Independent Review

Next Generation 9-1-1 System Replacement/Upgrade Project

v1.2

For the State of Vermont
Department of Information & Innovation and Enhanced 9-1-1 Board

Submitted to the State of Vermont, Office of the CIO by:

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Table i: Version History

Draft Type	Delivery Date	Version	Description
Working Draft	July 25, 2014	v1.0	Initial submission
Final Draft	July 31, 2014	v1.1	Revised based on feedback from DII OPM
Final	August 19, 2014	v1.2	Revised based on feedback from CIO and Commissioner of DII and information received after completion of the original assessment

1.0 EXECUTIVE SUMMARY

The State of Vermont's (State) Department of Information and Innovation (DII) and the Enhanced 9-1-1 (E9-1-1) Board engaged Berry Dunn McNeil & Parker, LLC (BerryDunn) to conduct an Independent Review of a proposed acquisition by the State of a turn-key, fully hosted Next Generation 9-1-1 (NG9-1-1) System from FairPoint Communications (FairPoint). State of Vermont statute requires DII to solicit an Independent Review for all information technology (IT) projects estimated to exceed $1,000,000, or at the discretion of the State Office of the Chief Information Officer (CIO). The State CIO sought an Independent Review of this NG9-1-1 System Replacement/Upgrade with regards to the following aspects of the project: proposed acquisition costs, technology architecture, implementation plan and risks, cost/benefit, and impact on the State's net operating costs. The primary objective of the Independent Review is to identify risks that may impact the success of the IT project and help the State develop associated risk strategies and responses.

Vermont's Enhanced 9-1-1 Board (Board) is the single authority in Vermont charged with the creation, management, and ongoing operation of the statewide 9-1-1 system. In March 2014, the Board issued a Request for Proposal (RFP) for a turn-key fully hosted NG9-1-1 system for the second time since 2009. The first RFP was issued to replace the incumbent vendor at the time, microDATA. The Board awarded its current contract to Intrado, who has been supplying the State of Vermont with all the hardware, software, networking components, and essential system management to provide NG-9-1-1 services since mid-2011. Intrado's contract expires on June 30, 2015.

FairPoint, the preferred vendor for the most recent RFP issued by the State, has proposed a five-year[1] services-based solution for the State that it indicates is National Emergency Number Association (NENA) i3-compliant, adaptable, and open standards-based with no single points of failure. To deliver on the solution, FairPoint will continue to provide the networking component of the NG91-1 system as it currently does in Vermont, partnering with the following three subcontractors to provide the complete set of services the State requires: Solacom, GeoComm, and 911 DataMaster.

As part of the Independent Review, the BerryDunn team interviewed E9-1-1 Board (Board) members and staff, Public Safety Answering Point (PSAP) Managers, DII staff, and representatives from FairPoint. Additionally, DII and Board staff provided BerryDunn with several relevant documents to inform the review. The scope of the Independent Review was limited to these focused interviews and document reviews, and was further limited by the unavailability of a contract at the time of review completion.

The following sections of the Executive Summary summarize key points from each of the areas assessed during the Independent Review, as well as high impact and/or high probability risks

[1]As requested in the State's RFP, FairPoint offered a two-year model with two one-year optional extensions in addition to the five-year proposal with significantly higher implementation and monthly costs than the five-year model.

and BerryDunn's overall recommendations regarding whether or not to move forward with the preferred vendor and solution.

1.1 Cost Summary

Table ES.1 summarizes costs from the acquisition cost assessment, cost-benefit analysis, and analysis of impact on net operating costs.

Table ES.1: Cost Summary

IT Activity Lifecycle:	6 Years (approximately 1 year implementation plus 5 years of services)
Total Lifecycle Costs:	$11,460,900[2]
Total Acquisition Costs:	$360,900
New Annual Operating Costs:	$2,200,000
Difference Between Current and New Annual Operating Costs:	$306,692
Funding Source(s) and Percentage Breakdown if Multiple Sources:	State Universal Services Fund (per Vermont Statute Title 30, Chapter 87, Section 7054)

1.2 Disposition of Independent Review Deliverables

Table ES.2 provides highlights of each area reviewed in the Independent Review, including any major concerns identified.

Table ES.2: Disposition of Independent Review Deliverables

Deliverable	Highlights from the Review
Acquisition Cost Assessment	Acquisition costs are **$360,900**, of which vendor fees for system implementation account for **$300,000**. While this payment structure reduces upfront financial risk to the State, it also reduces the ability of the State to impose meaningful financial penalties on FairPoint for missed implementation milestones.
Technology Architecture Review	Due to the services-based nature of the contract, thorough and effective negotiation of service level agreements is critical to ensure the State's requirements are fulfilled and the solution is successful from the State's perspective. Contract development and negotiations may be challenging and/or pressured due to time constraints. The State has identified and started implementing mitigation strategies to address this risk (Risk #1). The procurement appears to align with the State's IT Strategic goals, and no other major concerns were identified with the technology architecture[3].

[2]Includes system implementation, E9-1-1 Board staff, DII Enterprise Project Management Office and Enterprise Architecture, and Independent Review costs

[3]Addendum as of August 9, 2014: On August 6, 2014, after our assessment was completed, BerryDunn was made aware that the DII Security Team and FairPoint are working through concerns regarding FairPoint's proposed approach to security, including that they are not fully ISO27001 compliant.

Deliverable	Highlights from the Review
Implementation Plan Assessment	Although the implementation timeline appears sufficient as of the time of the Independent Review, the project could experience unforeseen delays for various reasons including contracting, vendor labor issues, and technical challenges. The State should remain mindful of the timeline, avoid unnecessary project delays, and develop contingency plans as appropriate. The State has identified and started implementing mitigation strategies to address this risk (Risk #5). In addition, risks which have the potential to impact the implementation timeline and success have been identified related to the incumbent vendor, Intrado, i.e., Intrado may contest the bid award and/or not fully cooperate during the transition period to the new vendor. The State has identified and started implementing mitigation strategies to address these risks (Risk #4, Risk #6, and Risk #10). The State does not intend to increase Board staffing levels or assign a dedicated Board Project Manager to oversee the project. FairPoint has proposed both a Program Manager located in Vermont and a remote Project Manager whose roles are not clearly defined. The State has identified and started implementing mitigation strategies to address these risks (Risk #2 and Risk #8, respectively). Detailed plans for most areas (e.g., training, testing, and conversion) were not articulated in FairPoint's RFP response, limiting BerryDunn's ability to fully assess the implementation plan and related components. Lack of a detailed inventory of deliverables with associated expectations and content is captured as Risk #9.
Cost-Benefit Analysis	Although no quantifiable tangible benefits have been recognized at this time, several important non-quantifiable tangible benefits have been identified, including, but not limited to: • Enhanced interactive GIS mapping capabilities to improve call taker efficiency and job satisfaction • Simplified, automated back office processes and workflow steps resulting from improved GIS management tools, reducing staff level of effort In addition, important intangible benefits to moving forward with the new vendor and system have been identified. Based on conversations with the Board's Executive Director and other stakeholders, the anticipated intangible benefits articulated by the State appear to outweigh the risks and costs of transitioning to the preferred vendor, particularly considering the service and functional issues with the existing system and the total cost of the alternative solution provided by the incumbent vendor (approximately $3 million higher than FairPoint's proposed costs).
Impact Analysis on Net Operating Costs	NG9-1-1 service costs are expected to increase by approximately **$306,692** annually, for a total of **$1,533,460** over the five-year operating lifecycle; there is no other estimated impact on net operating costs, including staffing.[4]

[4]As noted in Sections 5.2.1 and 9.1, although operating costs would increase under FairPoint's proposal, the total cost of ownership for implementation plus five years of operations is $271,540 lower for FairPoint's proposed solution when compared with Intrado's existing solution as a result of FairPoint's reduced implementation costs. In addition,

1.3 Identified High Impact and/or High Probability of Occurrence Risks

Table ES.3 highlights risks identified in the Independent Review that would have a high impact if the risk should occur. The State's planned risk response and BerryDunn's assessment of that response are also provided.

No risks with a high probability of occurrence have been identified.

Table ES.3: High Impact Risks

#	Risk Description	State's Planned Risk Response	BerryDunn's Assessment of Planned Response
1	If rushed or inadequately negotiated, the contract with FairPoint may not include a comprehensive list of service level agreements, key performance indicators, and associated penalties required to protect the interests of the State.	*Please see the Risk Register in Appendix B for the State's planned risk responses and BerryDunn's associated assessment due to their length.*	
2	Board staffing levels will remain the same during project implementation and a dedicated Board Project Manager will not be assigned to oversee the project.		
3	FairPoint may encounter financial troubles during the term of the contract, which could impact FairPoint's ability to maintain its contractual NG9-1-1 services obligations to Vermont.		
4	Intrado may successfully contest the bid award.		
5	Cutover to the new FairPoint system may be delayed beyond June 30, 2015, when the contract with Intrado expires.		

1.4 Other Key Issues and Risks

For the purposes of this report, an issue is defined as a situation which has occurred or will definitely occur, as opposed to a risk which is a potential event. No key issues have been identified regarding the proposed procurement.

Two general risks, however, that are not related to the five key areas assessed in this Independent Review include the following:

costs for five years of operations would be $979,000 lower with FairPoint when comparing FairPoint's proposed costs against Intrado's proposed costs for the new solution. This assumes costs in year five of a contract with Intrado would remain the same as in years two to four, although Intrado only proposed costs for a four-year contract. Total cost of ownership, which includes implementation costs, would be $3,079,000 for FairPoint's solution (see Section 5.2.2 and 9.1).

- FairPoint may encounter financial troubles during the term of the contract, which could impact FairPoint's ability to maintain its contractual NG9-1-1 services obligations to Vermont.
- FairPoint has only served as a NG9-1-1 services provider and systems integrator in one other state, offering a limited history regarding their ability to deliver on the proposed solution.

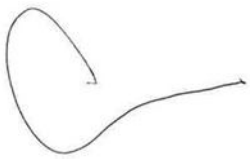
These risks, along with the State's planned risk strategy and response and BerryDunn's assessment of the response are documented as Risk #3 and Risk #7, respectively, in the Risk Register in Appendix B.

1.5 Recommendations

It is BerryDunn's opinion that the risks identified as part of this review (see Section 7.2.3 and Appendix B), if adequately managed and mitigated, do not pose enough concern to the State to warrant foregoing the execution of a contract with FairPoint for the proposed solution, provided that a contract is drafted in accordance with standard protections and assurances for the State. For many of the concerns identified during this review, the State has demonstrated that effective mitigation strategies have been identified.

1.6 Certification

BerryDunn has completed its Independent Review and believe it reflects an independent and unbiased assessment of the proposed vendor's solution acquisition cost, technical architecture, implementation plan, cost-benefit, and impact on net operating costs.



