BerryDunn

Independent Review (IR)

Records Management System (RMS) Replacement

for the

Department of Public Safety (DPS)

Fire Safety Division

VERMONT

Submitted to:

State of Vermont, Agency of Digital Services (ADS)

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Version 2.0

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Table i: Version History

Version	Delivered Date	Update Reason
0.1	08/29/2024	First draft provided to the State for review and feedback
1.0	09/17/2024	Final version provided to the State for review with the ADS Secretary
2.0	10/31/2024	Updated final to include items identified during the CIO presentation on 10/29/2024

1.0 Executive Summary

For all Information Technology (IT) activities more than $1 million, Vermont statute (or at the discretion of the Chief Information Officer [CIO]) requires an Independent Review (IR) by the Office of the CIO before the project can begin. The State of Vermont (State) retained BerryDunn to conduct an IR to evaluate the procurement of a Records Management System (RMS) for the Department of Public Safety (DPS) Fire Safety Division and provide a recommendation on whether to proceed with executing a contract with the State project team's selected vendor, DBSysgraph (DBS).

During the IR process, BerryDunn identified seven risks, five of which are deemed to have a high likelihood of occurring or a high impact should they occur. See Section 1.3 below for these high likelihood or high impact risks. In all, BerryDunn's primary concern is that neither the vendor nor DPS Fire Safety Division or Agency of Digital Services (ADS) stakeholders are clear about what legacy data (if any) is to be migrated electronically into the new system. Additionally, there is lack of clarity regarding the data migration process.

1.1 Cost Summary

Table 1.1 summarizes the total cost of ownership over a five-year period (two of which are for implementation). More detail can be found in Section 5: Acquisition Cost Assessment and Section 10: Impact Analysis on Net Operating Costs.

Table 1.1: Cost Summary

IT Activity Life Cycle (FY25 – FY30)	Cost and Funding Source
Total Life Cycle Costs (Implementation and New Operating)	$3,111,867
Total Implementation Costs (FY25 and FY26)	$1,435,382
Total New Life Cycle Operating Costs (FY26 – FY30)	$1,676,485
Current Operating Costs (FY26 – FY30)	$243,940
Difference Between Current and New Operating Costs	$1,432,545
Funding Source(s) and Percentage Breakdown of Multiple Sources	100% Total Life Cycle Costs to be paid with State funds

1.2 Disposition of IR Deliverables

Table 1.2 provides a high-level summary of IR findings.

Table 1.2: IR Deliverables

Deliverable	Highlights from the IR
Acquisition Cost Assessment	Proposed solution initial acquisition and implementation costs align with similar fire RMS systems in the market. The total cost for acquisition and implementation is $1,435,382 (including ADS costs), after which the annual operational cost is approximately $266,313 more than the legacy system.
Technology Architecture and Standards Review	BerryDunn has no concerns about the alignment of the proposed DBS solution with the State's technology architecture and standards. Additionally, the proposed solution seems to align with the State's Strategic Plan for 2023 – 2027.
Implementation Plan Assessment	DBS has estimated 11 months for implementation, which neither the State nor BerryDunn has concerns with. The project phases are as follows: Preparation, Quick Start, Implementation, Deployment, and Post-Deployment. At the time of this report, DBSysgraph was restructuring the proposed flat-fee structure for project management services to be deliverables-based to align with State standards.
Cost-Benefit Analysis	The most significant financial concern is related to annual operational costs, which are $266,313 more annually than the cost of the legacy system. However, the State is aware of the anticipated intangible benefits and does not consider this to be a risk. Also, please see narrative in subsection 4 of section 9 below related to the advantages of moving to a new system.
Analysis of Alternatives	The DPS Fire Safety Division received seven vendor proposals in total. DBSysgraph scored higher prior to cost scores being applied, and maintained and increased that lead once cost scores were applied. Additionally, DBS scored higher in four of the five categories scored, with the exception being "Experience of proposed staff/team", in which it tied for second in scoring.
Impact Analysis on Net Operating Costs	After implementation, the net impact on operating costs associated with the new system is over $1 million more than the cost of maintaining the legacy system over five years of operation.
Security Assessment	As part of this IR, BerryDunn interviewed representatives from ADS' technical team, including security. The solution will be deployed in the State's Azure cloud, which is the preferred application environment. This team has no concerns in the solution's ability to comply with the State's controls, risk management, breach and response, and vulnerability management requirements.

1.3 Identified High-Impact and/or High Likelihood of Occurrence Risks

Table 1.3 below provides a summary of each high-impact or high-likelihood risk, including its overall risk rating. A complete Risk Register is included in Attachment 2.

Table 1.3: High-Impact or High-Likelihood Risk Summaries

Risk ID	Risk Description	State's Planned Risk Response	Reviewer's Assessment of Planned Response
1	Neither the vendor nor DPS Fire Safety Division or ADS stakeholders are clear about what legacy data (if any) is to be migrated electronically into the new system. Additionally, there is lack of clarity regarding the data migration process. **Impact:** There may be a mismatch in expectations regarding migration of legacy data into the new system. This could result in an extended schedule, lack of access to legacy data, or increased costs depending on the scope. **Risk Likelihood: High** **Risk Impact: High** **Overall Risk Rating: High**	DBSysgraph does not consider the DPS data migration to be a risk to the project. DBSysgraph will assign a team to evaluate the current data set DPS will assign FS resource to assist in the DBSysgraph evaluation of the data through an iterative process. The new FS records retention policy will be applied to the data going back three years of data. Data not used in the system will be archived. .	BerryDunn finds this risk strategy to be feasible and appropriate.
2	The DPS Fire Safety Division leadership and project management team indicated that there may be resource constraints on the DPS team to play any significant role on the project. DPS leadership did indicate that this project is a priority for the department and as such will do everything possible to make sure DPS Fire Safety Division resources will be available when needed. **Impact:** There is a possibility that resource constraints result in impacting the project schedule or the quality of the configuration. **Risk Likelihood: High**	State to adjust project schedule during execution if Fire Safety resource availability is an issue. Approach Business with proposal to add ADS or contracted resource for system testing, along with proposed budget and timing during execution if delays are projected to be significant (> 1 month).	BerryDunn finds this risk strategy to be feasible and appropriate.

Risk ID	Risk Description	State's Planned Risk Response	Reviewer's Assessment of Planned Response
	Risk Impact: Medium **Overall Risk Rating:** Medium		
3	The vendor's proposal lacks clarity regarding payment milestones, specifically related to the acceptance of project deliverables and their association with costs. **Impact:** The State and DPS Fire Safety Division may end up paying the vendor a disproportionate amount based on the value received throughout the project. **Risk Likelihood:** High **Risk Impact:** Medium **Overall Risk Rating:** Medium	State to review deliverable phases, acceptance criteria, and milestone payments in contract to ensure that payments are associated with specific testable deliverables or review and approval of non-testable deliverables (plans, etc.).	BerryDunn finds this risk strategy to be feasible and appropriate.
4	During the interview with the vendor, they indicated that they would deploy a baseline configuration as a starter for the State. It is clear that the vendor manages all implementations as a unique independent client solution, requiring unique patching and release cycles. **Impact:** The State will benefit from having a highly-customized solution that meets their unique RMS needs. However, they will not benefit from a true product-based software management strategy. **Risk Likelihood:** High **Risk Impact:** Medium **Overall Risk Rating:** Medium	The State has accepted the proposal from the selected vendor after multiple Request for Proposal (RFP) and proposal review cycles. The market does not provide a cost-effective customized solution that meets the State's needs in every respect. When possible, the State will adjust business process to work with the proposed solution, which meets a pressing need to replace the current outdated legacy system, or work with the vendor to provide needed customizations. The new system will in all likelihood improve business processes that are inefficient due to the use of an outdated system.	BerryDunn finds this risk strategy to be feasible and appropriate.

