MEMORANDUM

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To:	Joint Legislative Committee on Information Management and Technology
From:	Robert L. Cummings, Principal Legislative Analyst (IT)
Date:	May 9, 2019
Subject:	Legislative Administration-Information Services - Document Publishing and Management System (DPMS) - Project Funding Request - SB 5517- LFO Analysis & Recommendations

Agency Request: A request has been submitted to the Joint Committee on Ways and Means for execution phase funding for the replacement of the existing 30-year old legacy Bill Drafting System, LCDocket System, and Perceptive Search System. The proposed initiative is a partnership between the Legislative Counsel (LC) and the Legislative Administration-Information Services Department (LA-IS). Specifically, $4,865,000 is being requested for completing the development and implementation of a custom-based replacement of the existing legacy application system software which supports the existing Bill Drafting System, with a new tailored custom solution called the Document Publishing and Management System (DPMS). The new system is scheduled to be implemented in 2023. The total one-time cost for the system is estimated to be $9,377,000.

LA-IS is undertaking a multi-year, multi-phase, business process re-engineering initiative known as the Document Publishing and Management System (DPMS) Project. The purpose of the project is to modernize and replace the existing legacy technology systems used in the production of bill drafting legislative documents by the State of Oregon's Office of the Legislative Counsel (LC), with a new document publishing and management system. LA-IS is seeking proposals from qualified vendors to design, develop, test, document, and deploy a new DPMS solution that meets or exceeds the performance of the legacy systems, and provides enhancements and improvements to the related LC business processes. Both LC and LA-IS will be providing staff resources to the project throughout its duration.

A. LFO Analysis

Background

The mainframe legacy application systems currently used by the Legislative Counsel were originally implemented in 1988 utilizing four IBM mainframe software products. Document creation, processing, publishing, and the main search applications remain as mainframe-based application systems. The docket, index, and conflicts tracking systems were migrated to Oracle in the early 2000s. The mainframe and Oracle products have been highly customized for LC over their many

years of use, and currently provide specialized word processing, publishing, indexing, search, docket/workflow, reporting, and document management functions. These legacy systems are critical to the LC's ability to draft legislation.

LC uses the legacy systems to provide legal and publication services to the Legislature and its members and other agencies of state government. The LC drafts: a) measures and amendments for legislators, legislative committees and state agencies; b) provides legal advice to legislators and legislative committees; c) reviews state agency rules for legal sufficiency; d) prepares indexes and tables for legislative publications; and e) edits, publishes, sells, and distributes the Oregon Revised Statutes, the official bound session laws, and other print and electronic publications.

The existing legacy systems (i.e. mainframe Bill Drafting System, Oracle Forms-based LCDocket System, and Perceptive Search System) that are to be replaced as part of the DPMS modernization effort, provide a high level of automation and accuracy, and despite their aged technology base and silo'ed, inflexible architecture, continue to serve LC well. However, the existing silo'ed legacy systems cannot seamlessly integrate with other core LA-IS applications and manual paper-based business processes, and there are significant risks in maintaining them because the associated software vendors have not provided support for their software in many years. In addition, there are limited support options, and there is no clear migration path forward for nearly all of the existing legacy systems software.

Besides the technology issues, the existing legacy systems cannot keep pace with the evolving requirements of LC users in an era when more sophisticated and flexible solutions are widely available. Consequently, LA has determined that the legacy technology is at its end-of-life, and in 2017 the LA through the LC and LA-IS initiated the DPMS Project to replace these three highly interconnected legacy systems with a modern document publishing and management solution. The replacement of the current Bill Drafting related systems is not optional.

<p style="text-align:center">Stage Gate/Oversight History</p>

While not required to follow the Executive Branches' Joint Office of the State Chief Information Officer (OSCIO)/LFO Stage Gate Review Process, LA-IS does follow a similar "gated" project review process to assure proper management and oversight of its major information technology (IT) projects. To date, LA-IS has completed its equivalent of Stage Gate 1 (Project Initiation) and Stage Gate 2 (Project Definition). LA-IS is in the process of finishing Stage Gate 3 (Project Planning) in anticipation of beginning project execution in September/October of 2019. The major remaining Stage Gate 3 activities include the acquisition of a vendor to develop and implement the new DPMS, and the development of final baseline estimates, costs, scope statement, project schedule, and risk analysis.

LA-IS has developed initial versions of these artifacts based upon both detailed as-is and detailed to-be business and technical requirements, but plans on revising these key baseline scope, schedule, and budget artifacts once a vendor has been selected, an initial contract is finalized, and a follow-up "discovery (design envisioning) phase" is completed (early in the

execution phase of the project). In addition to these key baseline project management artifacts, LFO is still awaiting receipt of a high-level security plan, a high-level business continuity and disaster recovery plan, and a high-level maintenance and operations plan.