Signature **Date** 8/19/2014

2.0 SCOPE OF THE INDEPENDENT REVIEW

2.1 In Scope

In accordance with the Statement of Work (SOW) released on May 16, 2014, BerryDunn conducted an Independent Review to evaluate the State of Vermont NG9-1-1 System Replacement/Upgrade project, which includes procurement of a turn-key, fully hosted NG9-1-1 System. The scope of this report fulfills the requirements of Vermont Statute, Title 3, Chapter 45, §2222(g):

The Secretary of Administration shall obtain independent expert review of any recommendation for any information technology initiated after July 1, 1996, as information technology activity is defined by subdivision (a)(10), when its total cost is $1,000,000 or greater or when required by the State Chief Information Officer.

The Independent Review report includes:

- An acquisition cost assessment
- A technology architecture review
- An implementation plan assessment (which includes a risk analysis)
- A cost analysis and model for benefit analysis
- An impact analysis on net operating costs for the Board

It is the intent of the State that the following items be performed or addressed by the BerryDunn through the SOW:

- Hold a Project Planning and Independent Review kickoff meeting with the primary goal of introducing the players and discussing the Independent Review process going forward.
- Review all pertinent materials, contracts, SOWs, project work plans, and other documentation necessary to establish an understanding of the project(s) and proposed work being reviewed.
- Hold approximately two days of on-site meetings at State offices in Vermont collecting information and interviewing stakeholders.
- Facilitate a teleconference call with the selected system vendor.
- Identify risks and catalogue them into a risk register.
- Facilitate a discussion of strategies to mitigate risks with the Oversight Project Manager (OPM), Project Sponsor, and stakeholders.

- Work with the various stakeholders to develop specific responses to each risk identified; develop specific plans/strategies and actions to address those risks (accept risk, mitigate risk, transfer risk, etc.).
- Work with OPM to ensure the Risk Response Plan is finalized with the Sponsor before final review with CIO.
- Conduct other meetings and collect other information as necessary.
- Create an Independent Review report according to the SOW, and deliver the draft document to the OPM.
- Hold an on-site meeting with the State Enterprise Project Management Office (EPMO) OPM, DII Deputy Commissioner, Sponsors, and State CIO to present the final review report and answer any questions.
- Update the final report incorporating feedback and submit the final report for CIO approval.
- Via the OPM, obtain CIO sign-off to signify the acceptance of the Independent Review deliverables at the conclusion of the Independent Review engagement.

2.2 Out of Scope

Other than to review proposed costs in the competing Intrado proposal, BerryDunn did not review proposals submitted in response to the State's RFP by vendors other than FairPoint. BerryDunn also did not review the current Intrado contract in detail. Although the document was available to reviewers, an in-depth analysis of that document was deemed to be out of scope for the Independent Review.

A separate deliverable contracted as part of this Independent Review may be procurement negotiation advisory services, but documentation related to those services are not part of this report.

2.3 Independent Review Limitations

This Independent Review of the NG9-1-1 System is limited to:

- Interviews and follow-up clarifying conversations with DII, Board members and staff, PSAP managers, and FairPoint representatives completed between July 9 and July 22, 2014 (see Table 3.1).
- Review of documentation provided to BerryDunn by the State (see Table 3.2).

Additionally, it is limited by:

- Unavailability of a draft or final contract with the preferred vendor at the time the Independent Review was performed.

- The Board site visit to Maine to review a similar system implemented by FairPoint was not completed at the time of interviews with E9-1-1 Board members and staff.
- Accuracy of the information provided in documents and by interviewees.

3.0 SOURCES OF INFORMATION

The two primary sources of information collected during the Independent Review process were interviews and project documents. Lists of individuals interviewed and documents reviewed by BerryDunn for this Independent Review are included in Sections 3.1 and 3.2, respectively.

3.1 Independent Review Participants

Several individuals were interviewed to gather information during this Independent Review. Table 3.1 provides details on who was interviewed, what agency/organization they represent, and the topic they were interviewed about during the Independent Review process.

Table 3.1: Independent Review Participants

Name	Employer and Title	Participation Topic(s)
David Tucker	E9-1-1 Board, Executive Director	All Topics (e.g., costs, implementation planning, technical architecture)
Tyler Morse	E9-1-1 Board, IT Manager	Technical Architecture
Jared Lamere	E9-1-1 Board, IT Specialist	Technical Architecture
Jeremy McMullen	E9-1-1 Board, GIS Database Administrator	Technical Architecture; GIS Requirements
Jim Cronan	PSAP Manager	System Alignment with Business Needs
Sheriff Roger Marcoux, Jr.	E9-1-1 Board, Sheriff's Association Representative, PSAP Manager	System Alignment with Business Needs
Barb Neal	E9-1-1 Board, Emergency Communications Training Coordinator	Implementation Plan (training, organizational change management)
Sarah Ferris	E9-1-1 Board, Emergency Communications Training Coordinator	Implementation Plan (training, organizational change management)
Andrew Matt	DII, Enterprise Architect	Technical Architecture (alignment with State's IT strategic plan)
Karen Romano	FairPoint Communications, Vice President –Government and Education	All Topics
Nate Wilcox	NG9-1-1 Program Manager	All Topics
John Eon	E9-1-1 Manager	All Topics
Barry Crommett	Government Account Manager	All Topics

3.2 Independent Review Documentation

Several documents were assessed during this Independent Review including budgets, FairPoint's technical and cost proposal, and bid scoring sheets. Table 3.2 lists the documents provided to BerryDunn by the State for review during the Independent Review process.

Table 3.2: Independent Review Documentation

Document Name	Description	Source
RFP –Next Generation 911 System Final 3514 –BGS posted	State RFP for NG 9-1-1 System	Peter Kipp, Contract and Procurement Specialist, DII
Answers to Questions	State Responses to Vendor Questions	Peter Kipp, Contract and Procurement Specialist, DII
IT ABC Form –NG9-1-1 System	DII IT Activity Business Case and Cost Analysis	Jennifer Pittsley, OPM, DII
SoVT NG9-1-1 Vol I Technical Proposal v14 unredacted	FairPoint's Technical Response to RFP	Jennifer Pittsley, OPM, DII
Volume II, Cost Proposal, v6.1	FairPoint's Cost Response to RFP	Jennifer Pittsley, OPM, DII
Consensus Scores, Bid 2014	E9-1-1 Board Vendor Scoring Spreadsheet	Jennifer Pittsley, OPM, DII
FY 15 Budget Book –E911 Master	E9-1-1 FY 15 Budget Request	Jennifer Pittsley, OPM, DII
E9-1-1 Organization Chart -Update 6/24/14	E9-1-1 Board Organizational Chart	Jennifer Pittsley, OPM, DII
Intrado Complete Contract	Incumbent Vendor's Existing Contract	Jennifer Pittsley, OPM, DII
Intrado Pricing	Intrado's Cost Response to RFP	David Tucker, Executive Director, E9-1-1 Board

4.0 PROJECT INFORMATION

4.1 Historical Background

4.1.1 Vermont History

Vermont's Enhanced 9-1-1 Board (Board) is the single authority in Vermont charged with the creation, management, and ongoing operation of the statewide 9-1-1 system. The Board oversees the existing Intrado services-based statewide NG9-1-1 system that delivers 9-1-1 calls from the Public Switched Telephone Network (PSTN) to a Public Safety Answering Point (PSAP) using Voice over Internet Protocol (VoIP) over its Emergency Services Network (ESInet). This system consists of eight locations serving as one statewide PSAP with calls routed to one of the eight points based on the call location.

In March 2014, the Board issued an RFP for a turn-key fully hosted NG9-1-1 system for the second time since 2009. The first RFP was issued to replace the incumbent vendor at the time, microDATA. The Board awarded its current contract to Intrado, who has been supplying the State of Vermont with all the hardware, software, networking components, and essential system management to provide NG-9-1-1 services since mid-2011. Intrado's contract expires on June 30, 2015.

4.1.2 General 9-1-1 System History

The original "basic" 9-1-1 system established "9-1-1" as the national emergency number and simply routed calls to a predetermined telephone number, generically known as a PSAP.

Enhanced (E) 9-1-1 introduced two significant features. First, the caller's name (Automatic Number Identification or ANI) and physical address (Automatic Location Information or ALI) were delivered and displayed at the PSAP along with the call so that PSAP personnel would still know where to send help in the event a caller was unable to say where he or she was. Second, the routing of 9-1-1 calls was made more flexible so that if a primary PSAP was unavailable, the call could automatically be routed to a secondary PSAP.

Next Generation (NG) 9-1-1 is a somewhat ambiguous term in that anything after E9-1-1 is by definition NG9-1-1, and NG9-1-1 continues to evolve. In the context of the Vermont system, several additional enhancements have been added to the previous E9-1-1 system, with more features planned. From a public safety perspective, the explosion in the number of cellular phones has meant that an increasing number of 9-1-1 calls originate from mobile devices, whose location must be described as latitude/longitude coordinates as opposed to a fixed street address. This challenge is met on the front end by cellular companies using either Global Positioning System (GPS) or triangulation technologies to determine the latitude/longitude of the originating device. The underlying network that transports NG9-1-1 has been upgraded to utilize VoIP, and the geo-location information is imbedded in the VoIP call transport. When the call reaches the PSAP, sophisticated mapping technology overlays the geo-location information

onto a GIS mapping database owned and maintained by the State. Future next generation enhancements will include additional support for text-based services and potentially video.

4.2 Project Goal

The Board, in conjunction with DII, is seeking a replacement for the State's current NG9-1-1 system with a goal of strengthening the State's ability to respond to 9-1-1 calls using the most effective processes and innovative technology. Toward this effort, the Board has solicited proposals from the NG9-1-1 system vendor market, with the purpose of supporting the strategic goals of the Board to provide Vermont citizens with a dependable and robust emergency system.

Vermont has played a leading role nationally in implementing NG9-1-1 services, most recently promoting and delivering text messages to 9-1-1 call answering services in the state. The Board is also rolling out a system that enables individuals with disabilities to opt in and provide information about their specific needs. It is the State's desire to continue in this national leadership role with the vendor selected. As standards continue to evolve, the Board is committed to exploring the many possibilities that exist with NG 9-1-1, and implementing those features, services, or systems that further enhance the ability of the 9-1-1 Board, PSAPs, and relevant emergency responders to improve public safety. Among other things, the ability to better use Geographic Information Systems (GIS) data, both through the display of this data to call takers and other end users (i.e., emergency responders), and make back office work more efficient in support of the 9-1-1 system is a general goal for this next iteration of NG9-1-1.

4.3 Project Scope

The State is seeking a turn-key, fully hosted services-based NG9-1-1 system including all hardware, software, networking capabilities (ESInet), and operational management. The system must, at a minimum, support the functionality of the current NG9-1-1 system, comply with State and FCC standards, and have the capacity to incorporate future components as required by the Board and DII. Reliability, flexibility, and security are critical requirements of the system. The system must incorporate all existing NENA I3 standards and allow for implementation of future I3 components as they become available.

4.3.1 Major Deliverables

Section 3.1 of the State's RFP for the NG9-1-1 system indicates that, at a minimum, the following Project Management deliverables are required of the vendor:

- Contractor PM to work with State project team to finalize a detailed project work plan (in Microsoft Project). The selected vendor shall maintain and update the project plan on a regular basis (at least weekly, if not daily).
- Project kickoff meeting.