Risk ID	Risk Description	State's Planned Risk Response	Reviewer's Assessment of Planned Response
5	The proposed cost model included the cost of the perpetual license fees, but does not describe how those costs are associated with the implementation professional services. Accordingly, it is unclear what percentage of the fees are perpetual license fees vs. professional services. **Impact:** The State and DPS Fire Safety Division will not be able to respond to any project audit that may request how the perpetual license was paid. **Risk Likelihood: High** **Risk Impact: Low** **Overall Risk Rating: Low**	The final contract shall ensure that implementation and annual licensing cost are clearly delineated.	BerryDunn finds this risk strategy to be feasible and appropriate.

1.4 Other Key Issues

BerryDunn did not identify other key issues.

1.5 Recommendations

BerryDunn recommends the State address the high-impact or high-likelihood risks listed in Table 1.3 before continuing with its acquisition and implementation of the RMS.

Should the State reconcile these items, BerryDunn recommends that DPS continue with its acquisition and implementation process.

1.6 Independent Reviewer Certification

I certify that this independent review report is an independent and unbiased assessment of the proposed solution's acquisition costs, technical architecture, implementation plan, cost-benefit analysis, and impact on net operating costs based on the information made available to BerryDunn by the State.

October 30, 2024
Independent Reviewer Signature	**Date**

1.7 Report Acceptance

The electronic signature below represents the acceptance of this document as the final completed Independent Review Report.

DocuSigned by:
Trisha Watson
BBD71B0DB03C439...

11/4/2024

ADS Oversight Project Manager | **Date**

DocuSigned by:
Denise Reilly-Hughes
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11/8/2024

State of Vermont Chief Information Officer | **Date**

2.0 Scope of Independent Review

2.1 In Scope

The scope of this document is fulfilling the requirements of State Statute, Title 3, Chapter 56, §3303(d). The IR Report includes:

- An acquisition cost assessment
- A technology architecture review and standards review
- An implementation plan assessment
- A cost analysis and model for benefit analysis
- A high-level analysis of alternatives
- An impact analysis on net operating costs for the agency carrying out the activity
- A security assessment

This IR used the following schedule:

- Week of July 22, 2024: Conducted project initiation, scheduled interviews, reviewed documentation, and developed interview participation memos.
- Week of July 29, 2024: Conducted interviews with State IT staff.
- Week of August 5, 2024: Conducted interviews with the vendor, State project manager (PM), and various other staff members and leadership. BerryDunn documented initial findings, drafted initial Risk Register, and provided it to the State for review and response.
- Week of August 12, 2024, to August 16, 2024: State reviewed Initial Risk Register, held internal discussions, and provided risk responses.
- Week of August 19, 2024: Updated the Risk Register.
- Week of August 26, 2024: Submitted preliminary draft of the IR Report for State review and feedback.

2.2 Out of Scope

No items from State Statute, Title 3, Chapter 56, §3303(d) were out of scope for this IR.

3.0 Sources of Information

3.1 Independent Review Participants

Table 3.1 lists stakeholders who participated in fact-finding meetings and/or communications.

Table 3.1: IR Participants

Name	Organization, Project Role/Title	Participation Topics
Michael Desrochers	Fire Safety Division, Executive Director	• Project Information • Implementation Plan Review • Risk Assessment • Cost-Benefit Analysis • Budget Information
Chris Adams	ADS, Project Manager	• Project information • Implementation Plan Review • Cost-Benefit Analysis • Budget Information • Risk Assessment • Technology Architecture and Standards Review
Richard Hallenbeck	DPS, Financial Director	• Project information • Implementation Plan Review • Cost-Benefit Analysis • Budget Information • Risk Assessment
Landon Wheeler	Fire Safety Division, Springfield Regional Manager	• Project information • Implementation Plan Review • Cost-Benefit Analysis • Budget Information • Risk Assessment
Robin Nilson	ADS-DPS, IT Director	• Project information • Implementation Plan Review • Risk Assessment • Technology Architecture and Standards Review
Selebika Saniyo	ADS, IT Enterprise Architect	• Project information

Name	Organization, Project Role/Title	Participation Topics
		• Technology Architecture and Standards Review • Security • Risk Assessment
Nathan Harvey	ADS-DPS, IT Lead	• Project information • Implementation Plan Review • Technology Architecture and Standards Review • Security • Risk Assessment
Nitin Kamath	DBSysgraph, Principal Owner	• Project Information • Implementation Plan Review • Technology Architecture and Standards Review • Security • Risk Assessment
Jackie Barnard	DBSysgraph, Project Manager, VP Operations	• Project Information • Implementation Plan Review • Technology Architecture and Standards Review • Security • Risk Assessment
Aparna Nayak	DBSysgraph, Lead Business Analyst and Technology Manager	• Project Information • Implementation Plan Review • Technology Architecture and Standards Review • Security • Risk Assessment
Sachin Kamath	DBSysgraph, CIO and Integration Manager	• Project Information • Implementation Plan Review • Technology Architecture and Standards Review • Security • Risk Assessment

3.2 IR Documentation

Table 3.2 lists the documentation used to compile this IR. All documents listed were made available to BerryDunn by November 15, 2023. Any documents shared with BerryDunn after this date have not been included in the table below but might have informed report development.

Table 3.2: IR Documentation

Document Name	Description	Source
DPS Fire Safety Vendor Proposal Rating 9.11.23	Scoring sheet used to evaluate all responding vendors to the RMS RFP	Chris Adams – VT SharePoint
DRAFT DPS Fire Safety Records Mgt Sys Replacement 7.22.24	Draft RMS Contract with DBS	Chris Adams – VT SharePoint
SIGNED-DPS Fire Safety Records Management System Replacement UPDATED-2 IT ABC Form 6.18.24	Fully executed IT Activity Business Case and Cost Analysis (IT ABC) Form	Chris Adams – VT SharePoint
DBSysgraph 20230823	DBS RMS proposal response	Chris Adams – VT SharePoint
VTBAFO Pricing	DBS's Best and Final Offer (BAFO) Pricing Sheet	Chris Adams – VT SharePoint
Pricing Final - Memo	BAFO letter from DBS	Chris Adams – VT SharePoint
Risk and Issue Log – IR Copy	A list of known risks and issues to date and the associated mitigation plan	Chris Adams – VT SharePoint
PAT Memo and Log DPS Fire Safety Records Management	CIO approval for the DPS to issue an RFP for a RMS replacement	Chris Adams – VT SharePoint
DPS Fire Safety RMSR Project-REQUEST FOR PROPOSAL 3-28-23.docx	An attachment to the RMS RFP that provides specific response instructions to RMS vendors	Chris Adams – VT SharePoint
DPS Fire Safety RMSR Project-BIDDER RESPONSE FORM	This document is for the vendor to provide the information requested in this form and submit it to the State as part of their RFP response	Chris Adams – VT SharePoint
DPS Fire Safety Records Management System Replacement Stakeholder List	The roles and responsibilities of the personnel involved in the RMS project	Chris Adams – VT SharePoint
Summary	DocuSign Summary sheet	Chris Adams – VT SharePoint

Document Name	Description	Source
ATTACHMENT C - rev 2023 FINAL PROOF CLEAN 12-07-23	Standard State Provisions for Contracts and Grants	Chris Adams – VT SharePoint
Attachment D - System Implementation rev 1.12.24	IT System Implementation Terms and Conditions	Chris Adams – VT SharePoint
DBS VT SFM COI Certificate	Certificate of Liability Insurance	Chris Adams – VT SharePoint
DBS W9	W9 Form provided by DBS	Chris Adams – VT SharePoint
DPS Fire Safety Records Mgmt. System Replacement Project Vendor Selection Justification Memo	Vendor selection memo for the DPS Fire Safety Division RMS Replacement project	Chris Adams – VT SharePoint
DPS Fire Safety Records Mgmt. System Replacement Project	Vendor selection memo for the DPS Fire Safety Division RMS Replacement project	Chris Adams – VT SharePoint
Service Level Agreement	This document is the contract between DBS and the State that defines the service to be provided and the level of performance to be expected	Chris Adams – VT SharePoint

4.0 Project Information

4.1 Historical Background

Fire Safety has been using a proprietary vendor software solution since 1985 which now contains 1.9 million interactions. The only major upgrade to this system occurred in 2001, when point-and-click functionality was added. Modifications to the current solution are routinely desired to meet evolving business needs, but often are not completed due to the expense and difficulty of updating the system.