As part of its required project oversight functions, LA-IS has hired a quality assurance (QA) vendor who conducted two comprehensive Project Risk Assessments (one at Phase 1 - Project Initiation and a second at Phase 2 - Project Definition), and has quality reviewed key project management artifacts. In addition, a Legislative Fiscal Office (LFO) oversight analyst has been identified and has reviewed the DPMS Project's Stage Gate 1-3 artifacts, including the results of LA-IS's project Readiness and Ability Assessment Checklist review. The DPMS Project Steering Committee has reviewed the project's initial baseline scope statement, schedule, budget, and risks assessment. It has also reviewed the LA-IS Readiness and Ability Assessment Checklist results, including the LFO Review assessment of the project's readiness to proceed. The DPMS Project Manager has asked the project steering committee for permission to move into the execution phase of the project based upon: a) the completion of all Stage Gate 1-3 artifacts (with the exception of those identified above); b) the LA-IS's assessment of the project's readiness to proceed; c) the quality assurance vendor's concurrence with the project's readiness to proceed; and d) LFO's recently completed oversight readiness and ability review. The LC's budget request is in support of the DPMS Project's desire to move into the execution phase of the project. The DPMS Project Steering Committee has granted the project approval to move into the execution phase of the project, anticipating the release of a Request for Proposal (RFP) in the May/June timeframe.

<u>DPMS Project Phasing and Schedule</u>

The DPMS Project is composed of six distinct project phases: Initiation, Planning, Build, Test, Deploy, and Support. The Project Initiation Phase, Phase 1, was completed in May 2018. Phase 2, the Project Definition Phase, was completed in December 2018. Phases 1 and 2 were funded from the LA-IS budget at a total cost of $400,000. The $400,000 was used in its entirety to procure consulting services from three vendors: a business analysis consulting vendor; an independent quality assurance services vendor; and an organizational change management vendor.

The diagram below provides an initial high-level schedule for the remaining phases of the DPMS Project spanning the next four years (Fall 2019 - Summer 2023). This schedule will be re-evaluated and finalized with the vendor awarded the Design-Development-Implementation (DDI) contract during contract negotiations (and also during the follow-up "discovery (design envisioning) phase"). It will then be regularly re-evaluated and updated throughout the duration of the project. The timeframes and dates identified in the chart are LA-IS's best estimate at this time. It shows procurement taking roughly 9 months and implementation approximately 3.5 years.
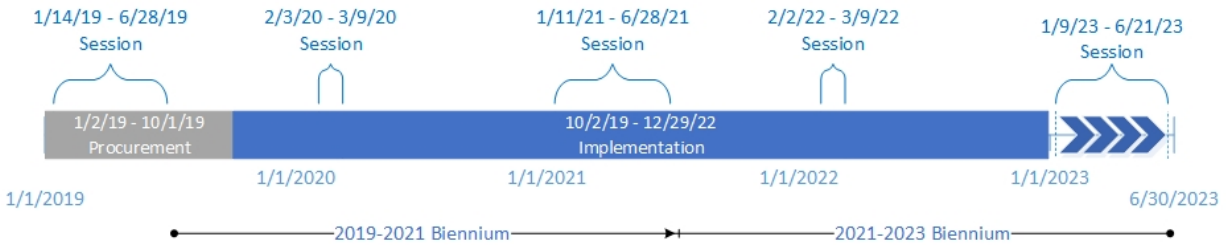
The diagram below provides the planned 9 months of project procurement activities beginning with RFP development through contract award and execution:
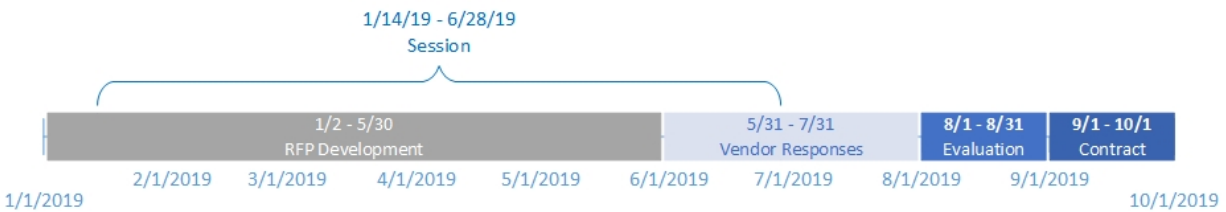
The RFP is scheduled to be released in the May/June 2019 timeframe, with a disclaimer that contract award is dependent on project budget approval by the Legislature. Prospective vendors will then have 60 days to respond. Evaluation of vendor responses, notice of award, and contract negotiation and execution will take an additional two months, with award anticipated in September/October 2019.

