this benefit would be analogous to the well-studied, documented and proven benefits of E911 in general.”136*

RedSky Technologies Response: The requirement to provide dispatchable location from all devices and end points capable of initiating a 9-1-1 call will save lives and property.

*90. The scale of any potential benefits depends on the magnitude of the problem we are facing. Currently, how common are 911 calls from MLTS and other communications platforms that fail to convey any location information or that convey location information that is too imprecise or inaccurate to assist PSAPs and first responders in timely locating the caller?137 What is the expected lifespan of such systems? Is there any reason to expect that this situation will improve by 2020? If so, by how much? What cost differential will our proposed rules impose on MLTS and other systems purchased beginning in 2020? How many systems, at what additional cost, will be impacted? We seek comment on the 2013 decision attached to the California Public Utilities Commission (CPUC) comments on the ECS NOI, which found that potentially 70 percent of California’s PBX MLTS systems were not at the time provisioned to display accurate caller location information to any PSAP and that only “350 of AT&T California’s customers with PBX phone stations in 2007 had provisioned [PS/ALI] location information records in AT&T California’s [E911] database.”138 To what extent do these findings accurately reflect caller location information provided by MLTS? Could the results of these findings be extrapolated more broadly (e.g., outside of California)? How often are those calls routed to the wrong PSAPs due to poor or nonexistent location information?*

RedSky Technologies Response: The scale of benefits is incalculable. It is not possible, all actuarial tables aside, to determine the value of a life saved or lost because the first responder could not locate the person in need.

1. *What is the expected lifespan of such systems? Is there any reason to expect that this situation will improve by 2020?* 
   1. We do not believe that this is pertinent due to the current capabilities of existing MLTS to deliver or cause to be delivered a dispatchable address at a reasonable cost today.
2. *What cost differential will our proposed rules impose on MLTS and other systems purchased beginning in 2020?* 
   1. None.
3. *How often are those calls routed to the wrong PSAPs due to poor or nonexistent location information?* 
   1. Misroutes are not typically caused be the lack of dispatchable location, but by missing or incorrect building location data.

*91. We also seek comment on the length and impact of delays in emergency response due to a lack of location information. RedSky asserts that “[p]lacing a detailed, accurate location record in the hands of emergency responders can save 3-5 minutes in response time particularly in complex environments.”139 Is 3-5 minutes a reasonable estimate of the improvement in response time? What are the consequences of those delays for a person needing emergency response? Can those consequences be quantified? Are there data on the speed of emergency response for calls that convey alternatives to dispatchable location, such as x/y/z coordinates? Are there other benefits that have accrued or could accrue in those systems and services that convey dispatchable location to PSAPs and first responders, such as reduced time spent on re-routing calls or arriving at the correct location? Are there any MLTS or other communications services (e.g., very small facilities) that would not benefit from conveying dispatchable location, or for whom the benefit would not exceed the cost?*

RedSky Technologies Response: There are several timed intervals of a 9-1-1 call that are measured, each having an impact on the result of the call for service. First, the time to answer the call. Second, the time to dispatch the call. Third, the time for the first responder(s) to reach the location of the caller and fourth, the time for the first responder to reach the caller. The provision of a dispatchable address when compared to the building or setting location of the caller is what this rule is intended to address. Other Standards bodies have provided exception to call handling timing standards for those calls that do not have a dispatchable location due to the impact on the initial dispatch. Specifically, NFPA 1221 2016 version.

1. *Are there any MLTS or other communications services (e.g., very small facilities) that would not benefit from conveying dispatchable location, or for whom the benefit would not exceed the cost?*
   1. No.