Fire Safety partners and customers continue to expect modern features, including digital document management, an online portal, payment management, and the ability to manage continuing education, none of which are available in the current solution.

DPS expects a new solution will help to reduce the risk of incomplete inspections by making historical information accessible in the field. DPS also expects a new solution to reduce risk during an emergency by pre-planning and communicating hazards to first responders.

In April 2023, the Office of Purchasing and Contracting released an RFP on behalf of the DPS Fire Safety Division to procure a new RMS. The DPS Fire Safety Division received seven responses from vendors proposing both Software as a Service (SaaS) and On-Premise solutions; it ultimately chose DBSysgraph as its preferred vendor.

4.2 Project Goals

The State seeks to achieve the following business objectives through successful acquisition and implementation of a new RMS:

- Help modernize State government through implementation of a new RMS that enables coordinated efforts and records keeping in code enforcement, public education, and hazardous materials.
- Help reduce risk of incomplete inspections by making historical information accessible in the field.
- Reduce risk during an emergency by pre-planning and communicating hazards to first responders.
- Allow customers to obtain the status of active permit/work notices and construction documents via a public-facing self-service portal.
- Automate communication mechanisms for transactions with Fire Safety Staff.
- Improve inspection scheduling/response times.
- Improve the ability to expose more detailed inspection findings by location.
- Reduce amount of paper documents by reducing data entry requirements and providing an electronic record storage for plan review.

- Reduce technical debt by eliminating continuous operating system upgrades and security patches required by using State infrastructure.

4.3 Project Scope

This project entails implementing an RMS with DBSysgraph. With this solution, the DPS Fire Safety Division can track a case life cycle and establish configurable case flows, including initiating a case, scheduling, tracking case compliance, assigning investigators or attorneys, adding case notes, linking cases, searching by contacts or case number/type, and running reports.

The RMS will be utilized by internal DPS Fire Safety Division staff, as well as by external partners such as the Agency of Human Services, Agency of Transportation, Diversion and Pre-Trial Services (non-State employees), and the Consumer Assistance Program at the University of Vermont (approximately 250 internal and external users).

Though there is ambiguity about which systems Litify needs to integrate with (see Risk No. 7 in Attachment 2), the DPS Fire Safety Division has indicated it would like to integrate with the following agencies' systems: State's Attorneys, Judiciary, and Public Defenders' Office.

4.4 Major Deliverables

The DBSysgraph BAFO document does not distinguish implementation professional services from the perpetual license fees. Accordingly, there is no way to determine what portion of those fees are truly associated with professional services (including key milestones and deliverables) versus the actual license fees. The draft contract with DBSysgraph, as provided to BerryDunn on July 24, 2024, contains evidence that the State and DBSysgraph are working toward breaking out the proposed perpetual license costs to distinguish between professional services (milestones and deliverables, with a hold-back model) and license fees. However, the draft contract was not yet fully evolved and BerryDunn could not assess this breakout for payment milestone purposes.

During subsequent discussions with the Vermont project manager, he showed us a draft copy of Attachment B – Payment Provisions of the draft contract. Attachment B includes an appropriate breakdown of the perpetual license fee payments, associated with payment milestones. It also includes hold-back amounts.

4.5 Project Phases, Milestones, and Schedule

Table 4.1 summarizes the proposed project schedule by phase and estimated completion timing based on the information in the draft contract with DBSysgraph. These dates need to be adjusted based on a later Notice to Proceed date than anticipated (November 22, 2023).

Table 4.1: Project Phases, Dates, and Descriptions

Phase	Estimated Dates	Phase Description
Initiation	November 1 – November 3, 2024	DBSysgraph facilitates a kickoff meeting.
Planning and Assessment	November 4, 2024 – March 26, 2025	DBSysgraph performs necessary requirements gathering to finalize functional and technical requirements and review State Requirements and Solution capabilities. DBSysgraph also performs technical designs and solution architecture for the proposed solution. DBSysgraph facilitates quality assurance (QA) planning meetings along with User Acceptance Testing (UAT) planning with each division.
Application Development and Configuration	January 22 – July 1, 2025	DBSysgraph installs, configures, and customizes the solution in the environment. They also migrate legacy data during this phase.
QA Testing and Verification	May 28 – August 19, 2025	DBSysgraph performs QA testing on configured solution based on the State's requirements. DBSysgraph delivers

Phase	Estimated Dates	Phase Description
		and installs the prototype system, and conducts the first round of UAT.
Training Plan	June 17 – July 17, 2025	DBSysgraph develops the training plan and materials, identifies the participants, defines the training format, and schedules the training.
Training – State Fire Staff	August 19 – September 12, 2025	DBSysgraph conducts end user training and technical training. The State will be required to train remaining end users.
UAT (Final and Integrated)	August 26 – September 15, 2025	DBSysgraph conducts end user testing during this phase and reports on any defect and defect resolution. There will be a QA and approval process, and any additional UAT iterations with a signoff produced.
System Implementation Plan	September 19 – October 3, 2025	DBSysgraph creates an implementation plan, conducts a review session, and provides a signoff document.
System Documentation	February 20 – July 24, 2025	DBSysgraph provides an updated disaster recovery plan and security plan, along with user documentation and system documentation.
Implementation, Go-Live Deployment, Warranty	October 3 – December 30, 2025	DBSysgraph deploys configuration and converts data into production environment. They also perform an environment review and validate published

Phase	Estimated Dates	Phase Description
		code/tables and migrated data, followed by a production application test. DBSysgraph deploys the production environment with a one-month warranty period. DBSysgraph provides a project closure and warranty signoff after the warranty period has expired.
Post-Implementation Support/Warranty	December 30, 2025	DBSysgraph shall be responsible for fixing all defects found during the warranty period. DBSysgraph shall correct all defects found within the warranty period at no additional cost to the State.

5.0 Acquisition Cost Assessment

Table 5.1 includes a summary of acquisition costs reported to BerryDunn during this IR. This table was informed by reviewing the preferred vendor's BAFO proposal and the draft contract provided by the State.

Table 5.1: Acquisition Cost Assessment

Acquisition and Implementation Costs	Cost	Comments
Software Perpetual License Fees	$1,145,000	This includes the perpetual license fees ($1,145,000) and all professional license fees (see below).
Implementation Services	Included in above	Implementation professional license fees were not distinguished from the perpetual license fees as provided in the BAFO.
Subtotal – Software, Hardware, and Professional Services	**$1,145,000**	
ADS Labor Costs	$81,202	This includes all ADS services described in the IT ABC Form.
Contracts services for business analysis and other contracted services for implementation	$79,000	$49,000 + $30,000 from the IT ABC Form.
IR	$24,500	This includes the cost of BerryDunn's IR.
Subtotal – Labor	**$184,702**	
Total Initial Acquisition and Implementation Costs	**$1,329,702**	

1. **Cost Validation:** *Describe how you validated the acquisition costs.*

   BerryDunn validated these costs through review of the preferred vendor's BAFO, and the IT ABC Form provided by the DPS Fire Safety Division's office as part of this IR.

2. **Cost Comparison:** *How do the acquisition costs of the proposed solution compare to what others have paid for similar solutions? Will VT be paying more, less, or about the same?*

   BerryDunn compared the license costs for DBSysgraph to another (albeit larger) client's costs. These costs are significantly similar to that client's costs, with no statistical difference between them.

3. **Cost Assessment:** *Are the acquisition costs valid and appropriate in your professional opinion? List any concerns or issues with the costs.*

   Yes, the costs provided in the preferred vendor's BAFO are valid and appropriate. BerryDunn has no concerns or issues with the costs provided by the preferred vendor.

6.0 Technology Architecture and Standards Review

1. **State's Enterprise Architecture Guiding Principles:** *Describe how the proposed solution aligns with each of the State's Enterprise Architecture Guiding Principles.*

   a) Assess how well the technology solution aligns with the business direction.