As the timelines above illustrate, the Build, Test, Deploy, and Support phases of the project are expected to span four legislative sessions. Given the fact that key stakeholders and subject matter experts will have reduced availability during legislative sessions and the critical need for the new system to work properly once implemented, a decision has been made to extend the development cycle, and to allow consideration of a variety of implementation options (i.e. pilot, parallel, and phased incremental releases). As with the project estimates, costs, and schedule, the release approach and methodology will be finalized with the vendor during contract negotiations and the subsequent "discovery (design envisioning) phase," and then regularly re-evaluated and updated throughout the duration of the project.

Project Costs

The total one-time cost for the system is estimated to be $9,377,000. This total cost includes approximately $6.5M for software development and licensing, $194k for application system hosting, $1.2M (25%) in contingency, and $1.42M for professional services. Approximately $250k of the $1.4M for professional services is to be allocated for the development and delivery of software application training, and associated training manuals and materials for the Legislative Counsel and information systems users. The estimated total cost of ownership (TCO) through 2033 for the project is approximately $11,250,000. Annual maintenance and operational costs are estimated to be $400,000. Expenditures to date (through LFO's Stage Gate 3 readiness review) have been approximately $400,000.

The following table provides an overview of the budget needs and planned expenditures for the DPMS Project through implementation in 2023. It is aligned with the biennium budget and fiscal year cycles of the State of Oregon. These estimates are based on the assumption that a primarily custom-built solution will be recommended by the solution vendor. However, these costs could change if a transfer, Commercial Off the Shelf (COTS), Software as a Service (SaaS), or hybrid solution is ultimately selected. Based upon its industry-wide research, LA-IS feels this is highly unlikely.

Biennium	2019-2021			2021-2023		
Fiscal Year	2020	2021	Total	2022	2023	Total
Hosting	29,000	55,000	84,000	55,000	55,000	110,000
Software - Implementation	1,011,000	2,023,000	3,034,000	2,023,000	1,011,000	3,034,000
Software - Licensing	400,000		400,000		21,000	21,000
Professional Services (includes funds for Independent Quality Assurance Services, and User Training Services)	237,000	473,000	710,000	473,000	237,000	710,000
Contingency	212,000	425,000	637,000	425,000	212,000	637,000
Total	1,889,000	2,976,000	4,865,000	2,976 ,000	1,536,000	4,512,000

The table below provides a summary of planned accumulative budget needs and expenditures over the life of the project, and also shows the estimated Total Cost of Ownership (TCO) for both a 5 and 10-year lifespan. As noted earlier, this chart estimates that it will take approximately 3.5 years to build, test, and deploy the new DPMS solution.

	2 Year	4 Year	5 Year	10 Year
Hosting	84,000	194,000	249,000	551,000
Software - Implementation	3,034,000	6,068,000	6,068,000	6,068,000
Software - Licensing	400,000	421,000	462,000	692,000
Professional Services (includes funds for Independent Quality Assurance Services, and User Training Services)	710,000	1,420,000	1,420,000	1,420,000
Contingency	637,000	1,274,000	1,274,000	1,275,000
Total	4,865,000	9,377,000	9,773,000	11,250,000

subsequent to LA-IS's completion of its readiness and ability assessment in November 2018, and all of the project management artifacts typically required at Stage Gate 3 of the Joint Office of the Chief Information Office (OSCIO)/LFO Stage Gate Review Process (with the exception of those noted above), in February/March 2019, LFO conducted its independent "LFO Review" of the DPMS Project's readiness to move into the execution (build) phase of the project. The "LFO Review" focused on the readiness/ability of the DPMS Project and the LC, LA-IS, legislative staff, to begin the execution phase of the DPMS development. The "LFO Review" did not include the evaluation of the vendor or its proposed solution, as a vendor has not as yet been identified for the DPMS Project.

The "LFO Review" for readiness, typically follows immediately after the OSCIO's Stage Gate 3 endorsement. In the case of the DPMS Project, the OSCIO Stage Gate 3 endorsement did not occur due to the fact that the Legislative Branch is not subject to oversight by the OSCIO, and LA-IS also does not formally follow the Joint OSCIO/LFO Stage Gate Review process. Instead, all legislative branch projects follow a similar project stage gate review process implemented by the LA-IS. As a result, LFO, not the OSCIO is responsible for making sure that all legislative branch projects have the appropriate Stage Gate 3 project management artifacts in place (including quality reviews) before any recommendation is made for these projects to move into the execution phase of the project.

