

CA - PMM

Project Name: PERT Information System
OCIO Project #: (DIR #2010-05)
Department: Industrial Relations
Revision Date: 9/28/2010

Concept Statement

Description

Brief description of the proposed project:

To update DIR's Division of Occupational Safety and Health's (DOSH) various information systems in the Pressure Vessel Unit (PV), Elevator Unit (EV), and Ride and Tramway Unit (R&T) currently used for assigning and tracking inspections, permits, licenses, certifications, and fee collections.

Need Statement

High Level Functional Requirements:

1. System must have shared capabilities to track inspections, permits, licenses, certifications, and fee collections for the Pressure Vessel Unit, Elevator Unit, and the Ride and Tramway Unit.
2. System must capture and process all known conveyances in CA, conveyance specs and history, inspection dates and data, etc.; all ride and tramway specs, inspection dates and inspection data; and all pressure vessel inspection history, dates and data.
3. System must have management reports to allow unit management to review performance by state, region, district, type and/or inspector.
4. System must be intuitive and user friendly so that 75 - 200 users with minimal computer skills can use the software.
5. System must integrate into DIR's Accounting/Cal Stars.
6. System must be able to detect money owed to the State in other units.

What is Driving This Need?

Existing systems were created in the 1980's on mainframe-based technology which is outdated. Systems are difficult to support and expensive to operate. In-house developed Pressure Vessel tracking system lacks reporting capabilities needed to improve accountability, production and efficiency.

Risk to the Organization if This Work is Not Done:

Current system does not have exception reporting to inform management when required work is not completed. This contributes to untimely inspection of conveyances, pressure vessels, rides and tramways leading to the operation of unsafe equipment that is a danger to the public and presents liabilities to the organization.

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Benefit Statement

Intangible Benefits

Process Improvements (describe the nature of the process improvement):
Provides staff with more modern technological tools to improve efficiency. Increases the opportunity of enhancing or reengineering business operations.

Other Intangible Benefits:

Tangible Benefits

Revenue Generation (describe how revenue will be generated):
The ability to efficiently coordinate across work units and assign inspections to field personnel will increase production and revenue. Better tracking of data and the addition of management reports will allow overdue fees and penalties owed to the State to be quickly identified and collected.

Cost Savings (describe how cost will be reduced):
Newly generated reports will allow management to detect fraud and waste. A more efficient system will potentially allow for future resource consolidation and savings.

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Cost Avoidance (describe the cost and how avoided):
 Accurate tracking reports will improve inspection scheduling. The division will be able to coordinate inspections across different units and possibly reduce travel expenses. Using an outside vendor with independent servers (hosting capabilities) will decrease in-house IT costs.

Risk Avoidance (describe the risk and how avoided):
 When inspections for conveyances, pressure vessels, rides and tramways are better planned and preventive maintenance is scheduled, the public will be safer as problems are more timely identified, inspected, and repaired and preventive maintenance is conducted according to schedules.

Improved Services:
 The public will receive the benefit of safe operating devices throughout the State. Companies will be able to schedule and receive new, routine and modernized inspections in a timely manner. A shared electronic collaborative environment will increase communication and regulatory awareness for the Division and for taxpayers.

Consistency

"No" Responses 		Rationale	Action Required
Enterprise Architecture	Yes		
Business Plan	Yes		
Strategic Plan	Yes		

Impact to Other Agencies

Nature of Impact to Other Agencies

Agency:
 Describe the nature of the impact:
 Labor and Workforce Development Agency (LWDA) and the Governor's Office often receive complaints and concerns when conveyances and other regulated conveyance equipment or devices are found to be without current inspection permits. Improving DOSH's business operations in the working units will

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conveyance equipment or devices are found to be without current inspection permits. Improving DEER's business operations in the working units will significantly reduce the number of complaints and inquires to the LWDA and the Governor's Office.

Agency:

Describe the nature of the impact:

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Solution Alternatives

Alternative 1:

Acquire software as a service (SaaS). Contract with vendor to host a system for DOSH's Elevator Unit, Ride and Tramway Unit, and the Pressure Vessel Unit to assign and track conveyance and pressure vessel inspections, permits and fee collections, accessible throughout DOSH's statewide offices and field offices. Minimal DIR internal development is anticipated since the system will be vendor developed and owned. DOSH's business processes will be analyzed and integrated into the vendor's information system. While in-house maintenance and support requirements are reduced in this alternative, DIR will be completely reliant on the vendor for continuing operation of the system. Continuing costs are anticipated to be reduced because DIR will not have a system to maintain.

Technical Considerations for Alternative 1:

Flow of data between the vendor and DIR in a secure fashion.

ROM Cost: \$370,000 to \$500,000

Note: high end of range must not exceed 200% of low end of range

Alternative 2:

Acquire a COTS product. Contract with vendor to implement a COTS solution hosted by the State to support PV, EV, and R&T processes. This alternative envisions an integrator to recommend COTS suited for PV, EV, and R&T and reconfigure that software for additional custom features. In addition to contract resources, this alternative requires DIR to provide parallel programming staff in the development, implementation, and support of the system, which DIR does not currently have. The system will reside in a managed environment at the OTECH data center. This alternative is estimated to cost considerably higher than the proposed alternative 1 and will take longer to complete. Based on other COTS systems already implemented, annual software licensing and support agreements are expected to be high.

Technical Considerations for Alternative 2:

Because of the integration of various software (COTS packages) and hardware, the potential to maintain, support and upgrade the system makes this alternative not as reliable as alternative 1.

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ROM Cost: \$1,000,000 to \$3,000,000	Note: high end of range must not exceed 200% of low end of range
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Alternative 3:

Develop a new system in-house. This alternative offers the most customized solution related to DOSH business processes. Currently however, DIR does not have the programming resources to design and develop a new system. The existing PV system is somewhat updated but requires additional and enhanced programming for completion. This alternative is also expected to cost more than the proposed alternative, and take longer to develop and implement.

Technical Considerations for Alternative 3:

There are no resources available in-house to design and develop a new system.

ROM Cost: \$300,000 to \$900,000	Note: high end of range must not exceed 200% of low end of range
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Recommendation

Comparison:

Alternative 1	ROM Cost	Risk
SaaS Solution	\$370,000 - \$500,000	Total reliance on vendor for sytem support.
Alternative 2	ROM Cost	Risk
COTS Solution	\$1,000,000 - \$3,000,000	Expensive upgrades and licensing costs.
Alternative 3	ROM Cost	Risk
In-House Development	\$300,000 - \$900,000	Extensive delays due to insufficient in-house resources.

Conclusions:

1	Using SaaS will provide access to specialized resources needed to develop the desired product.
2	Using SaaS as a solution for this project yields the lowest upfront cost.
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