- A detailed Project Management Plan (PMP). Weekly project status reports as defined above.
- Up-to-date project issues log.
- Up-to-date risk log.
- Weekly project team meetings which shall include meeting agendas and meeting discussion log, action items, and updated issues and risk logs accordingly.

FairPoint indicates it complies with the requirements in Section 2.0 of its response.

Although the RFP outlines several additional required tasks and documents that the vendor is responsible for (e.g., training delivery, user documentation, testing, migration plan, and data migration), a formal inventory of deliverables is not included in the RFP, nor does FairPoint provide one in its response. The E-9-1-1 Board's Executive Director has confirmed that deliverables and associated payments will be enumerated in the contract.

4.4 Project Phases, Milestones, and Schedule

Although the State's RFP does not specify detailed project phases, milestones, or schedules, the Board's Executive Director confirmed that the system must be fully developed, tested, and implemented by July 1, 2015, when the contract with the existing vendor expires. Furthermore, in Section 6.3 of the RFP, the State requested that bidders include a proposed work schedule to accomplish all of the required tasks within the desired timeline.

In Section 1.0 of its RFP response, FairPoint provided a sample timeline (Figure 4.1 below) and indicated that a final timeline/project plan would be jointly developed with the State.

Task #	Task Name	Approximate Duration in Calendar Days	Start	Finish	Predecessors
1	Contract Negotiations	30	7/14/2014	8/13/2014	
8	**Kick-Off Meeting**	1	9/17/2014	9/17/2014	7
9	**PSAP Evaluations Complete**	28	8/14/2014	9/11/2014	
10	**System & Cut-Over Design Acceptance**	25	8/14/2014	9/9/2014	7
12	**Data Centers & Core Network**	90	8/14/2014	11/14/2014	7
21	**Core Network Equipment Elements**	75	8/14/2014	10/28/2014	20
35	**Core Network Circuit Provisioning/Testing**	15	10/28/2014	11/18/2014	34
46	**Database Conversion**	120	10/29/2014	3/1/2015	7
166	**Calltaker & Technician Training**	50	1/11/2015	3/7/2015	
175	**PSAP Installations & Calltaker Training**	70	3/8/2015	5/17/2015	46
211	**System Soak**	30	5/18/2015	6/17/2015	175
212	**Final System Clean-up**	10	6/18/2015	6/27/2015	211
213	**Final System Documentation ("As-Builts" etc)**	20	5/31/2015	6/30/2015	212
214	**Final Acceptance**	1	7/1/2015	7/1/2015	213

Figure 4.1 Sample Timeline Provided by FairPoint

In addition, in Section 2.0 of its response, FairPoint indicated it would use the following process to initiate, plan, execute, and close out projects.

Figure 4.2 Implementation Process Provided by FairPoint

5.0 ACQUISITION COST ASSESSMENT

Following is a summary of the costs associated with the proposed acquisition of the NG9-1-1 System. This summary was developed through a review of information provided by the State and the costs described within FairPoint's cost proposal.

Table 5.1: Acquisition Cost Assessment

Acquisition Costs	Cost	Comments
Hardware Costs	**$0**	
Software Costs	**$0**	
Implementation Services[5]	**$300,000**	FairPoint proposed two cost options: a five-year operating contract with $300,000 in upfront charges and a monthly rate of $182,000 for each of the five years of operations and a two-year option with two one-year optional extensions with $2 million upfront charges and $250,000 in monthly charges. Although a waiver would be needed from the Secretary of Administration, the Board's Executive Director indicates the Board is considering the five-year option for reasons including total lifecycle costs.
System Integration Costs	**$0**	
Internal Professional Services (Project Management, Technical, Training, etc.)	**$9,000**	Estimated fees for EPMO and Enterprise Architecture (EA) services from DII are based on 3% of costs for implementation services
E9-1-1 Board Staff	**$36,000**	Estimated staffing costs for tasks such as system support and vendor management were developed based on approximately 1,000 hours/year (or .5 FTE) at a $36/hour rate
Independent Review	**$15,900**	
Total Acquisition Costs	**$360,900**	

5.1 Cost Validation

Acquisition costs for the NG9-1-1system were sourced from FairPoint's cost proposal (Volume II Cost Proposal v6.1) and were reviewed and validated with the Board's Executive Director. Costs for Board staff were pulled from the IT Activity Business Case and Cost Analysis Form (IT ABC Form) and were reviewed and validated with the Board's Executive Director and the OPM assigned to the project. DII fees were confirmed to be appropriate with the project OPM and EA assigned to the project.

[5] Source: FairPoint Volume II Cost Proposal v6.1

5.2 Cost Comparison

Comparing the proposed acquisition costs with others who have purchased similar solutions is challenging due to the unique nature of the services being procured and the fact that most 9-1-1 services are managed at the county or city level in other states. Therefore, the Board has not compared costs with other states. However, in an attempt to provide the State with reference points against which to compare FairPoint's proposed costs, in sub-sections 5.2.1, 5.2.2, and 5.2.3 BerryDunn has provided:

- A comparison of the total cost of ownership of FairPoint's proposed solution against the State's existing system with Intrado
- A comparison of the total cost of ownership of FairPoint's proposed solution against Intrado's proposed costs for the new solution after June 30, 2015
- NG9-1-1 costs in other states

5.2.1 Total Cost of Ownership – FairPoint's Proposal versus Existing Solution

As illustrated in Table 5.2, the total cost of ownership for FairPoint's proposed services and system for five years of operations compared with costs for Intrado's existing services and system is $271,540 lower for FairPoint's solution.

Table 5.2 Total Cost of Ownership – FairPoint's Proposal versus Existing Solution

Total Cost of Ownership							
NG9-1-1 Services (includes all maintenance, support, and licenses)	Implementation	Operations					Total
		Year 1	Year 2	Year 3	Year 4	Year 5	
Costs for Current Intrado Contract [1,2]	$2,105,000	$1,877,308	$1,877,308	$1,877,308	$1,877,308	$1,877,308	**$11,491,540**
Projected Costs for FairPoint Contract[3]	$300,000	$2,184,000	$2,184,000	$2,184,000	$2,184,000	$2,184,000	**$11,220,000**
Net Impact on Total Cost of Ownership	($1,805,000)	$306,692	$306,692	$306,692	$306,692	$306,692	**($271,540)**

Sources and Assumptions

1. Source: Existing Intrado Contract; fees are paid quarterly at $469,327/quarter
2. Assumption: Intrado's contract included four years of operations, however costs were extrapolated to Year 5 to complete a five-year comparison
3. Source: FairPoint Volume II Cost Proposal v6.1; fees are paid monthly at $182,000/month

Although annual operating costs with FairPoint are higher than the State currently pays to Intrado, FairPoint's proposed implementation costs are lower. The high-level payment terms proposed by FairPoint for a five-year operational contract may be in the State's best interest as upfront investment is reduced and the vendor is required to deliver on its contractual obligations each month in order to receive payment.

5.2.2 Total Cost of Ownership –FairPoint's Proposal versus Intrado's Proposal

To provide another point of comparison, the total cost of ownership for FairPoint's proposed services and system including implementation and five years of operations compared with Intrado's proposed services and system is $3,079,000 lower for FairPoint's solution (see Table 5.3). This is a result of Intrado's significantly higher upfront implementation costs, as well as higher costs for each year of operations, with the exception year one.

Table 5.3 Total Cost of Ownership –FairPoint's Proposal versus Intrado's Proposal

Total Cost of Ownership							
NG9-1-1 Services (includes all maintenance, support, and licenses)	Implementation	Operations					Total
		Year 1	Year 2	Year 3	Year 4	Year 5	
Proposed Costs -Intrado[1,2]	$2,400,000	$1,867,000	$2,508,000	$2,508,000	$2,508,000	$2,508,000	**$14,299,000**
Proposed Costs -FairPoint[3]	$300,000	$2,184,000	$2,184,000	$2,184,000	$2,184,000	$2,184,000	**$11,220,000**
Net Impact on Total Cost of Ownership	**($2,100,000)**	**$317,000**	**($324,000)**	**($324,000)**	**($324,000)**	**($324,000)**	**($3,079,000)**
Sources and Assumptions (Please see Section 8.2 for additional assumptions used in the cost benefit analysis).							
1. Source: Intrado Cost Proposal submitted May 15, 2014							
2. Assumption: Costs in year five of a contract with Intrado would remain the same as in years two to four although Intrado only proposed costs for a four-year contract.							
3. Source: FairPoint Volume II Cost Proposal v6.1							

5.2.3 Costs for Other States' 9-1-1 Services

In this section we provide a comparative analysis of the State of Vermont's 9-1-1 costs with two other states and three similarly-sized counties. The two states were selected due to the readily available information regarding costs, population, and number of annual calls. The three counties were selected based the information listed above as well as being a similar size to the State of Vermont. The table below includes annual costs, total number of annual calls, and calculated estimated cost per call only. The comparisons do not consider specific services provided to the public for each of the states or counties. Because of this, the cost comparisons are provided as reference points only, and are not intended to provide a detailed comparison of like services among each of the agencies reviewed. The findings resulting from this analysis include a broad range of per-call costs. They range from $1.74 per call (Maine) to $28.65 per call (Denver County, CO). When eliminating these low and high figures as anomalies, the remaining per-call costs range from $10.51 to $14.47. The per-call costs for Vermont are expected to be at the low end of this range once the new contract with FairPoint is operational.

Table 5.4 Cost Comparisons

State / County	Estimated Annual Non-Recurring Expenditures *(Source: FY2013 Budget for each agency)*	Population[6]	# Annual Calls	Estimated Cost per Call
Vermont	***$2,220,000[7]***	***626,630***	***208,000[8]***	***$10.67***
Florida	$209,828,535	19,570,261	14,500,000	$14.47
Maine	$2,030,000	1,329,313	1,165,259	$1.74
Denver County, CO	$14,443,700	649,495	504,000	$28.65
Providence County, RI	$5,493,425	627,284	522,779	$10.51
Kent County, MI	$4,421,150	621,700	332,897	$13.28

[6]Source: United States Census Bureau, 2013 estimate http://quickfacts.census.gov/qfd/index.html
[7]Includes E9-1-1 Board staff costs; see Appendix C for more details
[8]Source: Vermont's Response to Questions for the NG9-1-1 System released in March 2014

5.3 Cost Assessment

Based on the available information and using the comparisons provided in Section 5.2 as benchmarks, FairPoint's proposed fees appear aligned with similarly-sized agencies. The per-call costs are expected to be at the low end of the range for agencies with comparably-sized populations. The total cost of ownership, including implementation and five years of operations, is lower than Vermont's existing system as well as Intrado's proposed costs for the system currently being procured by the State.

6.0 TECHNOLOGY ARCHITECTURE REVIEW

6.1 Alignment with the State's IT Strategic Plan

The State's IT Strategic Plan for 2014-2019 states the six key principles DII uses to design and prioritize work are as follows:

1. Leverage successes of others, learning best practices from outside Vermont.
2. Leverage shared services and cloud-based IT, taking advantage of IT economies of scale.
3. Adapt the Vermont workforce to the evolving needs of state government.
4. Leverage modern IT delivery frameworks and enterprise architectures.
5. Couple IT with business process optimization, to improve overall productivity and customer service, not just IT itself.
6. Optimize IT investments via Enterprise Architecture and Project Management methodologies.