The comprehensive formal LFO Review process for DPMS Project readiness included the following nine focus areas:

1. Compliance with any outstanding legislative instructions from the Joint Legislative Committee on Information Management and Technology (JLCIMT) and the Joint Committee on Ways and Means;
2. Compliance with Stage Gate 3 foundational project management documentation requirements;
3. Compliance with quality control (QC) reviews of key Stage Gate 3 foundational documents;
4. Review of risks, findings, recommendations, and mitigations developed through independent quality assurance (QA) risk assessments;
5. Assessment of the agency's readiness and ability to proceed into project execution including:
   a. agency/vendor track record of success;
   b. risk management preparations;
   c. foundational strategies & assumptions identification and mitigation;
   d. foundational project management documentation;
   e. application of "lessons learned" from other states;
   f. quality management preparations;
   g. agency, system integrator (SI) vendor, QA, QC, and Independent Validation & Verification (IV&V) vendor experience and ability to perform; and
   h. agency, vendors, and COTS/SaaS products readiness to proceed.

6. Status reporting quality and effectiveness;
7. Governance effectiveness;
8. Alignment of the agency's proposed solution (and its enterprise architecture) to the agency's strategic business, information technology, enterprise architecture plans, and modernization plans; and
9. Additional miscellaneous review areas deemed critical to project success including: review of the project estimating methodology; review of project estimates (cost and resources) reasonableness and management; review of project schedule reasonableness and management; review of project scope reasonableness and management; and review of project contracts and their management.

The key findings, questions, concerns, and risks that LFO found during this review of the DPMS Project's readiness and ability to move into the execution phase of the project follow:

Stage Gate 3 Requirements

1. LFO has worked closely with the DPMS Project team throughout the typical Stage Gate 1-3 phases of the project. Key Stage Gate 3 project management artifacts were identified solely by the project team for needed development and quality reviewing. These artifacts included: a) a project business case (integrated into the project charter and workplan); b) a project management plan (including 10-15+ key plans for project management); c) project requirements; d) foundational project assumptions and strategies; e) a baseline project scope statement, schedule, and budget; f) a project readiness and risk assessment; and g) numerous other project management related artifacts. LFO's review concluded that all key artifacts typically required at Stage Gate 3, with the exception of the acquisition of a qualified project vendor, consummation of a contract with this vendor, and the development of high-level security, maintenance and operations, and business continuity/disaster recovery plans, had been completed. LA-IS conducted all required quality reviews on a key subset of the DPMS Project's foundational documents. As noted above, LA-IS will be revising its baseline scope statement, schedule, estimates/costs, resource needs, and risk assessment as part of its contract negotiation process and the follow-up "discovery (design envisioning) phase."
2. LFO Readiness and Ability Assessment Review - the DPMS Project team completed a comprehensive 170 question "readiness/ability" assessment checklist. The LFO reviewed the checklist and came to the same conclusion, that the DPMS Project was ready to move forward into execution.
3. Project Oversight - the DPMS Project has multiple levels of oversight including: a) DPMS Project Steering Committee; b) independent quality assurance (QA) oversight; c) LFO oversight; and d) Joint Legislative Committee on Information Management and Technology (JLCIMT) oversight. To date, all levels of oversight appear to be providing the appropriate levels of independent monitoring, review, and accountability.

4. Quality Assurance (QA) Oversight & Risk Management - LFO's review of the Phase 1 and Phase 2 quality assurance reports shows that the QA vendor has primarily focused on risks versus project performance against plan. While not unusual at this stage of a project (pre-Stage Gate 3), it is important that once the execution phase of the project is initiated that these monthly quality assurance reports also provide significant information on project performance (i.e. against planned scope, schedule, budget, and milestones). LA-IS will be negotiating a new contract for QA services during the execution phase of the project, where performance monitoring will be a critical part of the QA vendor's responsibilities. This new contract should reflect the need for regular QA project performance against plan reporting during the execution (build) phase of the project.

5. Project Risks - the QA vendor has only completed two risk assessments (Project Assessment Reports) to date for the DPMS Project, one at the end of Phase 1 - Project Initiation (May 1, 2019) and a second at the end of Phase 2 - Project Definition (December 19, 2019). These reports evaluated the project risks related to budget, schedule, scope, and resources. In general, these risks were evaluated as low to medium, with the exception of the project budget. Budget risks were estimated to be high due to the many different approaches that could be taken for acquiring the new application system software: a) custom development; b) Commercial Off the Shelf (COTS); c) transfer system; d) Software as a Service (SaaS); and e) hybrid. The QA vendor felt that the wide variety of possible solutions "makes budget estimate very tenuous at best."