   This project aims to improve the RMS experience and gain efficiencies for nearly 250 end users. According to multiple interviews, DPS Fire Safety Division staff report the legacy system is outdated and cumbersome to use. The proposed solution aligns with the DPS Fire Safety Division business direction to improve information sharing with justice partners, in addition to collecting valuable metadata not currently tracked to help inform outcomes related to protected class status and matters involving underserved communities.

   b) Assess how well the technology solution maximizes benefits for the State.

   The legacy system is a server-based infrastructure in the DPS Fire Safety Division's Central Office. Migrating to cloud-based technology aligns with the State's Guiding Principles and will help connect users from various external State agencies that interact with the DPS Fire Safety Division. Additionally, the proposed solution will be hosted in the State's preferred Azure platform for applications.

   c) Assess how well the information architecture of the technology solution adheres to the principle of Information is an Asset.

   The proposed solution will be hosted in the State's Azure cloud, which aligns with the State's preferred approach and provides a future-proof foundation. DBS' development model incorporates security and risk management.

   d) Assess if the technology solution will optimize process.

   The DBS solution has been implemented in two other states. BerryDunn is comfortable that the proposed solution meets this principle depending on which software modules are implemented. The State has indicated they are willing and interested in altering business processes based on industry best practices brought forward by DBS.

   e) Assess how well the technology solution supports resilience-driven security.

   The ADS team, which was interviewed as part of this IR, reported no security concerns with the DBS security model. With the solution hosted in the State's Azure cloud and the use of the Open Web Application Security Project (OWASP), BerryDunn believes that resilience-driven security is adequately supported.

2. **Sustainability: Comment on the sustainability of the solution's technical architecture (i.e., is it sustainable?)**

   The proposed application utilizes the State's Azure environment for architectural elements. Azure is a mature platform and the preferred deployment environment for the State; it is sustainable.

3. **How does the solution comply with the ADS Strategic Goals enumerated in the ADS Strategic Plan 2023 – 2027?**

   The proposed solution complies with and supports the four Strategic Goals as defined in the 2023 – 2027 ADS Strategic Plan as follows:

   Goal #1: IT Modernization:

   - Strengthens the State's digital foundation by replacing the legacy DPS Fire Safety Division case management system with an application on the State's preferred hosting platform (Azure)
   - Preferred application is cloud-based in the State's Azure platform

   Goal #2: Vermonter Experience

   - Replaces legacy sign-on methods with single sign-on (SSO) utilizing Okta
   - Provides native web-based and mobile platform access to all users of the proposed solution
   - Native public-facing portal included in the solution

   Goal #3: Cyber Security and Data Privacy

   - ADS team members reported that Security Information and Event Management (SIEM) is native with the Azure platform
   - The cloud-based Azure platform, implemented in the Gov Cloud, brings increased layers of cyber defense over the legacy system
   - Consistent use of the proposed solution will help ensure advanced data-driven decision-making opportunities for the DPS Fire Safety Division

   Goal #4: Financial Transparency

   - It is unclear how the implementation of the proposed solution will specifically advance this goal

4. **Compliance with the Section 508 Amendment to the Rehabilitation Act of 1973, as amended in 1998: Comment on the solution's compliance with accessibility standards as outlined in this amendment. Reference: http://www.section508.gov/content/learn.**

   It is unclear how the implementation of the proposed solution will specifically address Section 508 compliance. The RFP and associated proposal for the preferred solution do not specifically request nor address accessibility standards.

5. **Disaster Recovery: What is your assessment of the proposed solution's disaster recovery plan? Do you think it is adequate? How might it be improved? Are there specific actions that you would recommend to improve the plan?**

   Backup and recovery are native to applications in the State's Azure cloud. The DBS solution has configurable data backup and retention functionality built in. These capabilities are adequate for disaster recovery requirements.

6. **Data Retention: Describe the relevant data retention needs and how they will be satisfied for or by the proposed solution.**

   The proposed solution supports configurable data retention schedules within the application.

7. **Service-Level Agreement (SLA): What are the post-implementation services and service levels required by the State? Is the vendor-proposed SLA adequate to meet these needs in your judgment?**

   The RFP did request specific SLAs and to include those in Attachment 8. The proposed vendor's Attachment 8 was the License Agreement. Two tables were provided in the DBSysgraph proposal defined as Bug Reporting and Fix Releases. BerryDunn recommends the State review the proposed Attachment 8 with the vendor to help ensure it has adequate service levels met before contract execution. During discussions related to contract negotiations the Vermont project manager showed us an updated Attachment E document within the contract being negotiated. This Attachment appropriately defines service levels.

8. **System Integration: Is the data export reporting capability of the proposed solution consumable by the State? What data is exchanged, and what systems (State and non-State) will the solution integrate/interface with?**

   The proposed solution supports exporting of data into a Microsoft Excel, Word, and Adobe PDF format.

7.0 Implementation Plan Assessment

1. The reality of the implementation timetable.

DBSysgraph has proposed a 12-month implementation timeline. DBSysgraph's implementation approach comprises 10 distinct phases, as follows:

1. **Project Initiation Phase:** Includes project kickoff meeting.
2. **Planning and Assessment Phase:** Includes requirements gathering and review and configuration workshops, QA, and UAT planning to produce a minimally viable product in four months.
3. **Application Development and Configuration Phase:** Includes infrastructure configuration, legacy data migration and conversion, programming/custom development, interface development, and configuration management.
4. **QA Testing and Verification Phase**: Includes demonstration mode implementation and UAT.
5. **Training Plan Phase:** Includes developing the training plan and manuals, defining the training format, creating the schedule, and preparing the training materials. DBSysgraph and the State will identify training participants.
6. **Training – State Fire Staff Phase**: Includes end user training and technical training that will span 18 days.
7. **UAT (Final and Integrated) Phase**: Includes end user testing, UAT defect reporting and resolution, defect resolution QA, and approval by the State. There will also be additional UAT iterations and signoff.
8. **System Implementation Plan Phase**: Includes creating, reviewing, and signing off on an implementation plan.
9. **System Documentation Phase:** Includes an updated disaster recovery plan and an updated security document. DBSysgraph will also provide user and system documentation.
10. **Implementation, Go-Live, Warranty Phase:** Includes software installation and system go-live (Production environment).

In interviews with project leadership, the State reported no concerns with the pace of the project timeline.

2. **Readiness of impacted divisions/departments to participate in this solution/project (consider current culture, staff buy-in, organizational changes needed, and leadership readiness).**

   During interviews with project leadership, BerryDunn learned that DPS Fire Safety Division staff are excited to embrace a new system, largely due to the mounting frustrations with the legacy system. Organizational change management (OCM) will be an important component of the implementation to educate users on the forthcoming changes, as well as thorough training to increase buy-in and reduce resistance to change for both internal and external users. The ADS PM was clear that it is the DPS Fire Safety Division's responsibility to manage communications and trainings with external users at the appropriate time (neither too close nor too far away from go-live). The EPMO will assist DPS with drafting a Communication Plan which provides outreach to external users allowing for a successful adoption of the new system.

   DPS Fire Safety Division leadership reported that having ADS' assistance has been a help, as the DPS Fire Safety Division has not undergone the procurement and implementation process with ADS support until now. The ADS has dedicated a full-time PM and the DPS Fire Safety Division an IT lead. The project team comprises various DPS Fire Safety Division staff roles and levels, and the PM reported responsiveness and high levels of engagement among the project team thus far.

   For these reasons, BerryDunn believes the project objectives are well understood and supported among the users and that the DPS Fire Safety Division is prepared to undergo the implementation.

3. **Do the milestones and deliverables proposed by the vendor provide enough detail to hold the vendor accountable for meeting the business needs in these areas?**

   As described in Section 4.4, the State has asked DBSysgraph to restructure its pricing to distinguish perpetual license fees from implementation milestones/deliverables. In the draft contract as written, there is evidence that the State and DBSysgraph have begun this process. BerryDunn did not have access to the updated deliverables-based payment structure at the time of this assessment.