*92. We seek comment on the magnitude of the benefits to the public when dispatchable location is conveyed with a 911 call from MLTS and other communications services identified in this Notice. We anticipate that the increase in location accuracy that results from the use of dispatchable location will reduce the arrival time of ambulances for some 911 callers at least as much as was accomplished by the mobile location rules adopted in the Indoor Location Fourth Report and Order. In that Report and Order, we found that the location accuracy improvements adopted for mobile 911 calls had the potential to save approximately 10,120 lives annually for an annual benefit of approximately $92 billion?140 Based on available 911 call volume data, we estimate that approximately 75% of 911 calls come from mobile phones,141 which already are required to convey a dispatchable location. However, we believe the remaining 25% of calls to which our proposed rules would apply will realize benefits. Because three times as many calls come from mobile phones as from non-mobile sources, we estimate that our proposed rules have the potential to save a maximum of one third of the 10,120 lives that were projected to be saved annually by the mobile location rules adopted in the Indoor Location Fourth Report and Order, or 3,373 lives annually. However, because some providers already convey location information that is equivalent to dispatchable location, we expect that our dispatchable location rules will save considerably fewer lives. Even if we were to assume our proposed rules would save only one twentieth of the lives that we projected would be saved by the mobile location rules, the proposed rules would save 506 lives annually. We rely on the U.S. Department of Transportation’s estimate that the “Value of a Statistical Life” (VSL), defined as “the additional cost that individuals would be willing to bear for improvements in safety (that is, reductions in risks) that, in the aggregate, reduce the expected number of fatalities by one,” is $9.6 million.142 In doing so, we estimate that the 506 lives saved by the proposed rules multiplied by the VSL establishes a benefit floor of $4.9 billion. We seek comment on whether our estimate is reasonable. What other benefits can be expected to accrue, such as (but not limited to) reduced complications from medical issues, reduced damage to property, increased likelihood of forestalling crime and apprehending suspects, increased confidence in the 911 system and emergency responders? How can we assign a dollar figure to evaluate the magnitude of these and other benefits? We seek estimates of the time-saving value of dispatchable location and data demonstrating the value of a reduction in emergency response time.*

RedSky Technologies Response: The benefits far exceed the simple saving a life. Increases in person safety due to a reduction in first responder time to arrive, reduction in property damage due to reduction in time for a first responder to arrive at a fire, and the physical damage to a person when an emergency medical responder arrives sooner. In our industry, seconds saves lives. RedSky is not prepared to estimate in dollars, the values of these benefits.

*93. We observe that 911 location solutions that are capable of conveying dispatchable location to PSAPs are already offered by several MLTS market participants.143 Further, several states already place requirements on MLTS providers to obtain and convey location information that is more detailed than street address alone,144 and we therefore conclude that MLTS manufacturers are producing and widely selling equipment that is capable of complying with our proposed rules. Are there any cases in which currently-available equipment will not be suitable? In addition, to comply with current rules, interconnected VoIP service providers and Internet-based TRS providers today obtain customers’ Registered Location, which we believe would likely be sufficient to satisfy our proposed dispatchable location requirements in many circumstances. Because these dispatchable location-capable solutions and equipment are already being widely offered by MLTS manufacturers, installers, and operators, we believe that the implementation costs of our proposed dispatchable location rules to these entities would be negligible in most respects. We also believe that our approach of granting flexibility in satisfying our proposed rules minimizes the potential cost of compliance. We seek comment on these observations and tentative conclusions.*

RedSky Technologies Response:

1. *Are there any cases in which currently-available equipment will not be suitable?*
   1. Yes, electro-mechanical key systems that do not have the ability to provide either DID of the calling party or the ability to route a 9-1-1 call to any other point besides the dial tone provider.
2. *In addition, to comply with current rules, interconnected VoIP service providers and Internet-based TRS providers today obtain customers’ Registered Location, which we believe would likely be sufficient to satisfy our proposed dispatchable location requirements in many circumstances. Because these dispatchable location-capable solutions and equipment are already being widely offered by MLTS manufacturers, installers, and operators, we believe that the implementation costs of our proposed dispatchable location rules to these entities would be negligible in most respects. We also believe that our approach of granting flexibility in satisfying our proposed rules minimizes the potential cost of compliance. We seek comment on these observations and tentative conclusions.* 
   1. We concur with the Commissions observations and tentative conclusions.