   In addition to these general high-level project risks, the QA vendor also identified more specific risks related to: a) organizational change management; b) the limited number of vendors that can provide a solution that is a reasonable fit to meet the DPMS Project needs; c) the risks associated with making all requirements "mandatory;" d) resource related risks for LC staff (particularly during legislative sessions); e) limited backup options for key project staff; f) the challenges of keeping resources engaged on a project with a very long-term schedule; and g) the risks related to trying to do procurement "in the heart of the legislative session." The DPMS Project has already taken steps to help mitigate many of these risks, however, LFO feels that a number of the risks identified by the QA vendor may continue throughout the life of the project.

6. Budget Notes and Legislative Instructions - to date, the DPMS Project has not been subject to any "budget notes" and "legislative instructions."

7. Status Reporting - the DPMS Project has implemented weekly and monthly status reports for distribution to LC management, the DPMS Project Steering Committee, QA oversight, and LFO oversight. The reports regularly provide performance against plan for the project, and also include risk management information. The QA vendor's periodic risk assessments to date have focused some on overall project progress and status, but primarily have addressed project risk identification and mitigation progress.

8. Project Governance - the DPMS Project team has produced a Governance, Oversight, and Accountability Plan and had this plan reviewed by its quality assurance vendor. The project also has a formal project steering committee in place to provide oversight, direction, and timely decision-making for the project. Modernization of core business process application systems are often highly complex, have significant impacts to organizations, and require strong agency executive leadership support, involvement, and ownership. In addition, fixed-priced deliverables-based contracts require timely decision-making to help manage project costs and the likelihood of project success. The DPMS Project appears to be clearly "owned" by the key project business stakeholders. In case of major variances in project scope, costs, schedules, resources, and risks, the project team has provided a clearly defined "off-ramp" process within the Governance, Oversight, and Accountability Plan to guide both project management and the DPMS Steering Committee in the appropriate steps to deal with major project scope, schedule, and budget variances.

9. Lessons Learned and Best Practices - the project team has done a reasonable amount of work to survey the experiences of others across the country who have attempted to modernize key elements of their document management and bill drafting business processes. Lessons learned from other successful and unsuccessful "bill drafting development efforts" have been collected and integrated into the planning for the DPMS Project. In addition, the Request for Proposal (RFP) has a lessons learned/retrospective deliverable requirement for the vendor at the end of every major project milestone (regardless of the system development methodology that is ultimately selected for the project).

10. Project Estimates and Costs - the estimating methodology for the DPMS Project is clearly defined. Initial project estimates were developed by the DPMS Project team using detailed as-is requirements. A revised set of project estimates were then developed, again by the DPMS Project team based upon a much more detailed set of to-be requirements (which were quality reviewed by the QA vendor). Cost input received from a Request for Information (RFI) process, was also integrated into both sets of estimates. Detailed use cases were also included in the estimating process for the DPMS Project. Again, it is important to note that all project estimates to date have been based on the assumption that the project vendor will recommend the development and implementation of a primarily custom-built solution. If this assumption does not hold true, then any revised DPMS Project estimates may vary significantly from the original LA-IS developed one-time and ongoing estimates.

    LA-IS plans on further updating its project estimates, costs, resource needs, and schedule based upon its contract negotiations with the winning vendor, and will further refine them again during the "discovery (design envisioning) phase" as the first step in project execution. This will allow the vendor to help develop a better set of estimates based upon additional information about LC's business requirements for the DPMS, and also the vendor's experience in developing and implementing similar systems throughout the country.

All of this said, based upon the estimating process that was utilized, the assumption that a primarily custom-built solution will be the vendor recommended solution, the size of the project contingency (25%), and the questions, concerns, and risks that LFO and the QA vendor have identified, LFO does not believe there is sufficient evidence to say with certainty that the current project estimates are at the -/+ 10% threshold typically required at Stage Gate 3. They are more likely in the -/+ 25% range.

As noted above, to help mitigate these estimate-related concerns, the DPMS Project plans on further refining its one-time and ongoing estimates during contract negotiations and the "discovery (design envisioning) phase" planned early in the project execution. This is a common best practice for complex projects that are often difficult to estimate, where Commercial Off the Shelf (COTS) and Software as a Service (SaaS) options may not be available, and where a project's only option may be to develop a new custom-built system (sometimes from scratch). LFO strongly concurs with this mitigation plan to help bring project costs into alignment with the standard -/+ 10% Stage Gate 3 threshold. In general, LFO feels that LA-IS has a strong estimation risk mitigation plan, and is doing its best to follow industry best practices for estimating particularly difficult and complex projects.