The five major goals that guide DII are as follows:

1. Modernize critical technologies
2. Ensure sustainability of the State's information services
3. Operate IT effectively and efficiently
4. Use IT to improve the productivity of all state services
5. Create new solutions with State Agencies.

In addition, the Strategic Plan identifies increasing the use of private cloud services as part of its goal to ensure sustainability of the State's information services and Software-as-a-Service (SaaS) as part of the goal to operate IT effectively and efficiently.

The Board's decision to procure a services-based solution aligns well with the key principles and goals outlined in the IT Strategic Plan, particularly the leveraging of shared services and cloud-based IT and the use of SaaS. In addition, the DII EA interviewed for the Independent Review indicated alignment with the State's broader goals. Outsourced cloud-based computing and SaaS allow the State to focus on delivering on its core mission rather than the supporting technology, better enabling departments to pay for only the resources used, keeping spending proportional to the lifecycle, and maintaining software version currency. Finally, as expressed in the IT ABC Form, the procurement of an NG9-1-1 system aligns with the State's goal of modernizing critical technologies.

6.2 Service Level(s)

According to the Board's Executive Director and staff, service levels across a wide range of performance metrics will be developed as part of contract negotiations, which FairPoint indicates a willingness to help develop in their RFP response. The Board's technical staff has indicated their intention to examine each of the functional requirements enumerated in the RFP and, to the degree possible, develop a specific service level metric with appropriate response, escalation, and penalty provisions for each service element. This approach appears adequate to establish appropriate service levels, although BerryDunn cannot assess the comprehensiveness and effectiveness of service levels until they are drafted and agreed to by both parties.

6.3 Sustainability

The services model for provision of Vermont's NG9-1-1 services is now going into its third iteration. The model allows the State to maintain a state-of-the art solution at a predictable cost with the option of moving to a different vendor upon contract termination should that become necessary.

The source of the system funding, Vermont's Universal Service Fund (USF), is based on a tax on telecommunications providers serving the State. The annual funding requirement has fluctuated widely in recent years, causing corresponding swings in the USF rate. Further complicating the funding are major changes in the types of telephone services being consumed by Vermonters; the number of traditional landlines is steadily declining and traditional cell phone lines and non-traditional services such as VoIP (e.g., Vonage) and non-traditional cell phone providers (e.g., prepaid plans) are increasing. The net result is that the Board and other State agencies will need to continue to be forward thinking in their management of the USF, adapting to changing market conditions as needed.

6.4 License Model

The license model in the proposed services-based agreement with FairPoint is relatively limited. Based on discussions with the Board, it appears that they are taking appropriate steps to secure access to any license elements that might emerge within the context of a services-based agreement.

6.5 Security

The Board's NG9-1-1 RFP included detailed security requirements involving design, system access, and other functions to insure an appropriate level of system and data security. The FairPoint response indicates their commitment to National Emergency Number Association (NENA) standards and to use INFOSEC security standards as the basis for their system

operations, as well as best practices from NIST, ISO, COBIT, etc. The Board's requirements and FairPoint's response appear to represent an appropriate and adequate level of security[9].

6.6 Disaster Recovery

The architecture of the system is inherently robust from a resiliency perspective such that true disaster recovery is not likely to be required. The underlying ESInet remains unchanged from the Intrado service and has been highly available. All critical systems' elements are duplicated throughout the network. Core system nodes that will host FairPoint's system call routing, database, mapping, and management components are geographically separated in FairPoint's Burlington and Rutland central offices, which have substantial emergency power systems. Loss of any given PSAP is automatically compensated for by routing of calls to available PSAP answering positions at other sites.

One possible improvement might occur through collaboration with the State of Maine, which is currently utilizing a similar solution from FairPoint and might provide additional resiliency in the form of greater geographic diversity for core system elements and/or overflow call answering in the face of a truly overwhelming cataclysm. The Board is aware of this possibility, which it may explore as appropriate in coming years.

6.7 Data Retention

The RFP specifies and FairPoint has agreed that the State will own all significant data elements such as historical recording, call recording, and system level information and that FairPoint will archive such data for appropriate lengths of time.

6.8 Service Level Agreement

The Board reports that Service Level Agreements (SLAs) will be developed as part of contract negotiations. FairPoint has indicated their intention to collaborate with the State and will provide a baseline set of SLAs upon which to begin more detailed discussions. The Board appears to fully understand the need for very granular SLAs and has a methodology in mind for developing them based on the specific requirements outlined in the RFP and lessons learned from previous contracts. In addition, during their site visit to the Maine Emergency Services Communication Bureau to review the 9-1-1 system established by FairPoint there, they will ask their counterparts about SLAs, specifically any lessons learned they may have for improvement. Finally, the Board is working closely with an attorney in the State Attorney General's office who has familiarity with services-based contracts to help ensure important aspects are not

[9] Addendum as of August 9, 2014: On August 6, 2014, after our assessment was completed, BerryDunn was made aware that the DII Security Team and FairPoint are working through concerns regarding FairPoint's proposed approach to security, including that they are not fully ISO27001 compliant.

overlooked in the contract.[10] Establishing SLAs is a critical task that the State should consider carefully and invest appropriate time into given that this is a services-based system.

6.9 System Integration

NG9-1-1 data is self-contained within the system, so integration with State IT systems is not a requirement.

[10]Addendum as of August 9, 2014: At the time of BerryDunn's assessment, the SLAs were not available for review and therefore we could not provide an opinion on the SLAs. On August 8, 2014, the Board Executive Director provided a draft list of SLAs, which increases our confidence in the State's ability to execute a contract with adequate and appropriate SLAs. BerryDunn subsequently reviewed the SLAs and provided feedback and recommendations to the Board Executive Director.

7.0 ASSESSMENT OF IMPLEMENTATION PLAN

7.1 Implementation Readiness

7.1.1 Implementation Timeline

As of the time of the Independent Review in mid-July 2014, approximately one year remains before the new system go-live date of July 1, 2015. Based on interviews, review of documentation, and industry knowledge, this period of time appears adequate to complete the required tasks and deliverables outlined in the RFP. Board staff expressed cautious confidence in the timeline, and the Board's Executive Director indicated that FairPoint has not expressed any concerns regarding it.

FairPoint currently provides the networking component of the incumbent vendor's 9-1-1 system in Vermont, a factor which may positively impact transition time. In addition, according to FairPoint's proposal, the majority of Solacom's supplied services, software, and components in the proposed solution are currently available and in operation, with the following two exceptions:

- The combined Telecommunication Device for the Deal/Teletypewriter (TTD/TTY), Short Message Service (SMS), and Instant Messaging (IM) panel on the call taker position, which is expected to be available in June 2015.
- Call handling from the map to allow for transfers or to place a call in mute or privacy mode, which is expected to be available in Q1 2015.

Software to comply with the RFP's GIS data management requirements is also not commercially available by FairPoint or its partners. FairPoint indicates in its RFP response that the delivery of software modifications will be determined upon contract signing, but are generally expected to be delivered within six months. Board staff indicated they are considering approaches to mitigate the risk of delays with this functionality such as entering into a letter of intent with FairPoint before the contract is signed to allow requirements development to begin and prioritizing requirements based on highest need.

The potential for an IBEW union strike impacting FairPoint workers to occur upon expiration of their current labor contract on August 2, 2014 also represents an implementation risk that must be explored and for which contingency plans should be developed. The State should consider including language in the contract with FairPoint to protect the NG9-1-1 services received from FairPoint due to their criticality to public safety.

Finally, risks with the potential to impact the implementation timeline and ultimate implementation success have been identified related to Intrado. As a major player in the industry and the incumbent vendor who received the contract to provide NG9-1-1 services only four years ago, Intrado may feel it is in their best interest to contest the award, although the Board reports it employed the evaluation criteria, factors, and approach articulated in Section

8.1.1 of the RFP, which is in compliance with State procurement guidelines. Furthermore, Intrado may not be fully cooperative during the transition period to the new vendor for reasons including tensions between them and the Board and challenges that have arisen during their existing contract. Language in Intrado's contract regarding the vendor's participation and obligations regarding transition services may mitigate this concern.

Although the implementation timeline appears sufficient as of the time of the Independent Review, the project could experience unforeseen delays for various reasons including contracting, vendor labor issues, and technical challenges. The State should remain mindful of the timeline, avoid unnecessary project delays, and develop contingency plans as appropriate. In addition, the sample project timeline provided by FairPoint in its response indicates "Final Acceptance" on July 1, 2015. Although we recognize the timeline was a sample, BerryDunn encourages the State to ensure that FairPoint builds appropriate float time into the project schedule to allow for unexpected delays.

7.1.2 Training

Although a detailed training plan has not yet been developed, the high level training proposal submitted by FairPoint appears adequate to meet the needs of the State and the PSAPs. E9-1-1 Board Emergency Communications Training Coordinators indicated they had no concerns with the approach proposed by FairPoint, including the timing. It aligns with their expectations based on prior experience, including with previous NG9-1-1 system implementations. Similarly, the PSAP managers indicated they have confidence in the Board staff's ability to provide training to call takers after they receive training from the FairPoint team.

FairPoint's proposal indicates it understands and complies with the training requirements outlined by the State in Section 3.16 of the RFP, including providing the following:

- Two-day train-the-trainer course for four participants
- Four one-day administration training courses
- One five-day technical training course
- Database staff training on GIS and database software
- Database staff training on Telecommunication Service Provider (TSP) and Private Switch/Automatic Location Identification (PS/ALI) software functions and operation
- Training for selected TSP and PS/ALI teams on software functions and operation

FairPoint also indicates it will deliver the following required documentation:

- User documentation for call takers, database staff, and TSP and PS/ALI users
- Training materials
- Technical documentation

- Manuals

Finally, FairPoint agrees to provide a training environment at the Board office with four positions at least six weeks prior to implementation with data and features that will mirror a normal production PSAP. They will also enable training to be performed at the PSAPs by providing, at a minimum, a single PSAP position that will tie into the training segment of the system at least two weeks prior to deployment.

7.1.3 Department/Division Participation Readiness

General acceptance and readiness to transition to a new NG9-1-1 vendor and system was demonstrated by all State stakeholders interviewed for the Independent Review. At a leadership/sponsorship level, the Board's Executive Director appears to have engaged his team and key stakeholders early in the process to gain feedback on the current "as-is" and desired "to-be" systems and to gain appropriate buy-in for the process, and he has planned for key items such as funding.

Interviewed Board staff seemed eager, ready, and willing to participate in all aspects of the project from procurement through to implementation and operations. Their motivation and desire to see the project be successful appears to result from a combination of their commitment to their work and public service, as well as their frustration with the existing vendor and system.

The Board Chair and PSAP managers expressed support for the transition based on issues with the existing vendor and system. They shared that although some individuals are may be reluctant to change, call takers are proud of the work they do, are willing to "roll up their sleeves" to make sure they move forward, and are accustomed to learning new technology and incorporating into their workflow. Furthermore, they will likely be more open to change due to dissatisfaction with the current system.