4. **Does the State have a resource lined up to be the PM on the project? If so, does this person possess the skills and experience to be successful in this role in your judgment? Please explain.**

   The ADS Enterprise Project Management Office (EPMO) has assigned a PM who has assumed responsibilities from one predecessor. Based on BerryDunn's interactions with the PM during this IR, the firm is confident the individual has the skills and experience necessary for the role. BerryDunn did not find any risk associated with the PM's experience and qualifications. BerryDunn is confident this PM will be beneficial to the project.

8.0 Cost Analysis and Model for Benefit Analysis

1. **Analysis Description: Provide a narrative summary of the cost-benefit analysis conducted. Be sure to indicate how the costs were independently validated.**

   To analyze the costs and benefits associated with replacing the DPS's legacy RMS with the proposed solution, the BerryDunn team conducted several interviews and reviewed a variety of State-provided materials. Interviews included technical and project management DPS representatives, DPS leadership, and representatives from the preferred vendor (DBSysgraph). Additionally, BerryDunn reviewed the following materials provided by the State:

   - Original RFP requesting the Electronic Permitting System
   - Preferred vendor's cost proposal
   - Preferred vendor's BAFO submission
   - The State's original IT ABC form

   Section 3 of this report contains the full list of interviewees and documents reviewed.

   After review of interview notes and provided materials, BerryDunn developed a spreadsheet following the State's preferred cost-benefit analysis model (Attachment 2), which documented professional services, licensing, and internal resource costs during the first year of the contract, as well as licensing and internal resource costs for an additional five years (for a total cost of ownership spanning six years from project Notice to Proceed).

   During the analysis, BerryDunn compared the costs depicted in the vendor's cost proposals to those provided in the IT ABC form, producing a table that lists the discrepancies between the vendor's proposed costs and those originally anticipated by the State (Item #7 below).

   Quantifiable (tangible) costs were analyzed based on costs required to maintain the legacy system versus those required to implement and maintain the proposed system. Quantifiable (tangible) benefits primarily include elimination of costs required to maintain the legacy system.

   Additionally, non-quantifiable (intangible) costs and anticipated benefits were analyzed to determine if, even though the new system will cost more over five years, the intangible benefits may outweigh those costs (Items #4, #5, and #6 below).

2. **Assumptions: List any assumptions made in your analysis.**

   BerryDunn made the following assumptions when conducting this cost-benefit analysis:

   - Changes to a contract during its term may incur additional costs and possible delays relative to the project schedule or may result in less cost to the State (for example, if the State decides it no longer needs a deliverable in whole or part) or less effort on the part of a selected vendor.

3. **Funding: Provide the funding source(s). If multiple sources, indicate the percentage of each source for both acquisition costs and ongoing operational costs over the duration of the system/service life cycle.**

   The IT ABC form indicates the costs will be fully funded by State funds.

4. **Tangible Costs and Benefits: Provide a list and description of the tangible costs and benefits of this project. It is "tangible" if it has a direct impact on implementation or operating costs (an increase = a tangible cost, and a decrease = a tangible benefit). The cost of software licenses is an example of a tangible cost. Projected annual operating cost savings is an example of a tangible benefit.**

   Tangible Benefits: By replacing its legacy RMS, the DPS will benefit from removing the hosting and vendor annual maintenance fees for its legacy system, which totals $48,788 annually. There are no other tangible benefits associated with the proposed solution.

   Tangible Costs: The following costs will be incurred by the DPS by implementing the proposed solution:

   - **Implementation Costs (FY25)**
     - Implementation Professional Services: $112,500
     - ADS Services Costs: $128,882
     - Software License Costs: $1,194,000
   - **Ongoing Operational Costs (additional five years after Implementation)**
     - ADS Services Costs: $83,600
     - Software License Costs (M&O): $1,491,905
     - Vendor Cloud Management Fees: $0
     - VT GovCloud Hosting Fees: $100,980

   The sum of these costs is significantly more than the current costs associated with the legacy system. (Item #6 contains a comparison of costs and benefits).

5. **Intangible Costs and Benefits: Provide a list and descriptions of the intangible costs and benefits. It is "intangible" if it has a positive or negative impact but is not cost related. Examples: Customer service is expected to improve (intangible benefit), or employee morale is expected to decline (intangible cost).**

   The State anticipates experiencing the follow **intangible benefits**, as described in the RFP and IT ABC form and reported during the interview process:

   - **Enterprise Alignment and Readiness:** Alignment with the governor's priority for Modernizing State Government and DPS's priority for Public Safety Modernization by implementing a modern solution that enables coordinated efforts and records

keeping in code enforcement, fire service training, public education, hazardous materials, and incident investigation.

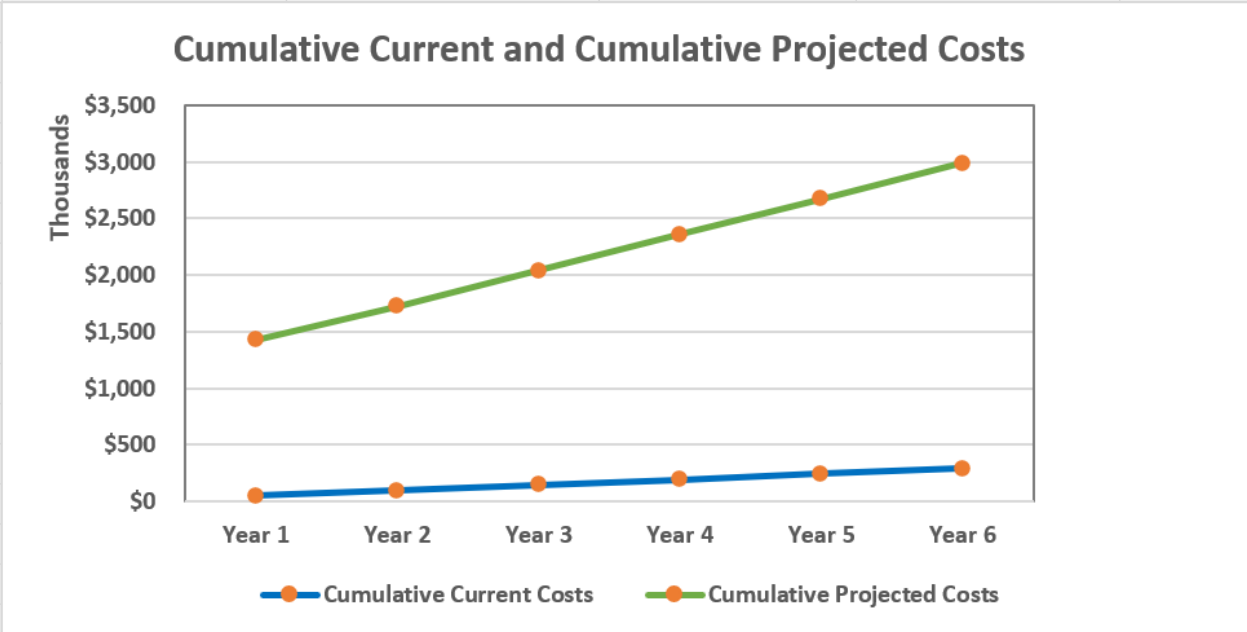
- **Equity:** Reduced risk of incomplete inspections by making historical information accessible in the field. Reduced risk during an emergency by pre-planning and communicating hazards to first responders. Increased compliance with licensed individuals completing all applicable continuing education. Reporting capabilities to identify emerging issues and trends, allowing optimization of resource allotment.
- **Customer Service:** Allow customers to obtain the status of active permit/work notices and construction documents via a public-facing self-service portal. Automated communication mechanism for transactions with Fire Safety Staff. Track individual continuing education/licensing requirements. Ability to expose more detailed inspection findings by location. Faster inspection scheduling/response.
- **Financial:** Reduction in data entry requirements. Electronic record storage for plan review.
- **Technical Debt:** Reduce technical debt by eliminating continuous operating system upgrades and security patches required by using State infrastructure.

Intangible Costs: The DPS Fire Safety Division anticipates no intangible costs other than a brief period of reduced productivity shortly after the new system is made fully operational.