11. Project Scope and Requirements - the project scope statement and requirements are of high quality. LA-IS has worked closely with its customers in the LC, and has developed both high-level "as-is" requirements, business process documentation, and detailed-level "to-be" requirements. Both sets of requirements have been reviewed for alignment to industry-standard quality attributes and measurability. LA-IS has also developed its internal set of requirements with what it has learned from other states, and the result has been a highly comprehensive and stable set of requirements upon which to base the new DPMS. These requirements have also been quality reviewed by the project's QA vendor.

12. Project Schedule - modernization efforts are extremely complex and require clearly defined highly detailed scope statements, requirements, interfaces, business models, use cases, and related system development lifecycle (SDLC) artifacts. LFO has seen a fairly high-level (but sufficient for Phases 1 and 2) project schedule, however it has not seen a detailed MS Project-based, fully resource-loaded project workplan (based upon a detailed work breakdown structure chart), with a milestone-based critical path. LFO understands that LA-IS plans on developing a more detailed baseline schedule as part of the contract negotiation process, and will further refine this schedule as part of the follow-up "discovery (design envisioning) phase" of the project. That said, based upon: a) the quality of the available DPMS foundational artifacts (i.e. scope statement, requirements, high-level deliverables, project performance metrics, and functional system design elements) that typically form the basis of project schedules; and b) the history of similar projects across the country, LFO feels that the initial high-level project schedule that has been developed, is very reasonable, given the size and complexity of the DPMS Project.

13. Strategic Planning Alignment - all major information technology projects should be in support of an agency's strategic business, information technology, enterprise architecture, and modernization plans. LA-IS has a few of these plans in place for information technology, but LFO has not seen evidence of a robust Enterprise Architecture Plan or overall technology Modernization Plan for the Legislative Branch. LFO has also not seen evidence of a Strategic Business Plan for LA. While it is not unusual for state agencies to not have an aligned set of strategic plans to guide their business, technology, enterprise architecture, and modernization efforts, the lack of this foundational planning can be problematic. For example, it is difficult to verify that the DPMS Project is fully in alignment with the long-term direction, goals, and objectives of the LA. In addition, the lack of an overall LA and LA-IS enterprise modernization plan, within which, the DPMS Project resides, makes it difficult for LFO to determine how much of the overall "modernization problem" of the LA, the DPMS Project actually addresses. This strategic alignment for a project is typically considered a very important component of the Stage Gate Review process.

14. Contractual – LA-IS has not as yet completed its RFP process, identified a final solution option (i.e. build, COTS, SaaS, hybrid, etc.), selected a vendor to develop the DPMS, nor consummated a contract. This key step of a project is typically done shortly before Stage Gate 3 endorsement is achieved. As such, LFO cannot at this time provide any analysis of this key project artifact, including reviewing any revised baseline project scope, estimates, costs, schedule, and updated project risk analysis that will ultimately come out of the contracting process. Contract award is not scheduled until September/October of 2019.

15. Business Process Maturity and Re-engineering – Capability Maturity Model Integration (CMMI) Level – as part of its requirements analysis process, the DPMS Project team has documented the end-to-end LC business processes in the Business Process Diagrams and Details (BPDD) document. All of the business processes that are in the scope of the DPMS Project are documented down to the detailed step level. The DPMS, along with the detailed requirements will be utilized in the "discovery - design envisioning phase" to aid in the re-engineering of the existing legacy application systems and business functions. Although these existing business processes have not been formally evaluated for CMMI maturity, it is likely that after 30 years of successful usage, that the current "as-is" legacy business processes are fairly mature, well-defined, and repeatable processes. However, there is no guarantee that the new DPMS will necessarily utilize all of the as-is business processes. As such, LFO would recommend that LA-IS, if it has not already done so, also clearly define its target business processing models as part of the execution phase analysis and design work. This will help assure that the final "to-be" LA and LC business processes are of the same maturity as the "as-is" processes that have already been defined.

16. Organizational Change Management- the DPMS Project team has advised LFO that it has been executing organizational change management related activities since the kickoff of the project. Components of a typical Organizational Change Management Plan have been incorporated into the project's Communications Plan. That said, LFO feels that the work completed to date needs to be consolidated into a single place, where it is easier for oversight to clearly see what the plans, strategies, and objectives are for organization change management. It will also help identify what's been accomplished to date, and how the ongoing organizational change management activities are to be coordinated and integrated within the overall DPMS Project workplan (i.e. the execution, implementation, maintenance, and operational phases of the DPMS Project).