7.1.4 Design, Conversion, and Implementation Plans

The Board's experience with NG9-1-1 services over the past 10 years and the longevity and commitment of their technical staff are evident in the level of detailed requirements incorporated into the RFP. Intrado's current services utilize the same underlying ESInet that will be the foundation for the FairPoint services agreement, and the PSTN design element appears adequate. FairPoint's description of how call routing, database management, and PSAP equipment elements are engineered suggests the overall design is adequate, particularly since they have designed and implemented a similar and apparently successful solution in Maine.

It is important to note that FairPoint has limited experience as a NG9-1-1 integrator, with Maine as their only other NG9-1-1 customer. While they have selected what appear to be reputable partners to provide various elements of the NG9-1-1 system, the State should develop the contract in a manner that recognizes and mitigates the risks associated with problems internal to or between FairPoint and these partners.

The original conversion plan proposed by FairPoint for a gradual migration from Intrado to FairPoint has been rejected by the Board, which desires a flash cutover from the old to the new system. FairPoint appears open to this approach and, with proper system testing in advance, there do not appear to be any undue risks with this strategy.

Although the overall high level implementation approach described by FairPoint appears sound, the detailed project plan, project team, milestones, and penalties will be addressed in contract negotiations and therefore have not yet been defined. As a result, BerryDunn cannot judge whether the plans are adequate.

7.1.5 Support for Conversion/Implementation Activities

With the exception of the unknowns associated with a work stoppage due to a union action (as described in Section 7.1.1), FairPoint appears to have assembled sufficient resources to implement the service as required. The final contract must include all deliverables itemized in the FairPoint proposal in order to ensure that adequate resources are committed to this project.

7.1.6 Agency and Partner Staff Resources

7.1.6.1 State EPMO Oversight Project Manager

A State EPMO OPM has been assigned to the project, and she has indicated that her overall time commitment to oversee implementation activities is approximately 65 hours. This resource will not provide direct project management on behalf of the State, but instead will conduct periodic reviews to ensure that the project is being managed using Project Management Institute (PMI) best practices and utilizing existing templates and procedures identified by the State EPMO.

7.1.6.2 State Implementation Project Manager and Project Team

The need for a State Implementation Project Manager has not been identified. The Board's Executive Director indicated that he will assume responsibility for project management related tasks, in collaboration with the OPM, who will provide overall project management oversight. The Executive Director also does not anticipate needing additional staff to assist with the implementation. The expectation is that staff will be able to absorb implementation tasks into their existing workload, with the exception of limited overtime during cutover and training. Staff, many who participated in the implementation of Intrado's system, concurred that they will be able to fulfill their ongoing operational responsibilities while assisting with implementation of the new system. They indicated that at some point they expect the existing system will be "frozen," minimizing the level of effort to support the system and allowing them to shift time to implementation activities.

7.1.6.3 FairPoint Program and Project Management Team

FairPoint's proposed program/project management team is comprised of two resources with previous experience in NG9-1-1 systems. Nate Wilcox, who will serve as the Program Manager, chaired the National Emergency Number Association (NENA) VoIP/Packet Technical Committee Long Term Definition Working Group and is based in the State of Vermont. Mr. Wilcox worked with the Board previously during his employment with microDATA, the vendor who provided services to the State before Intrado. Due to the importance of his role, the Board should discuss their previous experience working with Mr. Wilcox to assess if he may be a good fit for the Program Manager position, and, if not, consider requesting an alternative Program Manager.

Jim Lockard, the proposed Project Manager, is a certified Project Management Professional (PMP), Emergency Number Professional (ENP), PMI-Agile Certified Practitioner (PMI-ACP), and an Information Technology Infrastructure Library (ITIL) foundations certified professional with 23 years of experience in managing technology and implementation projects. It is our understanding that Jim is not located in Vermont. FairPoint's response to Section 5.11 of the RFP regarding the location of work indicates that Mr. Wilcox will provide on-site services as needed to all PSAP locations; however, on-site time for Mr. Lockard is not specified. As the Project Manager, the State may want to establish a minimum expectation for Mr. Lockard's on-site time to ensure proper project communications and oversight.

7.1.7 Adequacy of Testing Plan/Approach

FairPoint expressed understanding of and agreement to comply with the pre-cutover and acceptance testing requirements as outlined in the RFP, including 3.13.7 User Acceptance Testing (UAT), 3.15.1 Pre-Cutover, 3.15.2 Certification, and 3.15.3 Acceptance Testing. At a high level, the approach appears appropriate; however, detailed test plans have not been developed and are therefore unable to be assessed as part of the Independent Review. BerryDunn recommends that the contract with FairPoint define key testing elements such as timelines, acceptance criteria, and types of testing required (e.g., performance, regression, functional, security), which can be further built upon after contract signing. In its response to RFP requirement 3.15.3 Acceptance Testing, FairPoint indicates that a "mutually agreed upon and conclusive acceptance test plan shall be created for the project during the cutover and system design phase." The State should clarify this comment and require that test plans be developed and agreed upon earlier in the project, e.g., during the planning phase.

In addition, FairPoint proposes to build a new services infrastructure in parallel with the production Intrado network. They will also equip a complete lab environment with three work stations emulating a PSAP environment that will permit the Board to test the system in a non-production environment, per requirements 3.4.7 in the RFP. Assuming that these elements are incorporated into the contract and delivered as promised, having a dedicated testing system and lab will provide the State additional assurance prior to implementation and during ongoing operations as new/improved functionality is deployed that the system fulfills their requirements and does not cause any service disruptions.

7.1.8 General Acceptance/Readiness of Staff

As described in Sections 7.1.3 and 7.1.6.2, Board staff is seasoned and committed, and the Executive Director and staff are confident that they have the internal resources needed to successfully manage this contract and project. Several of the staff were part of the transition from microData to Intrado four years ago and have a first-hand understanding of the challenges that may be encountered.

In addition, in discussions with PSAP managers, call answering personnel similarly appear ready and willing to tackle the challenges associated with converting to a new system.

7.2 Risk Assessment and Risk Register

7.2.1 Approach

The Risk Assessment and Register is a key component of this Independent Review of the NG9-1-1 system upgrade and replacement. For the purposes of the review, a risk was defined as an uncertain event or condition which, if it occurs, could have a negative effect on successful completion of the project's objectives. Risks are events or conditions that may occur in the future.

BerryDunn identified risks related to the following topic areas during interviews review of documents for this Independent Review:

- General
- Acquisition Costs
- Technical Architecture
- Implementation Plan
- Cost-Benefit Analysis
- Impact on Net Operating Costs

Attributes of each identified risk were then assessed, including:

- Source
- Risk description
- Impact and probability rating
- Timing of risk response
- Impact description

After assessment of each risk, BerryDunn developed and met with the Board's Executive Director and staff to review recommended risk strategies and responses. Following the meeting,

the Executive Director and staff documented their planned strategies and responses to each risk, incorporating their knowledge and experience with the recommendations provided by BerryDunn. Finally, BerryDunn assessed if, based on the team's judgment, the State's planned risk response appeared appropriate and adequate. The State's risk responses are documented verbatim in the Risk Register in Appendix B, as is BerryDunn's assessment of those responses.

7.2.2 Risk Register Definitions

Table 7.1 defines the elements of the Risk Register provided in Appendix B.

Table 7.1: Risk Register Element Definitions

Data Element	Description
Risk #	Sequential number assigned to each risk to be used when referring to the risk.
Risk Source	Source of the risk, which may be the Project, Proposed Solution, Vendor, or Other.
Risk Description	Brief narrative description of the identified risk.
Risk Impact / Probability	Two-value indicator of the potential impact of the risk if it were to occur, along with an indicator of the probability of the risk occurring. Assigned values are High, Medium, or Low.
Timing of Risk Response	Planned timing for carrying out the risk response, which may be Prior to Contract Execution or Subsequent to Contract Execution.
Risk Impact Description	Narrative description of the potential impact of the risk.
State's Planned Risk Strategy	Strategy the State plans to take to address the risk. Assigned values are Avoid, Mitigate, Transfer, or Accept
State's Planned Risk Response	Risk response the State plans to adopt based on discussions between State staff and BerryDunn reviewers.
BerryDunn's Assessment of State's Planned Response	Indication of whether or not BerryDunn reviewers feel the planned response is adequate and appropriate, and recommendations if not.

7.2.3 Risk Prioritization and Summary

This section includes two risk scatter diagrams indicating the relative priority of risks based on their potential impact and probability. The risk scatter diagrams also indicate which risks should be addressed ***Prior to Contract Execution*** and those that may be addressed ***Subsequent to Contract Execution***. The risks are positioned on each diagram to enable the user to quickly determine the level of risk impact, as well as the probability of each risk occurring.

A table summarizing all identified risks included in the complete Risk Register in Appendix B follows the risk scatter diagrams. Risks in Table 7.2 and Appendix B are presented in descending order, with impact as the primary factor and probability as the secondary factor. For

example, a risk assigned high impact/medium probability would be ranked before a risk assigned low impact/high probability but after a risk assigned high impact/high probability.

		Probability		
		High	**Medium**	**Low**
Impact	**High**		R1	R3, R4, R5[11]
	Medium		R6	R7, R8, R9
	Low			

Risk Scatter Diagram 7.1: Prior to Contract Execution

		Probability		
		High	**Medium**	**Low**
Impact	**High**			R2, R5[4]
	Medium			
	Low			R10

Risk Scatter Diagram 7.2: Subsequent to Contract Execution

Table 7.2: Risk Summary

Risk #	Risk Description	Category	Risk Impact / Probability	Recommended Risk Response Timing
R1	If rushed or inadequately negotiated, the contract with FairPoint may not include a comprehensive list of SLAs, key performance indicators (KPIs), and associated penalties required to protect the interests of the State.	Technical Architecture	High/Medium	Prior to Contract Execution
R2	Board staffing levels will remain the same during project implementation and a dedicated Board Project Manager will not be assigned to oversee the project.	Implementation Plan	High/Low	Subsequent to Contract Execution

[11]Some components of the mitigation strategy for R5 should be completed prior to contract execution and others may be completed after contract execution; therefore, it is included in Risk Scatter Diagrams 7.1 and 7.2.