6. **Costs vs. Benefits: Do the benefits of this project (consider both tangible and intangible) outweigh the costs in your opinion? Please elaborate on your response.**

   As depicted in Figure 8.1 below, the new ongoing tangible operational costs will always exceed the current tangible operational costs.

Figure 8.1: Cost/Benefit Analysis



Given a nearly $3 million increase in operational costs at the end of six years, increasing at an estimated annual rate of nearly $266,313, it is not easy to justify the proposed solution versus the legacy system based on cost. However, because the legacy system can no longer be supported and lacks required functionality, a change must be made. The DPS Fire Safety Division must determine whether the intangible benefits described previously outweigh the annual increase in operational costs.

7. **IT ABC Form Review: Review the IT ABC Form (Business Case/Cost Analysis) created by the State for this project. Is the information consistent with your IR and analysis? If not, please describe. Is the life cycle that was used appropriate for the technology being proposed? If not, please explain.**

   The financial data in the IT ABC form was largely derived through responses received during a request for information phase conducted before submission of the form. The following inconsistencies were identified between the estimates provided in the IT ABC form and the proposed costs in the preferred vendor's BAFO response and draft contract:

Cost Description	IT ABC Form	BAFO and Draft Contract	Difference	Comments
Vendor Implementation, Installation, and Configuration	$1,194,000	$0.00	($1,194,000)	The BAFO did not list a change on the Implementation Services section; it only noted that this was "Included in the base product purchase".

Cost Description	IT ABC Form	BAFO and Draft Contract	Difference	Comments
Software/Licenses (for Implementation)	$0	$1,145,000	($1,145,000)	IT ABC Form Software License fees were related to extending the contract for the legacy system by 12 months.
Subtotal for Initial Implementation	**$1,194,000**	**$1,145,000**	**$49,000**	The State overestimated the cost for the initial implementation by $49,000.
Annual Software Maintenance and Support Fees (Ongoing for Five Years After Implementation)	$298,831	$286,136	$12,695	
Subtotal: Five Years Post-Implementation	**$1,491,905**	**$1,180,680**	**$311,225**	The State overestimated the cost for the next five years after implementation by $311,225.
Estimated Five-Year Totals	**$1,676,485**	**$1,230,500**	**$445,985**	The State overestimated the five-year total cost of ownership (TCO) by $445,985.00.

These costs are for a six-year TCO: one year of implementation and five remaining years. These costs seem reasonable and are consistent with findings.

9.0 Analysis of Alternatives

1. **Provide a brief analysis of alternative solutions that were deemed financially unfeasible.**

   Specific vendor costs were not provided to BerryDunn as part of this analysis. However, we were able to extrapolate relative costs of the vendor solutions using the provided "DPS Fire Safety Vendor Proposal Rating – 9.11.23" spreadsheet. Of the vendor proposals received (see Table 9.1 below), the DBS proposal and one other were similar, and lower than all other vendor solutions. The remaining five solution costs were comparable (and higher) than DBS and the similar vendor.

2. **Provide a brief analysis of alternative technical solutions that were deemed unsustainable.**

   The DPS Fire Safety Division received seven vendor proposals in total. DBSysgraph scored higher prior to cost scores being applied, and maintained and increased that lead once cost scores were applied (see green highlighted rows in Table 9.1). For reference, the peach-colored row depicts the lowest number of points, both prior to and after application of cost scores.

Table 9.1: Vendor Proposals Received

Vendor	Score Prior to Cost	Score After Applying Cost
Vendor A	250.83	296.67
Vendor B	205.83	260.00
Vendor C	166.67	216.67
Vendor D	160.00	210.00
Vendor E	295.00	365.83
DBSysgraph	304.17	375.00
Vendor G	216.33	270.50

3. **Provide a brief analysis of alternative technical solutions where the costs for operations and maintenance were unfeasible.**

   None of the alternatives considered had unsustainable or unfeasible costs.

4. **Feasibility of "doing nothing".**

   BerryDunn discussed with the Executive Director of the Division of Fire Safety the option of "doing nothing," or not acquiring and implementing a new system to support the RMS needs of the DPS, Division of Fire Safety. He indicated that "doing nothing" was not a feasible option and provided three primary themes to support that assertion:

a. The legacy system was written in 1986 and is no longer sustainable

b. The new system is designed to increase life safety

c. The new system included features not included in the legacy system, which increase efficiencies and enhance the Division's risk reduction efforts

The Executive Director provided a detailed list of functional enhancements anticipated with the new system. BerryDunn endeavored to summarize that listing here:

- The technology architecture is superior to the legacy system, enabling low-cost / no-cost enhancements to the system, advancing security measures, increasing the integrity of data with support for dashboards and reports, and increasing availability both internally and to external portal users.
- Support for a "paper on demand" environment in which a significant number of the current paper-based can be automated.
- Automated inspection scheduling
- Online management of permit applications
- Reduction of permit turnaround time for construction permits via automation and enhanced workflows
- Automated notices of inspection reports (including areas requiring remediation)
- Utilization of GIS mapping software
- The new system is more easily configured to support legislative changes and mandates

10.0 Impact Analysis on Net Operating Costs

1. **Insert a table to illustrate the Net Operating Cost Impact.**

   Table 10.1 illustrates the impact on net operating costs over five years.

Table 10.1: Life Cycle Cost per Year

Impact on Operating Costs	FY25	FY26	FY27	FY28	FY29	FY30	5-Year Totals
Professional Services (Non-Software Costs)							
Current Costs	$45,500	$45,500	$45,500	$45,500	$45,500	$45,500	**$227,500**
Projected Costs	$103,500	$0	$0	$0	$0	$0	**$103,500**
Maintenance, Support, Hardware, Hosting, and License Costs							
Current Costs	$2,784	$2,784	$2,784	$2,784	$2,784	$2,784	**$13,920**
Projected Costs	$1,194,000.00	$298,381.00	$298,381.00	$298,381.00	$298,381.00	$298,381.00	**$2,387,524**
Other Costs (State Labor)							
Current Costs	$504	$504	$504	$504	$504	$504	**$2,520**
Projected Costs	$130,202	$1,302	$16,720	$16,720	$16,720	$16,720	**$181,664**
Baseline Current Cost	$48,788	$48,788	$48,788	$48,788	$48,788	$48,788	**$243,940**
Baseline Projected Costs	$1,427,702	$299,683	$315,101	$315,101	$315,101	$315,101	**$2,672,688**
Cumulative Current Costs	$48,788	$97,576	$146,364	$195,152	$243,940	$292,728	**$243,940**
Cumulative Projected Costs	$1,427,702	$1,727,385	$2,042,486	$2,357,587	$2,672,688	$2,987,789	**$2,672,688**
Net Impact on Professional Services	($58,000)	$45,500	$45,500	$45,500	$45,500	$45,500	$124,000
Net Impact on Software Acquisition, Maintenance, Support, Licenses Costs, and Other	($1,320,914)	($296,395)	($311,813)	($311,813)	($311,813)	($311,813)	**($2,552,748)**
Net Impact on Operating Costs:	($1,378,914)	($250,895)	($266,313)	($266,313)	($266,313)	($266,313)	**($2,428,748)**

2. **Provide a narrative summary of the analysis conducted and include a list of any assumptions.**

   Please see assumptions listed in Section 8 of this report.