17. Data Conversion, Interfaces, & Integration - The ultimate success of the DPMS will be highly dependent upon project planning and execution in these three critical areas. With respect to data conversion, the DPMS has developed the Phase 1 - Unified Data Matrix (UDM) and "Interface Specifications" documents, that include preliminary planning documents related to data conversion. The UDM includes a high-level description of the proposed data migration strategy for DPMS-related data. While the work done to date is a very good start, it is important that LA-IS not underestimate the challenges of identifying, modeling, converting, and cleansing any key datasets that must be converted from the three legacy application systems that will be the focus of the DPMS Project. It is also important to note, that any phased implementation of the newly developed system could add additional complexity and costs to these conversion efforts.

18. Legislative Impacts - Most major information technology projects run the risk of being affected by legislation. The DPMS Project team is highly aware of the potential impacts of legislative sessions and pending (or future) legislative actions on the project. They are also aware that the DPMS Project will require the use of a considerable number of key LC and LA-IS staff throughout the project. Major efforts like the DPMS Project tend to "absorb" the operational resources, attention, and focus of an organization. The estimating and budgeting processes undertaken to date have taken this into account. In addition, the DPMS Project team is planning on requesting that the selected vendor illustrate in their proposal how it plans on accommodating limited resource availability during legislative sessions. Legislative impacts may need additional mitigation strategies to be considered throughout the life of the project to minimize their impacts on the project.

19. Vendor Management - It is not fully clear to LFO how LA-IS plans on managing its vendor, both prior to, and after, the new DPMS is introduced into its operational environment. While there is some basic information related to how LA-IS plans on managing its vendor in the Project Management Plan, this basic information needs to be expanded in the project's final vendor contract, statement of work (SOW), Responsible-Accountable-Consulted-Informed (RACI) Matrix, and any service level agreements (SLA) that are developed later in the project.

<u>Findings Summary</u>

The Office of the Legislative Administrator, Legislative Counsel, and the Legislative Administrator-Information Services Division have provided a strong business rationale for modernizing its highly dated and obsolete bill tracking legacy systems software and related business processes. They have also made excellent progress on the DPMS Project's planning activities to date, including stage-gate related progress on project initiation (SG 1), project definition (SG2), and project planning (SG3). In addition, the results of the LA-IS Readiness and Ability Assessment, and the LFO's corresponding "LFO Review" of project readiness, both provide significant evidence that nearly all areas of the DPMS Project are ready to enter project execution. The latest QA risk assessment also concurs that the project is ready to move into the "build" phase. However, it is important to note that the LA-IS, QA, and LFO readiness assessments could not include the vendor's (or its product's) readiness, as a vendor and any proposed finalized solution (i.e. existing product, custom-build system, hybrid, etc.) have not has as yet been selected.

That said, there are a few remaining outstanding items that are typically required at Stage Gate 3 to gain an unconditional recommendation for moving forward. As identified in the analysis above, several key high-level plans (i.e. security, maintenance and operations, disaster recovery, and business continuity) have not been completed as yet. In addition, a vendor has not been selected, a contract has not been awarded, and most importantly, the project estimates still remain at a -/+ 25% threshold, not the typically required -/+ 10% Stage Gate 3 threshold. Fortunately, the DPMS Project has identified mitigation strategies to deal with further refining the project estimates and related costs early in the execution phase of the project. As noted earlier, the proposed "discovery (design envisioning) phase" is not an uncommon strategy on highly complex projects, with fixed-priced deliverables-based contracts, to help address any questions related to project estimates and costs.

Despite these Stage Gate 3 deficiencies and related risks, LFO feels that the failure to approve execution phase funding at this point is not merited, and would unnecessarily result in delaying the DPMS Project until the 2020 Legislative Session to obtain the required funding to move forward. LFO does not feel that a delay in execution phase funding is warranted given the excellent progress that the DPMS Project has made overall to date. The mitigation plans for addressing any stage gate-related deficiencies are already well defined and should quickly address a majority of the deficiencies identified in LFO's analysis. Because this project has a 4-year duration, strong oversight has been put in place. In addition, numerous checkpoints have been included to allow oversight and legislative review of ongoing project progress, including scope, schedule, budget, and milestone tracking.

B. <u>LFO Recommendations</u>

Based upon LFO's findings, risks, and concerns identified above, LFO recommends conditional approval of the request for $4,865,000 to begin the execution phase of the DPMS Project. The Legislature has not as yet determined the exact source of this funding. This recommendation assumes that the funding, spending authority, and personnel resources are made available to the agency by the Joint Committee on Ways and Means.