Risk #	Risk Description	Category	Risk Impact / Probability	Recommended Risk Response Timing
R3	FairPoint may encounter financial troubles during the term of the contract, which could impact FairPoint's ability to maintain its contractual NG9-1-1 services obligations to Vermont.	General	High/Low	Prior to Contract Execution
R4	Intrado may successfully contest the bid award.	Implementation Plan	High/Low	Prior to Contract Execution
R5	Cutover to the new FairPoint system may be delayed beyond June 30, 2015, when the contract with Intrado expires.	Implementation Plan	High/Low	Prior and Subsequent to Contract Execution
R6	Intrado may unsuccessfully contest the bid award.	Implementation Plan	Medium / Medium	Prior to Contract Execution
R7	FairPoint has only served as a NG9-1-1 services provider and systems integrator in one other state, offering a limited history regarding their ability to deliver on the proposed solution.	General	Medium/Low	Prior to Contract Execution
R8	FairPoint has proposed providing a Program Manager located in Vermont and a remote Project Manager to jointly perform all project management tasks necessary to successfully implement the NG9-1-1 system.	Implementation Plan	Medium/Low	Prior to Contract Execution
R9	The State's RFP and FairPoint's RFP response do not include a detailed inventory of deliverables.	Implementation Plan	Medium/Low	Prior to Contract Execution
R10	Intrado may be uncooperative during the transition period to a new vendor.	Implementation Plan	Low/Low	Subsequent to Contract Execution

8.0 COST-BENEFIT ANALYSIS

8.1 Analysis Description

To begin the cost-benefit analysis, all known costs were inventoried. Non-recurring (i.e., upfront implementation) and recurring (i.e., ongoing operational) costs for transitioning to the new system and vendor were collected from FairPoint's cost proposal, reviewed by the BerryDunn team, and validated with the Board's Executive Director. Costs for Board staff were sourced from the IT ABC Form, reviewed by the BerryDunn team, and validated with the Board's Executive Director and OPM. Costs for DII support were based on estimates provided by the project OPM and EA. BerryDunn confirmed with the Board's Executive Director and OPM that there are no additional known costs to be accounted for.

Benefits were gathered by first reviewing the IT ABC Form, followed by a discussion with the Board's Executive Director.

An overview of costs and funding is provided in Section 8.3, and additional details are provided in the Lifecycle Cost-Benefit Analysis table provided in Appendix C. Section 8.4 includes a summary of benefits, which are also included in Appendix C.

8.2 Assumptions

The following assumptions were used for the cost-benefit analysis:

- The State will pursue and obtain a waiver from the Secretary of Administration to sign a five-year operational contract with FairPoint, and therefore the five-year pricing model applies.[12]
- The State will not require FairPoint to obtain Service Organization Controls (SOC) 2 certification and auditing, which would increase annual operating costs.
- The assumptions upon which FairPoint's fees are based (as listed in its cost proposal) are accurate, e.g., the State of Vermont's GIS data is in one statewide dataset, and there is one ALI database for the state.
- New fiber installation for Rockingham and new carrying plant (from pole, pedestal, or manhole) is required.
- Licenses for software not included in the FairPoint cost proposal, e.g., ArcGIS Network Analyst for Desktop, are not included in the analysis as they are not considered part of the system operating costs
- There will be no change in Board staffing to support new system implementation or operations, and minimal overtime is expected. Approximately 1,000 hours of Board staff

[12] In addition to the five-year proposal, FairPoint offered a two-year model with two one-year optional extensions with significantly higher implementation and monthly costs than the five-year model.

time (estimated at $36,000) is required to perform ongoing vendor management and system support, which represents no change from current staffing needs.

- No additional acquisition or ongoing system operations costs (e.g., net new software licenses or equipment) have been identified by the Board Director or OPM at this time.
- DII staffing costs (EPMO and EA) will total approximately 3% of system implementation costs.
- No tangible benefits for transitioning to a new vendor and system have been identified.

8.3 Costs and Funding

FairPoint structured its cost proposal to allow for minimal upfront implementation costs, which total $300,000. Combined with costs for Board staffing, DII support, and the Independent Review, total implementation costs in FY 2015 are expected to be approximately $360,900.

Ongoing monthly service fees for FY2016 through FY2020 are $182,000 or $2.184 million annually. Board staffing costs for vendor management are expected to be approximately $36,000 annually, for a combined total cost of $2.22 million per year or $11,460,900 over the entire lifecycle.

The Board's Executive Director confirmed that ongoing annual operational costs for the NG9-1-1 services are funded through the USF, as outlined in Vermont Statute Title 30, Chapter 87, Section 7054. In addition, he reports approximately $3 million remains in reserves that can be used to fund implementation costs.

8.4 Benefits

Benefits associated with the acquisition and implementation of the proposed NG9-1-1 system were provided by the State and categorized as tangible and intangible. Tangible benefits may be quantifiable, where a savings dollar value can be associated with the benefit, or they may be non-quantifiable but still material and physical. Intangible benefits are those that cannot be associated with specific dollar savings and may not have a material or physical impact but are important considerations for the replacement of the system.

8.4.1 Tangible Benefits

No quantifiable tangible benefits, such as a reduction in staffing or increased revenues, have been identified by the E9-1-1 Board's Executive Director.

Non-quantifiable tangible benefits include the following:

- Enhanced interactive GIS mapping capabilities to improve call taker efficiency and job satisfaction.
- Simplified, automated back office processes and workflow steps resulting from improved GIS management tools, reducing staff level of effort.

- A fiber-based data network connecting the PSAP's at 10Mb, making the network more resilient and eliminating problems with slow replication cycles and workstation updates.
- A test lab, providing the Board with the means to install system updates in a non-production environment to ensure they are not service-effecting before they are applied to production systems.
- Additional support for new media types, e.g., SMS, IM, TTY/TDD, providing new pathways for Vermont residents and visitors to alert public safety personnel in an emergency.

8.4.2 Intangible Benefits

A list of intangible benefits identified by the State is included below. These benefits have no quantifiable value, but are important considerations when determining whether or not to replace a vendor and system.

Intangible benefits include the following:

- A vendor (FairPoint) that has substantial incentives to achieve and maintain a cooperative and successful relationship with the E9-1-1 Board and the State of Vermont as a whole.

A services solution that leverages three FairPoint partners (Solacom, GeoComm and 911 DataMaster), each of whom must innovate to prosper in the NG9-1-1 market.

8.5 Costs versus Benefits

Based on conversations with the Board's Executive Director and other stakeholders, the anticipated benefits appear to outweigh the risks and costs of transitioning to the preferred vendor, particularly considering that the total cost of the alternative solution provided by the incumbent vendor is approximately $3 million higher than FairPoint's proposed costs. Although interviewees cited some existing vendor and system strengths and successes, the consistent message was that significant service and system issues persist, including contractually required functionality/deliverables that have not yet been provided.

8.6 IT ABC Form Review

Upon assessment, the IT ABC Form appears to be largely consistent with other information gathered through documents and interviews during the course of the Independent Review. The estimated total cost of the new solution, including implementation and five-year operating costs, was $10,272,080 in the IT ABC Form, compared with a total cost of $11,460,900 for FairPoint's solution.

Additional key findings include:

- **Implementation Costs:** Vendor-related implementation costs are $700,000 higher in the IT ABC Form than in FairPoint's proposal.
- **Ongoing Operational Costs**: Vendor-related ongoing costs are $384,000 lower per year in the IT ABC Form than in the FairPoint's proposal. Costs in the IT ABC were based, however, on current fees from the incumbent vendor, which were negotiated four years ago and do not include the exact same requirements as requested in the State's recently released RFP. Accordingly, although the IT ABC form indicated there would be no net impact on operating costs, revised estimates using FairPoint's proposal indicate an approximate increase of $306,692[13] in annual operating costs for FY2016-2020.
- **Other Costs:** Insubstantial differences exist in the estimated DII EPMO and EA costs ($31,080 in the IT ABC Form versus $9,000 in revised estimates gathered during the Independent Review due to lower implementation costs), and in the cost of the Independent Review ($25,000 in the IT ABC Form versus $15,900 actual costs due to competitive procurement).

[13]Current annual operating costs were estimated at $1.8 million in the IT ABC Form, but actual costs used in the cost-benefit analysis are approximately $1,877,308, accounting for the difference between the $384,000 in the IT ABC Form and the $306,692 in the cost-benefit analysis.

9.0 IMPACT ON NET OPERATING COSTS

9.1 Overview

Net operating costs for FY2016 to FY2020 are expected to increase by approximately $306,692 annually based on a comparison of projected operating costs using FairPoint's cost proposal and current operating costs with Intrado.

- **Staffing Costs:** No net impact on staffing costs is expected as a result of transitioning to a new NG9-1-1 vendor and system. Current Board staffing costs to perform system support and related vendor management activities are estimated to be approximately $36,000 annually, which the Board's Executive Director and staff anticipate will be adequate moving forward.
- **NG9-1-1 Service Costs:** NG9-1-1 service costs are expected to increase by $306,692 annually, for a total of $1,533,460 over the five-year operating lifecycle.
- **Other Operating Costs:** No decrease or increase in other operating costs has been identified as a result of transitioning to a new NG9-1-1 vendor and system.

Table 9.1 includes further detail on the impact on net operating costs, and Section 8.2 Cost-Benefit Analysis provides additional assumptions used in the analysis.

Table 9.1: Estimated Net Impact on Operating Costs

Estimated Net Impact on Operating Costs							
Impact on Operating Costs	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Five-Year Totals**
E9-1-1 Board Staffing							
Current Costs[1]	N/A	$36,000	$36,000	$36,000	$36,000	$36,000	**$180,000**
Projected Costs[1]	N/A	$36,000	$36,000	$36,000	$36,000	$36,000	**$180,000**
NG9-1-1Services (includes all maintenance, support, and licenses)							
Current Costs[2]	N/A	$1,877,308	$1,877,308	$1,877,308	$1,877,308	$1,877,308	**$9,386,540**
Projected Costs[3,4]	N/A	$2,184,000	$2,184,000	$2,184,000	$2,184,000	$2,184,000	**$10,920,000**
Net Impact on Staffing	N/A	$0	$0	$0	$0	$0	**$0**
Net Impact on Other Operating Costs[5]	N/A	$306,692	$306,692	$306,692	$306,692	$306,692	**$1,533,460**
Net Impact on Operating Costs:	N/A	**$306,692**	**$306,692**	**$306,692**	**$306,692**	**$306,692**	**$1,533,460**

Sources and Assumptions (Please see Section 8.2 for additional assumptions used in the analysis of net impact on operating costs).

1. Source: DII IT ABC Form, EPMO, and the Board's Executive Director
2. Source: Existing Intrado Contract; fees are paid quarterly at $469,327/quarter
3. Source: FairPoint Volume II Cost Proposal v6.1; fees are paid monthly at $182,000/month
4. Assumes optional costs for Service Organization Control (SOC) 2 certification and auditing will not be required
5. Assumes no other directly related operating costs, as confirmed with the Board Executive Director and DII OPM

It is important to note two things when reviewing net impact on operating costs. The first is that although operating costs would increase under FairPoint's current proposal, the total cost of ownership for implementation plus five years of operations is $271,540 lower for FairPoint's proposed solution when compared with Intrado's existing solution as a result of FairPoint's

reduced implementation costs, as noted in Section 5.2.1. In addition, current operating costs are not valid for future years since the five-year contract with Intrado expires June 30, 2015. Costs for five years of operations would be $979,000 lower with FairPoint when comparing FairPoint's proposed costs against Intrado's proposed costs in its response to the RFP for NG9-1-1 services released in March 2014. This assumes costs in year five of a contract with Intrado would remain the same as in years two to four, although Intrado only proposed costs for a four-year contract. Intrado's proposal also included $2.4 million in upfront implementation costs, which are not accounted for in net operating costs (see Section 5.2.2 for additional information).

The Board's Executive Director expressed no concerns about the State's ability to pay for the proposed increase in annual operating costs based on existing reserves and Vermont's funding mechanism for NG9-1-1 services.

9.2 Federal Funding

No federal funding is expected. Annual operating costs are covered by the State's USF.