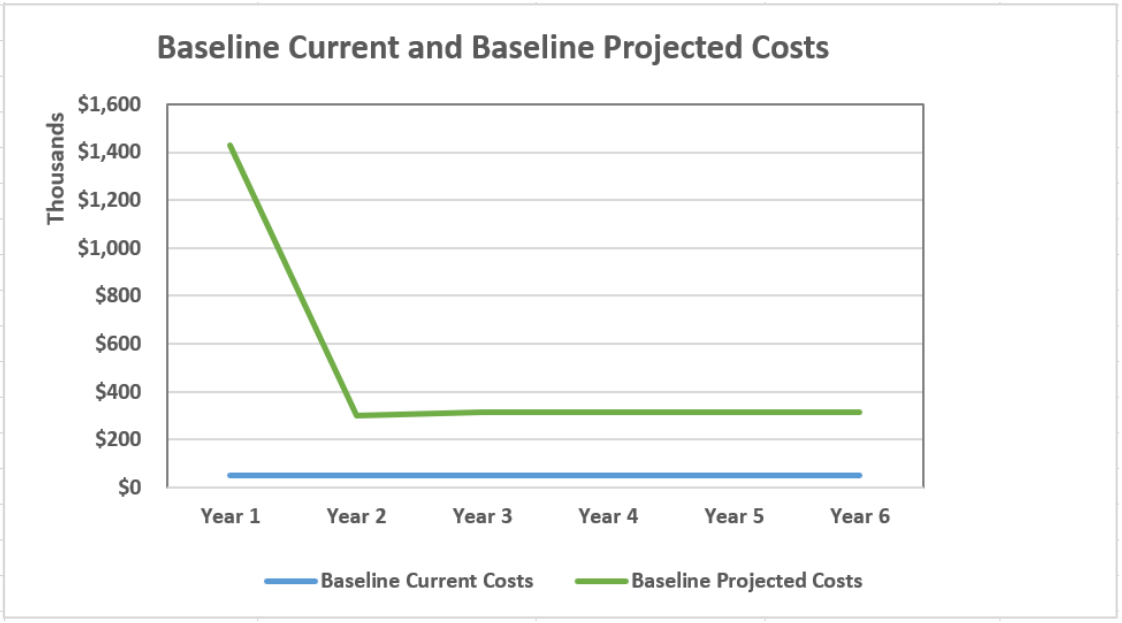
3. **Explain any net operating increases that will be covered by federal funding. Will this funding cover the entire life cycle? If not, please provide the breakouts by year.**

   The DPS Fire Safety Division reports that the cost will be covered by State funding.

4. **What is the break-even point for this IT activity (considering implementation and ongoing operating costs)?**

   The costs associated with implementation and operations of the proposed system will indefinitely be more expensive than the costs of the current system (Figure 10.1 below). However, the intangible benefits anticipated as a result of using the new system, if realized, could balance the cost implications.

Figure 10.1: Baseline Current and Baseline Projected Costs



11.0 Security Assessment

As part of this IR, BerryDunn interviewed representatives from the ADS technical team, including security. This team expressed confidence in the solution's ability to comply with the State's controls, risk management, breach and response, and vulnerability management requirements. It will be hosted in the State's Azure Gov Cloud, which incorporates security and breach controls that have been approved for hosting Criminal Justice Information data. BerryDunn is satisfied that system security is not a concern.

1. **Will the new system have its own information security controls, rely on the State's controls, or incorporate both?**

   DBS' solution will have user security controls, while access to Azure will be controlled by the State.

2. **What method does the system use for data classification?**

   DBS data classification will ensure that data is protected from unauthorized use and disclosure. In addition to the traditional aspects of national security classification, this includes, but is not limited to, protection of pre-decisional, sensitive, source selection.

3. **What is the vendor's breach notification and incident response process?**

   Security alerts are monitored and analyzed by the DBS "Infosec" team. In case of a security breach event, the Infosec team will notify and engage the security event management team which includes PMs, Project Representatives, and Agency Heads who will determine release of information and timeline. The Infosec team in conjunction with a third-party forensics agency will try to ascertain the immediate remedy for the situation and work on identifying the cause and long-term solution.

4. **Does the vendor have a risk management program that specifically addresses information security risks?**

   The proposed application is an N-tier client/server application consisting of three tiers: the presentation tier, application/middle tier, and data tier; thereby providing appropriate authentication, logging, and monitoring mechanisms. This approach allows the following advantages:

   Improved Data Integrity: Since all updates go through the middle tier, the middle tier can ensure that only valid data is allowed to be updated in the database and the risk of a rogue client application corrupting data is greatly reduced.

   Improved Security: Security is improved as a result of being implemented at multiple levels (not just the database). Access is granted based on user functionality permissions set by an application administrator. The client machine interacts with the presentation tier and does not have direct access to the data tier, making it difficult to obtain any unauthorized data.

The application tier (business logic) performs detailed processing while controlling the application's functionality. This tier defines functions, classes, procedures, and properties. The data tier is comprised of database servers where information is stored and retrieved. Access to this tier must come through the application/middle tier, thus isolating it from the presentation tier.

5. **What encryption controls/technologies does the system use to protect data at rest and in transit?**

   All data access session values are encrypted using the data encryption standard (DES) encryption protocol and a unique key. Extended System Access Logs are used for tracking client IP address, geography, user credentials, and date/time stamp. This is further enhanced by Azure Cloud encryption at rest.

6. **What format does the vendor use for continuous vulnerability management, what process is used for remediation, and how do they report vulnerabilities to customers?**

   DBS utilizes the OWASP to ensure that the system/software does not contain any of the top 10 vulnerabilities. This is also utilized during the software testing process prior to update releases.

7. **How does the vendor determine their compliance model and how is their compliance assessed?**

   The vendor defines all standards and policies for compliance for both functional and non-functional requirements, as well as how they are assessed, in Section 3 and 4 of their response to the RFP. BerryDunn is satisfied that DBS has met all compliance requirements.

12.0 Risk Assessment and Risk Register

The risks identified during this IR are available in Attachment 2 – Risk Register.

Attachment 1 – Life Cycle Cost-Benefit Analysis

Description	Implementation	Maintenance	Maintenance	Maintenance	Maintenance	Maintenance	Total
	FY25	FY26	FY27	FY28	FY29	FY30	
Maintenance, Support, Hardware, Hosting, and License Costs							
Enterprise Application – License Fees	$1,194,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$1,194,000.00**
Operating System – Hosting	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.00**
Support and Maintenance	$0.00	$298,381.00	$298,381.00	$298,381.00	$298,381.00	$298,381.00	**$1,491,905.00**
Other Professional Services							
Vendor Implementation/ Installation/ Configuration	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.00**
Implementation	$30,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$30,000.00**
Independent Review	$24,500.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$24,500.00**
State Labor Costs							
ADS EPMO Project Oversight	$8,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$8,000.00**
ADS EPMO Project Manager	$61,700.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$61,700.00**
ADS Business Analyst	$49,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$49,000.00**
ADS EA	$6,880.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$6,880.00**
ADS Security Staff	$2,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$2,000.00**
Other ADS Labor	$1,302.00	$16,720.00	$16,720.00	$16,720.00	$16,720.00	$16,720.00	**$84,902.00**
Other Costs	$58,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	**$58,000.00**
VT GovCloud Hosting	$0.00	$20,196.00	$20,196.00	$20,196.00	$20,196.00	$20,196.00	**$100,980.00**
Operating Costs	$0.00	$335,297.00	$335,297.00	$335,297.00	$335,297.00	$335,297.00	**$1,676,485.00**
Total Implementation	**$1,435,382.00**	**$335,297.00**	**$335,297.00**	**$335,297.00**	**$335,297.00**	**$335,297.00**	**$3,111,867.00**
Total Life Cycle Costs to be Paid with State Funds	**$1,435,382.00**	**$335,297.00**	**$335,297.00**	**$335,297.00**	**$335,297.00**	**$335,297.00**	**$3,111,867.00**
Total Life Cycle Costs to be Paid with Federal Funds	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**

Attachment 2 – Risk Register

Data Element	Description
Risk #	Sequential number assigned to a risk to be used when referring to the risk.
Risk Likelihood/Probability, Impact, Overall Rating	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.
Source of Risk	Source of the risk, which might be interviews with the State, project documentation review, or vendor interview.
Risk Description	Brief narrative description of the identified risk.
Implication	A likely consequence of the identified 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.
Timing of Risk Response	Planned timing for carrying out the risk response, which might be prior to contract execution or subsequent to contract execution.
Reviewer's Assessment of State's Planned Response	Indication of whether BerryDunn reviewers think the planned response is adequate and appropriate, including recommendations if not.