*94. We tentatively find that three aspects of our proposed rules may lead to additional implementation costs: (1) implementation of the proposed dispatchable location requirement by MLTS managers; (2) implementation of the proposed requirement for interconnected VoIP, VRS, and IP Relay providers to identify when a customer uses the service from a new location and update the customer’s location information; and (3) the proposed requirement for outbound-only VoIP service providers or other 911 VoIP service providers to comply with the Part 9 rules. First, we seek comment on any additional costs that our proposed rules may impose on MLTS managers. In comments responsive to the ECS NOI, for example, RedSky stated that it can provision its E911 system service for as little as a $2,500.00 one-time service installation fee and $100 per month.145 The service gives the ECS access to over 5,500 PSAPs in the U.S. and all regional ALI (Automatic Location Information) databases, as well as providing 911 call notifications to enterprise security personnel.146 West Safety stated that the 2010 MLTS workshop report of the California PUC concluded that third-party ECS 911 solutions “are going down in cost and are available for under $5,000” with “[s]mall business solutions as low as $1,250 for a one-time implementation fee and $65 to $100 per month in recurring fees.”147 However, because our proposed dispatchable location rules would only apply to those MLTS managers that install MLTS after February 16, 2020, at which time all MLTS must be dispatchable location-capable, we tentatively find that the only costs for which our rules would be responsible are marginal differences in MLTS price that are attributable to manufacturer efforts to comply with the rules. Because many MLTS manufacturers are producing and widely selling equipment that is capable of complying with our proposed rules, we anticipate that price increases will be minimal.*

RedSky Technologies Response: RedSky vehemently disagrees with the Commissions stance that only MLTS installed after February 2020 meet the intent of both Kari’s Law and section 506 of the Ray Baum Act. This cannot be stated with enough emphasis. Technology at a reasonable cost is available today. There is absolutely no reason to allow current systems that meet similar if not more stringent State regulations not meet the Rule only because they are effectively grandfathered in and are deployed in a State without regulations.

*95. We seek comment on how our rules may affect the price of MLTS, especially recurring costs. We anticipate that the most significant costs would be for initial and recurring costs of provisioning location information to MLTS operators, but tentatively find that the cost of such provisioning will be significantly less than the benefits that arise from adopting the rule. Nearly 80% of businesses in the United States have fewer than ten employees.148 While we acknowledge that enterprises with few employees do not always have those employees work in close proximity to one another, we anticipate that a street address would likely satisfy the definition of dispatchable location for most of those businesses and would be available to the MLTS operator at no cost to the MLTS manager.*

RedSky Technologies Responds: An holistic viewpoint of a MLTS would include any ancilliary equipment and services needed to meet the requirements of the proposed Rule. Taking this approach, RedSky offers several services that are priced to support market capabilities. For smaller systems who do not have a great deal of user mobility or complexity, we offer E911 Anywhere®, with a non-recurring cost of $2,500.00 and a monthly recurring fee of $100.00 that provides both dispatchable location and 9-1-1 call routing across geographic boundaries for fifty-eight endpoints. This also includes notification by either SMS text message or email at no additional cost. More complex systems that demand additional features begin at $1.00 per month per telephone number enrolled. It is important to note that this solution keeps pace with technology that allows multiple devices to share one telephone number i.e. desk phone, laptop with soft phone, tablet with soft phone, smart phone with soft phone app, which also reduces the cost of location service per device. Both services are currently used to support multiple building environments that use a singular MLTS.