9.3 Break-Even Point

This section is not applicable as the project includes an increase in costs with no tangible benefits in return. In addition, funding for implementation and ongoing operating costs is received through the USF rather than generation of revenues (e.g., user or other fees).

APPENDIX A – ILLUSTRATION OF SYSTEM INTEGRATION

Not applicable.

APPENDIX B – RISK REGISTER[14]

Risk #: 1	Risk Source: Vendor/Other	Risk Impact/Probability: High/Medium

Recommended Risk Response Timing:	Prior to Contract Execution
Risk Description:	**If rushed or inadequately negotiated, the contract with FairPoint may not include a comprehensive list of SLAs, key performance indicators (KPIs), and associated penalties required to protect the interests of the State.** The Board intends to develop and negotiate a detailed contract due to its service-based nature, which both parties expect will be signed by the end of August to ensure that the implementation schedule is maintained. There is a risk that to meet the August timeline, a comprehensive list of SLAs and KPIs will not be documented and agreed upon.
Risk Impact Description:	The State's success with the project depends largely upon including adequate and appropriate language in the contract. Failure to clearly establish a comprehensive list of detailed SLAs, KPIs, and associated penalties could lead to misaligned expectations and the failure of FairPoint to deliver on the State's requirements as outlined in the RFP during the operational phase of the project.
State's Planned Risk Strategy:	Mitigate
State's Planned Risk Response:	*The Board met with FairPoint senior managers and their attorney to discuss concerns we had with their responses to legal and contractual issues on June 20th. We are expecting to get clarifications to those issues along with draft SLA's for consideration and we have again pushed FairPoint to get that done soon. We are trying to strike a balance between being very thoughtful about what we need in the contract and to do so in a way that ensures that FairPoint has sufficient time to get everything done by June 30, 2015. We are encouraged to learn that they think that a signed contract by the end of September will enable them to complete the work and barring any surprises we think that is more than doable. We have Jaye Johnson working on the contract draft, we are translating the responses to the requirements into a statement of work, and the pieces are coming together. We expect to have reasonable and enforceable SLA's in the contract and should have a draft contract to consider by the first of August so we expect to be able to get this done by the end of September if not sooner. We've been in communication with Maine on numerous occasions, including a number of staff going to Maine over the last couple of weeks and are comfortable with how the project went in Maine.*

[14]The State's planned risk responses in italicized font are included verbatim from a document provided by the Board's Executive Director to BerryDunn on July 22, 2014.

Risk #: 1	Risk Source: Vendor/Other	Risk Impact/Probability: High/Medium
BerryDunn's Assessment of State's Planned Response:	The State's planned risk response, which includes balancing the need to ensure the contract provides adequate protection to the State with time demands, asking their Maine counterparts for lessons learned, and collaborating closely with the attorney in the State Attorney General's office who has experience in services-based contracts, appears adequate and appropriate.	

Risk #: 2	Risk Source: Project	Risk Impact/Probability: High/Low
Recommended Risk Response Timing:	Subsequent to Contract Execution	
Risk Description:	**Board staffing levels will remain the same during project implementation and a dedicated Board Project Manager will not be assigned to oversee the project.** Board staff will be expected to absorb implementation activities into their existing workload, which may prove challenging, particularly if the schedule becomes compressed due to various factors (see Risk #5). In addition, although the DII OPM will provide high-level oversight and FairPoint will assign Program and Project Managers, the Board does not plan to have a Project Manager dedicated to performing regular project management activities.	
Risk Impact Description:	This high-impact project will require adequate staffing, project management, and oversight to ensure it meets the State's requirements and timeline. Inadequate staffing and/or project management may result in incomplete or delayed implementation tasks, increased vendor autonomy for making implementation decisions, decreased project communications, and reduced management of the NG9-1-1 services implementation project schedule. This impact is likely to be realized during project ramp-up and final implementation timelines.	
State's Planned Risk Strategy:	Mitigate	
State's Planned Risk Response:	*We have what we have for staffing, and no possibility of hiring someone specifically to do project management. The role of project management is well defined in the RFP. The Board's Executive Director has met with the FairPoint PM and the PM from DII and discussed roles and responsibilities. Notwithstanding how they described their PM approach in their response to the RFP, we are comfortable that Nate Wilcox can play the primary role for PM'ing the project. Jim Lockard's role is more oversight for Nate, and Jim is a certified instructor in the PMBOK' and certification process. While he was not able to make the meeting last week, we expect to see him soon and we made it clear when we did meet that we expect to see the PM onsite and we will not do PM by email, so I think the role that they will play in all of this is well defined. We expect that the DII PM will add value to this by being another set of eyes and ears on the project, and the Executive Director will also play an important oversight role on the PM portion of the contract so that issues can be addressed in a timely manner.*	
BerryDunn's Assessment of State's Planned Response:	The State's planned risk response appears adequate and appropriate. In addition, Board staff indicated there will be a "freeze" of changes to the existing system that require staff support, which we encourage the Board to pursue so staff may focus their efforts on new system implementation rather than supporting the existing system.	

Risk #: 3	Risk Source: Vendor	Risk Impact/Probability: High/Low
Recommended Risk Response Timing:	Prior to Contract Execution	
Risk Description:	**FairPoint may encounter financial troubles during the term of the contract, which could impact FairPoint's ability to maintain its contractual NG9-1-1 services obligations to Vermont.** FairPoint has been through one financial restructuring in recent years and continues to face challenges with profitability. Over the next six-year period, FairPoint could encounter further financial difficulties.	
Risk Impact Description:	Financial difficulties could have a significant impact on the Vermont NG9-1-1 service.	
State's Planned Risk Strategy:	Mitigate	
State's Planned Risk Response:	*We have already discussed this issue with Jaye Johnson and she agrees that we need to have language in the contract to mitigate issues that could arise as a result of a sale of FairPoint to another vendor. We understand that FairPoint has had their challenges. The Executive Director has had one and will have an additional conversation with the Public Service Department about any issues that might be brewing out there that could impact FairPoint's ability to deliver on this contract; to date, no issues have been identified, but we are very mindful of this potential and will take all reasonable steps to ensure that the State's interests are protected.*	
Reviewer's Assessment of State's Planned Response:	The State's planned risk response appears adequate and appropriate. In addition, the State should periodically monitor FairPoint's financial standing throughout the duration of the contract to ensure it does not degrade.	

Risk #: 4	Risk Source: Other	Risk Impact/Probability: High/Low
Recommended Risk Response Timing:	Prior to Contract Execution	
Risk Description:	**Intrado may successfully contest the bid award.** As the incumbent vendor who received the contract to provide NG9-1-1 services only four years ago, and as a major player in the industry, Intrado may feel it is in their best interest to contest.	
Risk Impact Description:	Dispute about the bid award may cause the FairPoint award to be voided.	
State's Planned Risk Strategy:	Mitigate	
State's Planned Risk Response:	*We are aware that Intrado caused problems in the State of Maine over their award, but the circumstances are different here in Vermont. First of all, Maine has a statutory process defined for vendor protests that does not exist in Vermont. We are checking again with Jaye Johnson, but are unaware of a path that Intrado could take other than to bluster and bluff about the decision. Based on the quality of their response, it is not clear to us that they are interested in continuing the relationship any more than we are. There is some risk that they might attempt to leverage payments due for functionality they have not delivered under the current contract, but would expect to shut that down quickly. We had Deb Damore review the process we outlined in the RFP to evaluate the bids and believe we followed that to a "T"; Deb did not have any particular concerns with the process we employed, so there is likely little basis to be concerned that Intrado would be successful in protesting the bid award. As soon as we have a contract drafted that we are prepared to send through the review and signoff process, we will notify Intrado both of the award and also remind them of their contractual obligation to cooperate during the transition. They have little to gain by making things too difficult for us.*	
BerryDunn's Assessment of State's Planned Response:	The State's planned risk response appears adequate and appropriate. The State appears to have made great efforts to comply with the evaluation criteria, factors, and approach articulated in Section 8.1.1 of the RFP, which is consistent with Vermont's purchasing practices. The Board's Executive Director has also created and assembled bid award documentation to ensure every effort has been made to successfully defend the award of the contract should it be necessary to do so.	

Risk #: 5	Risk Source: Project	Risk Impact/Probability: High/Low
Recommended Risk Response Timing:	Prior and Subsequent to Contract Award	
Risk Description:	**Cutover to the new FairPoint system may be delayed beyond June 30, 2015, when the contract with Intrado expires.** With less than a year left prior to go-live, the project may encounter delays that prevent cutover and services availability on July 1. Delays may arise as a result of lengthy contract negotiations, vendor labor issues from the impending expiration of the IBEW labor contract on August 2, 2014, and/or unforeseen technical challenges. Given relationship issues with the Board, Intrado may be reluctant to provide continuing services after expiration of its contract on June 30, 2015.	
Risk Impact Description:	Critical emergency 9-1-1 services could be unavailable to Vermonters, impacting public safety.	
State's Planned Risk Strategy:	Mitigate	
State's Planned Risk Response:	*We understand that FairPoint believes that they can complete all required work provided they have a contact signed by the end of September and that is doable. The folks we are dealing with are not ones that would be on strike if that comes to pass. We have asked Jaye Johnson to make sure we have language in the contract that addresses work stoppage so we are not held hostage. FairPoint already provides the ESInet that we are currently using so that work doesn't need to be completed in whole. We do not want to be in a position where we have to ask Intrado to do anything other than what they are already contractually required to do and the successful project in Maine bodes well for us here in Vermont. We will propose incentives as part of the non-recurring fees to help ensure that FairPoint completes the work in advance of June 20, 2015, and we would be happy to complete the transition early even if we have to pay Intrado for, say, the last two weeks of the contract even if the transition is complete by then.*	
BerryDunn's Assessment of State's Planned Response:	The State's planned risk response appears adequate and appropriate; particularly the use of incentives to help ensure FairPoint completes implementation work on time or early. However, we recommend the State develop a contingency plan that at a minimum includes discussions with Intrado regarding expectations for cooperation and provision of services after June 30, 2015 if needed, as outlined in Section 1.5 of Intrado's existing contract. Additional contingency planning efforts may include identifying a minimum set of requirements and functionality needed in the FairPoint system to support go-live so that efforts can be prioritized accordingly if the timeline becomes compressed.	

Risk #: 6	Risk Source: Other	Risk Impact/Probability: Medium/Medium
Recommended Risk Response Timing:	Prior to Contract Execution	
Risk Description:	**Intrado may unsuccessfully contest the bid award.** As the incumbent vendor who received the contract to provide NG9-1-1 services only four years ago, and as a major player in the industry, Intrado may feel it is in their best interests to contest.	
Risk Impact Description:	Dispute over the bid award may delay execution of a contract with FairPoint and project implementation.	
State's Planned Risk Strategy:	Mitigate	
State's Planned Risk Response:	*As noted earlier, we believe the risk of a vendor protest is low, and the potential success of such a protest to be unlikely. There is no love lost between Vermont and Intrado and so long as they maintain the system through the transition, we do not think Intrado is in a position to stop us from proceeding and we are not convinced they care enough about maintaining the relationship to cause us major headaches. There is a risk they might try to leverage payment due of undelivered functionality by tying it to the transition but there is no legal basis for them to do that, and Jaye Johnson is aware of those concerns and we trust that we are on firm ground with the decision to migrate and the potential for Intrado to make the transition difficult. Intrado has little to gain by trying to force us to maintain a relationship that we don't wish to maintain.*	
BerryDunn's Assessment of State's Planned Response:	The State's planned risk response appears adequate and appropriate. The State appears to have made great efforts to comply with the evaluation criteria, factors, and approach articulated in Section 8.1.1 of the RFP, which is consistent with Vermont's purchasing practices. The Board's Executive Director has also created and assembled bid award documentation to ensure every effort has been made to successfully defend the award of the contract should it be necessary to do so.	