Risk Rating Criteria			
Scale	**Low**	**Medium**	**High**
Impact	Condition does not impact quality and is unlikely to impact achievement of project objectives. -OR- Condition might be mitigated through adjustment in effort to avoid impacts to project objectives.	Condition might be mitigated through reduction or deferral of baseline scope to avoid impact to quality and/or moving date of key milestone. -OR- Condition might be mitigated by focused corrective actions to help ensure achievement of project objectives.	Condition might require acceptance of agreed-upon modifications to avoid impact(s) to key project objectives. -OR- Conditions might introduce risk to project scope, quality of work products, system solution, and/or user experience.
Likelihood	1% – 39%	40% – 89%	90% – 100%

Risk No.	Risk Likelihood	Risk Impact	Overall Risk Rating
1	High	High	High
Source of Risk: BerryDunn's review of the vendor's proposal and interview with multiple stakeholder groups.			
Risk Description: Neither the vendor nor DPS Fire Safety Division or ADS stakeholders are clear about what legacy data (if any) is to be migrated electronically into the new system. Additionally, there is lack of clarity regarding the data migration process. **Impact:** There may be a mismatch in expectations regarding migration of legacy data into the new system. This could result in an extended schedule, lack of access to legacy data, or increased costs, depending on the scope.			
State's Planned Risk Strategy: Mitigate			
State's Planned Risk Response: DBSysgraph does not consider the DPS data migration to be a risk to the project. DBSysgraph will assign a team to evaluate the current data set DPS will assign FS resource to assist in the DBSysgraph evaluation of the data through an iterative process. The new FS records retention policy will be applied to the data going back three years of data. Data not used in the system will be archived			
Timing of Risk Response: Prior to contract execution.			
Reviewer's Assessment of State's Planned Response: BerryDunn finds this risk strategy to be feasible and appropriate.			
Updates Discussed During Presentation of Findings: (to be filled out during final discussion if needed)			

Risk No.	Risk Likelihood	Risk Impact	Overall Risk Rating
2	High	Medium	Medium
Source of Risk: Interviews with project leadership and PMs.			
Risk Description: The DPS Fire Safety Division leadership and project management team indicated there may be resource constraints on the DPS team to play any significant role on the project. DPS leadership indicated this project is a priority for the department and as such will do everything possible to make sure DPS Fire Safety Division resources will be available when needed. **Impact:** There is a possibility that resource constraints could impact the project schedule or the quality of the configuration.			
State's Planned Risk Strategy: Accept			
State's Planned Risk Response: State to adjust project schedule during execution if Fire Safety resource availability is an issue. Approach Business with proposal to add ADS or contracted resource for system testing, along with proposed budget and timing during execution if delays are projected to be significant (> 1 month).			

Timing of Risk Response: Subsequent to contract execution.
Reviewer's Assessment of State's Planned Response: BerryDunn finds this risk strategy to be feasible and appropriate.
Updates Discussed During Presentation of Findings: (to be filled out during final discussion if needed)

Risk No.	Risk Likelihood	Risk Impact	Overall Risk Rating
3	High	Medium	Medium
Source of Risk: BerryDunn's review of the draft contract and interview with Finance stakeholders.			
Risk Description: The vendor's proposal lacks clarity regarding payment milestones, specifically related to the acceptance of project deliverables and their association with costs. **Impact:** The State and DPS Fire Safety Division may end up paying the vendor a disproportionate amount based on the value received throughout the project.			
State's Planned Risk Strategy: Mitigate			
State's Planned Risk Response: State to review deliverable phases, acceptance criteria, and milestone payments in contract to ensure that payments are associated with specific testable deliverables or review and approval of non-testable deliverables (plans, etc.).			
Timing of Risk Response: Prior to contract execution			
Reviewer's Assessment of State's Planned Response: BerryDunn finds this risk strategy to be feasible and appropriate.			
Updates Discussed During Presentation of Findings: (to be filled out during final discussion if needed)			

Risk No.	Risk Likelihood	Risk Impact	Overall Risk Rating
4	High	Medium	Medium
Source of Risk: BerryDunn's interview with the vendor.			
Risk Description: During the interview with the vendor, they indicated they would deploy a baseline configuration as a starter for the State. The vendor manages all implementations as a unique independent client solution, requiring unique patching and release cycles. **Impact:** The State will benefit from having a highly-customized solution that meets their unique RMS needs. However, they will not benefit from a true product-based software management strategy.			
State's Planned Risk Strategy: Accept			
State's Planned Risk Response: The State has accepted the proposal from the selected vendor after multiple RFP and proposal review cycles. The market does not provide a cost-effective customized solution that meets the State's needs in every respect. When possible, the State will adjust business processes to work with the proposed solution, which meets a pressing need to replace the current outdated legacy system, or work with the vendor to provide needed customizations. The new system			

will in all likelihood improve business processes that are inefficient due to the use of an outdated system.
Timing of Risk Response: Prior to contract execution.
Reviewer's Assessment of State's Planned Response: BerryDunn finds this risk strategy to be feasible and appropriate.
Updates Discussed During Presentation of Findings: (to be filled out during final discussion if needed)

Risk No.	Risk Likelihood	Risk Impact	Overall Risk Rating
5	High	Low	Low
Source of Risk: BerryDunn's review of the vendor's proposal and interview with multiple stakeholder groups.			
Risk Description: The proposed cost model included the cost of the perpetual license fees, but does not describe how those costs are associated with the implementation professional services. Accordingly, it is unclear what percentage of the fees are perpetual license fees vs. professional services. **Impact:** The State and DPS Fire Safety Division will not be able to respond to any project audit that may request how the perpetual license was paid.			
State's Planned Risk Strategy: Mitigate			
State's Planned Risk Response: The final contract shall ensure that implementation and annual licensing costs are clearly delineated.			
Timing of Risk Response: Prior to contract execution.			
Reviewer's Assessment of State's Planned Response: BerryDunn finds this risk strategy to be feasible and appropriate.			
Updates Discussed During Presentation of Findings: (to be filled out during final discussion if needed)			

Risk No.	Risk Likelihood	Risk Impact	Overall Risk Rating
6	Medium	Low	Low
Source of Risk: BerryDunn's review of the vendor's proposal and interview with the vendor.			
Risk Description: It is not clear that the application support process (i.e., Tier 1, Tier 2, Tier 3) is fully documented in the contract. The vendor was clear that Tier 1 responsibilities lie with the State, while Tier 2 and Tier 3 responsibilities lie with the vendor. The State should ensure the contract clearly defines the application support. **Impact:** If the application support is not clear in the contract, there could be ambiguity in how the users access support resources.			
State's Planned Risk Strategy: Mitigate			

State's Planned Risk Response: In the contract, ensure that the SLA clearly stipulates support tiers and areas of responsibility, and ensure that all implementation-related project plans include details around scope of responsibilities and staffing of Tier 1 support between State DPS and ADS IT Staff.
Timing of Risk Response: Prior to and subsequent to contract execution.
Reviewer's Assessment of State's Planned Response: BerryDunn finds this risk strategy to be feasible and appropriate.
Updates Discussed During Presentation of Findings: (to be filled out during final discussion if needed)

Risk No.	Risk Likelihood	Risk Impact	Overall Risk Rating
7	Low	Medium	Low
Source of Risk: BerryDunn's review of the vendor's proposal and interview with multiple stakeholder groups.			
Risk Description: Though the vendor and State believe a small amount of customization will be required to meet the unique needs of the State, the exact amount of customization will not be known until the end of the Joint Application Development (JAD) sessions. It is possible that the actual required amount of customization far exceeds the anticipated amount of customization. **Impact:** This could impact the projects schedule, costs, and resource allocations.			
State's Planned Risk Strategy: Accept			
State's Planned Risk Response: Ensure that the final contract includes a table of all "optional" requirements, with an hourly rate and not-to-exceed amount provided by the vendor. Use the Change Management process described in both the contract and EPMO standard process to ensure that any additional customizations identified during JAD sessions are vetted and approved by the project sponsor and fiscal governance body.			
Timing of Risk Response: Prior to contract execution.			
Reviewer's Assessment of State's Planned Response: BerryDunn finds this risk strategy to be feasible and appropriate.			
Updates Discussed During Presentation of Findings: (to be filled out during final discussion if needed)			