*96. We expect larger companies to face some initial location provisioning costs. Because many MLTS manufacturers are producing and widely selling equipment that is capable of complying with our proposed rules, we tentatively find that the primary cost to MLTS managers is the cost of provisioning the location information in the MLTS. To estimate the cost to these enterprises, we seek to estimate the number of employees at the affected enterprises, determine the number of lines and the amount of time needed annually to provision dispatchable location for those lines, and finally determine the total cost for workers paid at an hourly wage to complete the task. We tentatively estimate the number of affected telephone lines in larger (>10) enterprises from Small Business Administration data, which indicates that there are approximately 109 million employees at larger firms.149 We initially estimate there are 1.1 employees per installed line, resulting in approximately 99.1 million lines. At an incremental effort of 1 minute per line and a $30 per hour labor rate,150 this results in a maximum one-time cost of approximately $49.6 million. Significantly, this cost assumes firms will need to create an employee phonebook database that duplicates that used in general enterprise systems, such as Microsoft Outlook. We expect that such duplication will be unnecessary for many enterprises. We also expect that within a few years, this setup cost will become minimal because manufacturers of MLTS and general enterprise systems will increasingly connect their systems, setting up a single phonebook database and making duplication unnecessary. We seek comment on our proposed methodology and estimates, including on the existing and future availability to connect general enterprise systems to MLTS.*

RedSky Technologies Response: We do not agree with the Commission’s basic premise that the highest initial cost is associated with building a “white pages like directory” or database. The device location technology in use by RedSky, Cisco, West, Avaya, and others does not rely on a static database for the sole reason that it is static. Devices move. In large organizations, it is not cost effective to apply a move/add/change approach to a soft phone that is moving around a campus, maintaining connectivity while moving from Wi-Fi access point to Wi-Fi access point. Instead, the technology relies on a concept called network discovery. And while the methods of network discovery vary, the results are the same. When a device registers with a call server, the call server informs a location application that the connecting device, including DID, MAC, and native IP address has a new Layer 2 network connection. This connection point is fixed in terms of location i.e. a Wi-Fi access point is typically static in nature. By associating the end point device with a static network connection, it’s dispatchable location can be programmatically inferred. Dispatchable locations are associated with Layer 2 chassis, Layer 2 chassis and port dyads, Layer 3 subnet ranges, and Wi-Fi access points. Some of this technology is built into MLTS and other MLTS require third party location determination applications. The building of the database that associates a dispatchable location with the network connection is a onetime cost that seems to present the biggest challenge to large enterprises.

*97. Larger businesses that use MLTS are likely to initially face recurring costs to maintain a separate location database. To estimate the cost to these enterprises, we seek to estimate the number of lines at the affected enterprises, determine the number of provisioning changes and the amount of time needed annually to make those changes for those lines, and finally determine the total cost for workers paid at an hourly wage to complete the task. We tentatively estimate that entering the dispatchable address for a move, add, or change to an MLTS endpoint will take 1 minute of a manager’s time. An industry rule-of-thumb is that 5% of endpoints will require a change of provisioning (moves, adds, or changes) in a year. With 99.1 million total incremental lines subject to this rule, 5% of this figure is approximately 5 million changes per year. At 1 minute per modification and $30 per hour labor rate,151 this results in a maximum annual cost of $2.5 million to keep the location databases up to date. As noted above, we expect this incremental cost will become minimal over time as manufacturers of MLTS and general enterprise systems start connecting their systems. At that point, enterprise information technology staff will only need to provision a single line when an employee moves. In addition, as noted above, several states already place requirements on MLTS providers to obtain and convey location information that is more detailed than street address alone.152 For those states, the incremental cost of our rules is potentially zero. We seek comment on these estimates, including on the existing and future availability to connect general enterprise systems to MLTS.*