Risk #: 7	Risk Source: Vendor	Risk Impact/Probability: Medium/Low
Recommended Risk Response Timing:	Prior to Contract Execution	
Risk Description:	**FairPoint has only served as a NG9-1-1 services provider and systems integrator in one other state, offering a limited history regarding their ability to deliver on the proposed solution.** The Board must take all reasonable steps to gain available information regarding FairPoint's ability to serve in the capacity of NG9-1-1 services provider and systems integrator in order to anticipate any potential difficulties and/or uncertainties.	
Risk Impact Description:	FairPoint's limited experience as a NG9-1-1 services provider and systems integrator may impact its ability to deliver services to the State as agreed to in its contract, with numerous consequences.	
State's Planned Risk Strategy:	Mitigate	
State's Planned Risk Response:	*We have been spending a fair amount of time with the State of Maine to learn what did and did not work in their engagement. Maine is happy with how things have gone on their project. July 23rd is the date of the cutover over of the last PSAP in Maine (they had 27 to cut over so they staggered the implementation) but with only 8 PSAPs, FairPoint understands that they have to do a flash cut in Vermont. On the one hand, one could make an argument that relying on a partnership between FairPoint, Solacom and GeoComm to deliver the solution in Vermont is not as advantageous as having one company (like Intrado) that purports to be able to do everything, but the reality is Intrado is not as integrated as they represented they are and the contract will be with FairPoint. We have made it clear in the RFP that the successful vendor will be on the hook for the performance of their subs, and have reiterated that in our discussions with FairPoint, so we are confident that FairPoint can pull this off.*	
BerryDunn's Assessment of State's Planned Response:	The State's planned risk response appears adequate and appropriate. We recommend, however, that the State also diligently check all references provided by FairPoint, including those for its partners, and potentially communicate with other NENA colleagues. In addition, the State may want to consider implementing a payment holdback model based on performance indicators negotiated with FairPoint. BerryDunn recommends paying the holdback on a regular basis (e.g., annually) rather than at the end of the contract.	

Risk #: 8	Risk Source: Vendor	Risk Impact/Probability: Medium/Low
Recommended Risk Response Timing:	Prior to Contract Execution	
Risk Description:	**FairPoint has proposed providing a Program Manager located in Vermont and a remote Project Manager to jointly perform all project management tasks necessary to successfully implement the NG9-1-1 system.** Although FairPoint's proposal provides a high-level description of each of the roles, the details of how responsibilities will be shared and coordinated are not defined. In addition, although the proposal indicates that the Program Manager, who has previous experience working with the State, will be available to be on-site as needed, the Project Manager's on-site availability is not specified.	
Risk Impact Description:	This high-impact project will require appropriate project management to ensure it meets the State's requirements and timeline. Coordinating project management responsibilities between two individuals in different locations, with the Project Manager located outside of the state, could lead to unclear accountability and create communication gaps and the risk of missed or delayed project activities. Furthermore, the proposed Program Manager's previous experience working with the State in his role with MicroDATA could be a positive or negative factor, depending on his performance and the nature of the relationship.	
State's Planned Risk Strategy:	Mitigate	
State's Planned Risk Response:	*The way that FairPoint described the PM role in their response is not clear and we had those concerns when we read their proposal and have addressed them. Nate Wilcox lives in Vermont and he knows that we expect him to be onsite and not trying to PM this project via email. Jim Lockard will be involved, primarily as an oversight and resource to Nate, and Jim is more than qualified as a PMBOK certified instructor to play that role. Jen Pittsley and the Board's Executive Director met with Nate last week to define roles and responsibilities and we believe we have addressed this risk more than adequately. The Executive Director specifically asked Nate if there is anything about his previous roles (Nate actually worked for the Board before he worked with MicroDATA) and there is no baggage related to those past interactions that need to be addressed. We will address the clarification of the roles in the contract.*	
BerryDunn's Assessment of State's Planned Response:	The State's planned risk response appears adequate and appropriate. The State appears to have gained clarity on the roles and responsibilities of FairPoint's proposed Program and Project Manager, which we recommend be articulated in the contract along with on-site expectations for both positions.	

Risk #: 9	Risk Source: Vendor	Risk Impact/Probability: Medium/Low
Recommended Risk Response Timing:	Prior to Contract Execution	
Risk Description:	**The State's RFP and FairPoint's RFP response do not include a detailed inventory of deliverables.** Although various documents and functional deliverables were mentioned throughout the RFP and the response to the RFP, a consolidated list with detailed deliverable expectations and required contents has not been established.	
Risk Impact Description:	Without a consolidated list of deliverables with associated expectations and contents, the deliverables associated with project management and systems implementation best practices may be overlooked and/or the quality of deliverables may not meet the State's expectations or project needs.	
State's Planned Risk Strategy:	Mitigate	
State's Planned Risk Response:	*The deliverables are being addressed in the contract and while we don't have a draft contract yet, (as of July 22nd) that work is well underway and we believe we will have these concerns addressed in the contract and have that ready for review by the beginning of August. We told vendors that we would have a set of incentives and penalties in place as part of the contract to help mitigate risk.*	
BerryDunn's Assessment of State's Planned Response:	The State's planned risk response appears adequate and appropriate. The State should agree upon a detailed list of deliverables and establish expectations for all deliverables with FairPoint, including the development of a representative outline and/or template for each one, as part of contract negotiations.	

Risk #: 10	Risk Source: Other	Risk Impact/Probability: Low/Low
Recommended Risk Response Timing:	Subsequent to Contract Execution	
Risk Description:	**Intrado may be uncooperative during the transition period to a new vendor.** Tensions between the E9-1-1 Board and Intrado have created challenges in the relationship that may impact Intrado's willingness to collaborate with the Board and the new vendor on transition activities, including providing the State with any needed recordings and historical data.	
Risk Impact Description:	Lack of cooperation and collaboration could introduce inefficiencies and hinder progress with the transition and new system implementation.	
State's Planned Risk Strategy:	Mitigate	
State's Planned Risk Response:	*As noted earlier, the biggest risk is that Intrado may try to leverage outstanding payments for delivery of required functionality as a condition of cooperation, but that is not likely to succeed. Intrado has little to gain by being difficult during the transition. As big as the 911 industry is in terms of the number of 911 jurisdictions, we all talk to each other and a neutral recommendation is the best that Intrado can hope for and they don't need us telling our peers that they not only didn't perform as expected but they made our lives difficult as we transitioned from their system. That sounds reasonable and logical and people are not always reasonable and logical but we are continuing to review our options with Jaye Johnson and have no basis to be overly concerned at this juncture that Intrado will be too difficult to deal with on the way out. There are things we need them to do, like ensure we have access to call recordings for seven years beyond the end of their involvement as well as providing access to their MIS so we can find call recordings, and we expect to outline those needs at the time we notify Intrado that we are moving on. At this juncture, they know we haven't reached out to them with regard to the bid. They might interpret that to mean there is no need since we intend to sign another contract with them, but if they are being honest with themselves, they have to know it isn't looking likely that we will proceed with a new contract with them, and many of their responses to the RFP suggest to us that they aren't trying hard to maintain a relationship with Vermont.*	
BerryDunn's Assessment of State's Planned Response:	The State's planned risk response appears adequate and appropriate. Additionally, we recommend that after contract award, the State begin to work with Intrado to clarify expectations and enumerate their responsibilities related to the transition, including developing a detailed transition plan and providing assistance to transition the State's data. Should it be necessary, the State must also be prepared to enforce the contractual provisions to ensure Intrado's cooperation.	

APPENDIX C – LIFECYCLE COST-BENEFIT ANALYSIS

Estimated Lifecycle Project Costs and Benefits								
Estimated Project Costs		**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Six-Year Totals**
Non-Recurring Costs								
System Implementation (Vendor)[1]		$300,000	$ -	$ -	$ -	$ -	$ -	**$300,000**
3% Fee- DII EPMO & EA Services[2]		$9,000	$ -	$ -	$ -	$ -	$ -	**$9,000**
Independent Review[3]		$15,900	$ -	$ -	$ -	$ -	$ -	**$15,900**
E9-1-1 Board Staff Labor Costs[4]		$36,000	$ -	$ -	$ -	$ -	$ -	**$36,000**
Recurring Costs								
NG9-1-1 Services (includes all maintenance, support, and licenses)[5,6]		$0	$2,184,000	$2,184,000	$2,184,000	$2,184,000	$2,184,000	**$10,920,000**
E9-1-1 Board Staff Labor Costs[4]		$0	$36,000	$36,000	$36,000	$36,000	$36,000	**$180,000**
Total Project Costs:		**$360,900**	**$2,220,000**	**$2,220,000**	**$2,220,000**	**$2,220,000**	**$2,220,000**	**$11,460,900**
Cumulative Project Costs:		**$360,900**	**$2,580,900**	**$4,800,900**	**$7,020,900**	**$9,240,900**	**$11,460,900**	
Estimated Project Benefits[7]		**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Six-Year Projection**
Enhanced interactive GIS mapping capabilities.	Non-quantifiable Tangible	-	-	-	-	-	-	**n/a**
A fiber-based data network connecting the PSAP's at 10Mb.	Non-quantifiable Tangible	-	-	-	-	-	-	**n/a**

Estimated Lifecycle Project Costs and Benefits								
A test lab, providing the means to install system updates in a non-production environment.	Non-quantifiable Tangible	-	-	-	-	-	-	**n/a**
Additional support for new media types, e.g., SMS, IM, TTY/TDD.	Non-quantifiable Tangible	-	-	-	-	-	-	**n/a**
A vendor incentivized to achieve and maintain a cooperative and successful relationship with the E9-1-1 Board and the State.	Intangible	-	-	-	-	-	-	**n/a**
A services solution that leverages three FairPoint partners, each of whom must innovate to prosper in the NG9-1-1 market.	Intangible	-	-	-	-	-	-	**n/a**
Total Savings:		**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Sources and Assumptions (Please see Section 8.2 for additional assumptions used in the cost-benefit analysis).

1. Source: FairPoint Volume II Cost Proposal v6.1
2. Source: DII EPMO and EA assigned to the project
3. Source: BerryDunn
4. Source: DII IT ABC Form, EPMO, and the Board's Executive Director
5. Source: FairPoint Volume II Cost Proposal v6.1; fees are paid monthly at $182,000/month
6. Assumes optional costs for Service Organization Control (SOC) 2 certification and auditing will not be required
7. Assumes no quantifiable tangible benefits