Because of the complexities, risks, and concerns identified above, the unavailability of a finalized vendor contract and re-baselined scope, schedule, and budget artifacts, the challenges associated with major business and technology modernization efforts, and the state's overall "spotty" success record with "modernization" projects of this type, LFO further recommends that the LA, LC, and LA-IS undertake the following actions to help mitigate the risks and concerns identified above.

1. Complete the RFP process, including contract award by September/October 2019.
2. Develop a fixed priced, deliverables-based vendor contract, include an initial "discovery (design envisioning) phase," to allow LA-IS and the vendor to further refine the DPMS "modernization" Project's scope, requirements, estimates, and risks analysis prior to the notice to proceed (NTP) step in the contract's statement of work (SOW).
3. Provide LFO with copies of the final contract, notice to proceed, and statement of work.
4. Clearly define any revisions to the original project cost estimating methodology that is used to develop any revised estimates coming out of the "discovery (design envisioning) phase." Provide this documentation to LFO.
5. Conduct a review of potential legislation that could affect the scope, costs, and timeliness of completing the DPMS Project. Include these potential impacts in any go-forward planning.
6. Continue to monitor all key project risks, including those already identified by the quality assurance vendor in its Project Assessment Report - Phase 2 (V 1.0, December 19, 2018). Provide ongoing evidence that the project is effectively tracking and mitigating all risks.
7. Provide the DPMS Project Steering Committee and LFO with a high-level comprehensive business process re-engineering plan (including specific resource needs) for how the DPMS Project will proceed in simultaneously replacing the core business processes and application systems that support bill drafting. The LC and LA-IS must describe the extent to which the new DPMS, and re-engineered business processes, will affect current business operations. This high-level re-engineering plan must include the strategy and approaches for addressing those effects prior to the notice to proceed (NTP) of the contract's statement of work (SOW). A detailed version of the re-engineering plan must also be provided at an appropriate time later in the project.
8. Prior to the notice to proceed (NTP), provide the DPMS Project steering committee with a revised baseline project scope statement, schedule, budget (including revised one-time and total cost of ownership costs), resource plan, risk analysis, and prioritized phased "roll-out" plan. Obtain internal governance approval for these key revised artifacts.
9. Prior to the notice to proceed (NTP), develop a RACI matrix that includes a detailed description of LA's, LC's, LA-IS's, and vendor responsibilities for all elements of the DPMS Project. Include all key modernization activities, business process reengineering activities, and systems engineering activities for both vendor and LA staff.

10. Report back to the JLCIMT with the project's final contract and SOW, scope statement, schedule, budget, resource utilization plan, and risk analysis for review and go/no-go decision based upon the alignment of the revised project scope, costs, and schedule with the original project plans and estimates provided during the 2019 legislative session.
11. Provide LFO with copies of the DPMS Project's foundational assumptions and mitigation strategies, strategic planning alignment, the final high-level security plan, the maintenance and operations plan, the high-level business continuity and disaster recovery plans, and the updated vendor management plan.
12. Provide LFO with a detailed list of goals, deliverables, and key milestones between now and the 2020 Legislative Session. This list should include a timeline with estimated dates for achieving each goal and completing each key deliverable and milestone.
13. Provide LFO with a summary of its lessons learned and best practices, including an associated plan for where, when, and how it will utilize this information to improve the DPMS Project's chances for success, and its long-term operations.
14. Provide LFO with a clearly defined "value proposition," including measurable performance metrics for how the LC's technical and business operations will be improved. These specific measurable performance metrics should include such measures as anticipated efficiencies in meeting customer service requests, application systems performance and cost reductions, backlog reductions, reductions in support staff, improvements in data quality, improvements in system and data security, and other related operational improvements.
15. Regularly report project status to LFO throughout the project's lifecycle.
16. Continue to follow the LA-IS's internal "stage gate review" process.
17. Continue to utilize a qualified project manager with experience in planning and managing programs and projects of this type, scope, complexity, and cost.
18. Continue the use of independent quality management services. The contractor shall continue to provide ongoing project performance and risk assessments as directed by the LC and LA-IS.
19. Provide LFO with copies of all QA vendor deliverables.
20. LC and LA-IS must create and provide the LFO with a copy of its finalized and approved detailed security plan, maintenance and operations plan, business continuity plan, and disaster recovery plan, prior to "project close out."
21. Complete a formal "project close out" report upon completion of all four project phases.

- Motion on the LFO recommendations

C. Final IT Subcommittee Action

Transmit the JLCIMT recommendations to the General Government Subcommittee of the Joint Committee on Ways and Means.