RedSky Technologies Response: We do not agree with the Commission’s basic premise that the highest initial cost is associated with building a “white pages like directory” or database. The device location technology in use by RedSky, Cisco, West, Avaya, and others does not rely on a static database for the sole reason that it is static. Devices move. In large organizations, it is not cost effective to apply a move/add/change approach to a soft phone, or any other type of device that moves, that is moving around a campus, maintaining connectivity while moving from Wi-Fi access point to Wi-Fi access point. Instead, the technology relies on a concept called network discovery. And while the methods of network discovery vary, the results are the same. When a device registers with a call server, the call server informs a location application that the connecting device, including DID, MAC, and native IP address has a new Layer 2 network connection. This connection point is fixed in terms of location i.e. a Wi-Fi access point is typically static in nature. By associating the end point device with a static network connection, it’s dispatchable location can be programmatically inferred. Dispatchable locations are associated with Layer 2 chassis, Layer 2 chassis and port dyads, Layer 3 subnet ranges, and Wi-Fi access points. Some of this technology is built into MLTS and other MLTS require third party location determination applications. The building of the database that associates a dispatchable location with the network connection is a onetime cost that seems to present the biggest challenge to large enterprises. The incremental cost to the enterprise occurs when a new network connection is deployed and must be established in the location determination database. Even with our largest customers, this activity, and therefore the associated cost, is negligible.

*98. RedSky discusses the costs for providing E911 for both legacy and IP-based ECS, stating that “IP-based systems have a cost advantage over legacy systems because of their ability to use [Emergency Response Location] ERLs and [Emergency Location Information Numbers] ELINs and segment their networks into logical subnets or zones.”153 We seek comment on whether our proposed rules will hasten the ongoing transition to IP-based MLTS, and whether this transition will reduce the costs to MLTS managers over time, including the costs of provisioning location information to MLTS operators. If so, by how much? We seek additional cost data relative to provisioning dispatchable location from MLTS and other communications services identified in this Notice.*

RedSky Technologies Response: We do not believe that the proposed Rule will create a business driver for the replacement or upgrade of an existing MLTS due to the wide availability of third party adjunct systems that can bring an existing MLTS into compliance today without a significant change to the core system.

*99. Second, we seek comment on the costs of implementing our proposed requirement that interconnected VoIP, VRS, and IP Relay services identify when a customer uses the service from a new location and update the customer’s location information. To estimate the cost to these service providers, we seek to estimate the amount of time required to develop and test the necessary software number and determine the total cost for workers paid at hourly wages to complete the task. We tentatively estimate a maximum initial cost of $8,280,000 industry-wide. We tentatively assume that eight months will be a sufficient time period for developing and testing and deploying the software modifications required for updating customer location information, as this would enable service providers to begin to comply with our proposed rules after their final adoption and finish before the February 16, 2020 compliance date. We estimate that six of the eight months will be devoted to software development and deployment, and two of the eight months will be devoted to testing and debugging.154 We estimate that the maximum cost of developing any software update necessary to comply with the rules we propose today for each interconnected VoIP-related entity, VRS provider, and IP Relay provider would be $92,000, the cost of compensating one full-time software engineer for six months of labor.155 We estimate that the cost of testing these modifications (including integration testing, unit testing, and failure testing), which requires as many as 12 software engineers working for two months,156 will be $368,000 for each interconnected VoIP-related entity, VRS provider, and IP Relay provider. Thus, we estimate that the total cost of software modifications for each interconnected VoIP-related entity, VRS provider, and IP Relay provider will be $460,000. We estimate that this requirement will be implemented by 12 interconnected VoIP-related entities and 6 VRS providers and IP Relay providers.157 Therefore, the total cost to the industry will be $8,280,000 (18 organizations times $460,000 per organization).*

RedSky Technologies Response: RedSky Technologies offers a commercially available, off the shelf solution that runs on any device that uses Windows 8 or higher, MAC, IoS, or Android that allows the user to self-provision their dispatchable location. This includes address validation against a national MSAG database. The application is called MyE911®. This application can be used today to meet the Commission’s proposed Rules.

*100. We further observe that some VoIP-based MLTS will not need to implement this functionality, as they are already capable of obtaining the customer’s dispatchable location at the time a 911 call is initiated without requiring additional customer action.158 We seek comment on the extent to which interconnected VoIP, VRS, and IP Relay services already are able to identify when a customer uses the service from a new location and update the customer’s location information. We seek comment on all of the assumptions upon which these cost estimates are based and on any recurring costs that interconnected VoIP, VRS, and IP Relay and service providers would incur in complying with our proposed rules.*

RedSky Technologies Response: While it is true that there are VoIP based MLTS capable of initiating a 9-1-1 call that provides a dispatchable address to the PSAP, it is important to recognize that this capability is reliant on the end user self-provisioning the DID to dispatchable location every time an end point is moved. For some enterprises where the level of move, add, delete activity is low, this is tenable. For other entities, it is not. For example, a University that provides network connectivity using a campus-wide Wi-Fi system to provide VoIP dial tone to soft phone clients installed on tablets has not manual methodology to track the dispatchable location of any or all devices in real time using existing MLTS technologies. RedSky and other offer third party solutions to bridge this gap. As noted, RedSky does not concur with the methodology used by the Commission to determine costs, as it is based on the static location model with is no longer appropriate based on currently deployed technology and operational models.

*101. Third, we seek comment on the prospective costs to outbound-only VoIP service providers or other 911 VoIP service providers for complying with the proposed Part 9 rules, including the proposed dispatchable location rules. We specifically seek comment on how the costs of compliance for these providers may differ from the costs to interconnected VoIP providers that the rules already cover, including increased costs that arise from unique technical obstacles and decreased costs that arise from technical solutions for complying with our rules being well-established and widely available.*

RedSky Technologies Response: We do not expect that costs for outbound-only VoIP service providers to differ from any other type of VoIP providers.

*102. We seek comment on any additional costs and benefits that arise from our proposed rules that we have not considered. For example, how would dispatchable location requirements for MLTS and other communications services affect PSAPs? How would such requirements affect customers of those services?*

RedSky Technologies Response: We do not expect any additional costs to arise from the development of technologies used to meet the proposed rules. Additional costs may arise from the efforts to publicize, enforce, and monitor compliance. Potentially, there will be an economy of scale realized as the number of lines served increases without an increase in technology costs.

*106. Aside from the proposed MLTS and dispatchable location rules discussed in preceding*

*sections, our proposed rule revisions would mainly entail consolidating our existing 911 rules without making substantive changes, but there are some exceptions. Specifically, consolidating the rules will entail making certain conforming and technical changes. For example, in instances where there are minor differences in the definitions of common 911-related terms in different rule parts, we propose to harmonize these definitions for purposes of providing a uniform definition in Part 9. In addition, we propose to remove a few obsolete 911 rules, e.g., rules referencing one-time information collections that have been completed, rather than recodify them in Part 9. We also seek comment on whether we should move Section 22.921 of the rules, which addresses 911 call processing procedures for analog telephones in the Cellular Radiotelephone Service, into Part 9 or whether that rule has become obsolete and should be removed. Further, we propose to update cross-references in other rule parts as needed, and to correct erroneous internal cross-references that appear in our existing rules.*

RedSky Technologies Response: We support any clarity to the myriad of existing Rules this activity will bring. We face the same challenges as other service providers from every corner of the telecommunications spectrum in trying to determine precedence when rule conflict as the lines of technologies blur.

*109. Finally, we invite commenters to identify any additional rules that they recommend for consolidation in Part 9, as well as any rules that should be updated in light of our proposal.*

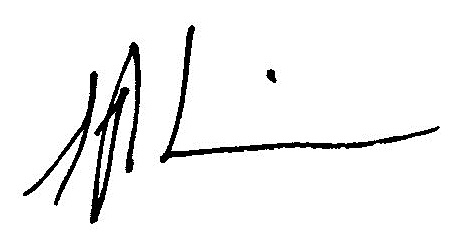
*Other:*

1. Suggested changes to Definitions
   1. 911 VoIP Service: The definition does not include a requirement for connection to the PSTN. We believe that this is the gating factor, not the ability to initiate a 9-1-1 call. The reasoning is that some systems are used as geographically diverse intercom systems that use extension to extension dialing patterns. As these systems cannot be used to reach the PSTN, it is safe to assume that 9-1-1 cannot be dialed either. We assert that the Rule must insure that if a system can reach the PSTN, it must adhere to all subsequent 9-1-1 rules.
   2. Appropriate local emergency authority: Please clarify whether or not this definition includes a campus security department that may or not be an accredited law enforcement agency. Additionally, we have seen security entities in hospitals, manufacturing, and utility plants that prefer to answer 9-1-1 calls made from within their campus environments. Does this definition cover those entities? If so, what are the requirements for them in order to be permitted to answer a 9-1-1 call? This could be local, state or federal rule.
   3. Configured: The title is too broad which may lead to confusion. We suggest MLTS Configurations.
   4. Designated PSAP: The title is too broad which may lead to confusion. We suggest Wireless Designated PSAP.
   5. Dispatchable location: We suggest adding “floor” to the list of additional information examples. This may be the only level of distinction available from the MLTS provider.
   6. Emergency Call Center: The title is too broad which may lead to confusion. We suggest Satellite Emergency Call Center.
   7. Improvement to the hardware or software of the system: The title is too broad which may lead to confusion. As the definition relates solely to MLTS, the title should reflect that. Additionally, the terms substantial and significant are subjective. These terms should be quantified to ease in both requirement and enforcement abilities.
   8. Location-capable handsets: The use of handset determined location data is not the licensee, it is the 9-1-1 service provider.
      1. This definition also points out a missed definition: Soft Phone
      2. A Soft Phone is any device capable of reaching the PSTN by using an application or executable program and interconnection to an IP network to mimic the functionality of a traditional physical telephone.
      3. A Soft Phone may include location-capable applications or services.
   9. Multi-Line Telephone System or MLTS: as mentioned above, today’s MLTS can be deployed and function without a single telephone set. Instead of telephone sets, soft phone applications may be deployed. An additional term in use today is a Unified Communications client i.e. Skype or Jabber. These applications and executable programs mimic the functionality of a traditional telephone set without the cost of a traditional telephone set.
   10. MLTS Notification: The relayed information should also include the date and time of the 9-1-1 call.
   11. Person engaged in the business of installing an MLTS: Instead of person, please use entity for consistency.
   12. Person engaged in the business of manufacturing, importing, selling, or leasing an MLTS: Instead of person, please use entity for consistency.
   13. Person engaged in the business of operating an MLTS: Instead of person, please use entity for consistency.
   14. Pre-configured: The title is too broad which may lead to confusion. We suggest Pre-configured MLTS.
   15. Pseudo Automatic Number Identification: While the term P-ANI applies to the wireless industry, the same concept is used in enterprise 9-1-1 today. The difference is that the P-ANI or Emergency Line Identification Number (ELIN) is part of the NANP directory and is used to both associate a location and allow the PSAP to reach a 9-1-1 caller in the case of a disconnect or request for additional information. We suggest either removing the NANP reference here or creating a new definition.
   16. Public Safety Answering Point or PSAP: The PSAP doesn’t usually route calls to emergency services personnel. They interact with the caller, gather pertinent information and convey this information to emergency services personnel. Another environment exists where a Primary PSAP answers in incoming 9-1-1 call, interacts with the 9-1-1 caller, gathers pertinent information and then transfers the 9-1-1 call with the caller still on the line to a Secondary PSAP, which dispatches the appropriate emergency services personnel.
   17. Public Switched Network: In other definitions, the term Public Switched Telephone Network is used. Please be consistent. See: IP Relay.
   18. Real Time Text (RTT): We suggest including the concept of end to end IP data connections. Transcoding at any point may have the effect of reducing what is thought to be RTT to TTY/TTD.
   19. Registered Location: If determined that the Rule implementation date is unreasonable and can be made earlier, this section must reflect the change.
   20. Wireline E911 Network: E911 Networks may include a selective router or their equivalent. They must also include a database that stores information that correlates telephone number to PSAP and telephone number to location.
   21. The concept of a MLTS end point is missing. This is important because there may be a difference in capabilities and therefore requirements for a physical device (hard phone) and an application running on a computing device that mimics the capabilities of a hard phone (soft phone).
   22. The concept of MLTS end point location technology is missing. It exists for wireless 911 callers, but not wireline or VoIP callers. Are there any technologies that will not be permitted?
   23. The concept of an Emergency Line Identification Number (ELIN) is missing. This is an important concept in the MLTS world. Note: It is closely aligned to the concept of a pANI.
   24. The concept of Emergency Response Location (ERL) is missing. Note: it is closely aligned to the concept of a dispatchable address.
   25. The concept of a Voice over IP Provisioning Center or VPC is missing. This concept is especially important when discussing MLTS as the VPC handles 9-1-1 call routing when the MLTS geographic boundary exceeds a selective router coverage boundary.
2. Consolidation of Rules

Throughout the RedSky Technologies response, we have supported the concept of consolidating various Rules that apply to 9-1-1 into a single location. With that being said, there is another aspect that impacts how various carriers of every type deliver services that pertain to 9-1-1 including everything from dial tone, location, and outage notification. The matter we are referring to is the individual Consent Decrees that an individual carrier or service provider may have entered into with the FCC or other body. These individual Consent Decrees serve to un-level the playing field Described in Part 4. We are participating on a ATIS NSRC Committee activity to standardize 9-1-1 Service Outage Reporting. The committee includes representation from major wireline and wireless carriers, VoIP service providers, third party service providers, and various industry representatives. One theme is being constantly repeated: “We can meet the minimum standard, but we have to follow ***our*** Consent Decree.” If there is a possibility to level the field that everyone has to abide by, revisiting these decrees to determine if they should be applicable to all would be a worthwhile exercise.

1. §9.4 should include the ability to transmit a 9-1-1 call through a third party including: an ILEC, a VPC, its agent, or directly to an ESINet or its agent.
2. §9.5 contains obsolete language as it does not include the ability to deliver a 9-1-1 call to an ESINet or its agent.
3. §9.8 This requirement as written does not take into account the current use of third party 9-1-1 services providers or the existing use of VPC’s. In these cases, the LEC provides dial tone and 9-1-1 calls are routed not back to the LEC, but to another route point.
4. §9.10 Please change the section title to “CMRS 911 Service”. Also, for style and clarity, please use the appropriate indentation. Without it, you can’t tell whether “x” means the letter after “v” or the tenth item in a list.
5. §9.11 Please change the title to “Interconnected Voice over IP 9-1-1 Services”. Please have the style editor check the numbering. There is a (2) without a (1).
6. §9.11 (2) (iv) does not take into account the existing use of a “steered ALI query” to a VPC. As written, it is not practical or practicable.
7. §9.11 (4)(i)(B) Please define “timely fashion” as it applies to updating a registered location.
8. §9.11 (5)(i) Please do not exclude non-native telephone numbers. NG9-1-1 envisions a device with a URI of [joe@abcd.net](mailto:joe@abcd.net) to initiate a 9-1-1 call. Non-native numbers i.e. extensions also cause an issue for PSAP call back in the legacy 9-1-1 environment. Non-NANP numbers were to be discouraged years ago in the MLTS marketplace.
9. §9.15 (a) It is important to understand that a manufacturer may also offer the use of their product on a line by line basis to an end user.
10. §9.15 (c) As stated in our comments above, there is no technical or business reason not to apply the rules to MLTS in existence today.

Respectfully submitted:



Jerry Eisner, ENP

Vice President – Public Safety

RedSky Technologies, Inc.

333 North Michigan Avenue

Suite 1600

Chicago, IL 60601-4009

312-432-4300 x 5937

jeisner@redskytech.com