

STATE OF CALIFORNIA
Budget Change Proposal - Cover Sheet
 DF-46 (REV 08/15)

Fiscal Year 2016-17	Business Unit 3540	Department Forestry and Fire Protection	Priority No.
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Budget Request Name 3540-005-BCP-DP-2016-GB	Program VARIOUS	Subprogram
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Budget Request Description
 Situational Command Awareness Data Acquisition (SCADA)

Budget Request Summary

The Department of Forestry and Fire Protection requests \$7.6 million (\$7.0 million General Fund and \$600,000 Special Funds) and 12.8 positions beginning in Fiscal Year 2016-17, with additional funding and positions in subsequent years to acquire, install, and support Automated Vehicle Location (AVL) and Mobile Data Computer (MDC) devices in all CAL FIRE emergency response equipment to efficiently and accurately locate CAL FIRE equipment and resources while in transit or on an incident. AVL and MDCs will improve the Department's ability to respond with the closest available resources, which can improve firefighter safety and can reduce the negative impact from fires.

Requires Legislation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Code Section(s) to be Added/Amended/Repealed
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Does this BCP contain information technology (IT) components? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, departmental Chief Information Officer must sign.</i>	Department CIO	Date
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For IT requests, specify the date a Special Project Report (SPR) or Feasibility Study Report (FSR) was approved by the Department of Technology, or previously by the Department of Finance.

<input type="checkbox"/> FSR <input type="checkbox"/> SPR	Project No.	Date:
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If proposal affects another department, does other department concur with proposal? Yes No
Attach comments of affected department, signed and dated by the department director or designee.

Prepared By	Date	Reviewed By <i>M. J. [Signature]</i>	Date 7-5-16
Department Director <i>[Signature]</i>	Date 11/5/16	Agency Secretary <i>[Signature]</i>	Date 11/5/16

Department of Finance Use Only

Additional Review: Capital Outlay ITCU FSCU OSAE CALSTARS Dept. of Technology

BCP Type: Policy Workload Budget per Government Code 13308.05

PPBA	Original Signed by Amanda Martin	Date submitted to the Legislature <i>1-8-16</i>
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BCP Fiscal Detail Sheet

BCP Title: Situational Command Awareness Data

DP Name: 3540-005-BCP-DP-2016-GB

Budget Request Summary

	FY16					
	CY	BY	BY+1	BY+2	BY+3	BY+4
Positions - Permanent	0.0	12.8	22.0	22.0	22.0	22.0
Total Positions	0.0	12.8	22.0	22.0	22.0	22.0
Salaries and Wages						
Earnings - Permanent	0	907	1,513	1,513	1,513	1,513
Overtime/Other	0	15	15	15	15	15
Total Salaries and Wages	\$0	\$922	\$1,528	\$1,528	\$1,528	\$1,528
Total Staff Benefits	0	616	1,034	1,034	1,034	1,034
Total Personal Services	\$0	\$1,538	\$2,562	\$2,562	\$2,562	\$2,562
Operating Expenses and Equipment						
5301 - General Expense	0	142	134	132	132	132
5302 - Printing	0	13	22	22	22	22
5304 - Communications	0	26	44	44	44	44
5306 - Postage	0	13	22	22	22	22
5320 - Travel: In-State	0	13	22	22	22	22
5322 - Training	0	138	75	54	36	36
5324 - Facilities Operation	0	467	426	384	384	384
5326 - Utilities	0	13	22	22	22	22
5340 - Consulting and Professional Services - External	0	170	170	170	0	0
5340 - Consulting and Professional Services - Interdepartmental	0	85	0	0	0	0
5346 - Information Technology	0	3,164	2,434	4,093	4,096	4,096
5368 - Non-Capital Asset Purchases - Equipment	0	1,828	5,732	5,755	206	206
Total Operating Expenses and Equipment	\$0	\$6,072	\$9,103	\$10,720	\$4,986	\$4,986
Total Budget Request	\$0	\$7,610	\$11,665	\$13,282	\$7,548	\$7,548

Fund Summary

Fund Source - State Operations						
0001 - General Fund	0	7,031	10,777	12,271	6,974	6,974
0102 - State Fire Marshal Licensing and Certification Fund	0	24	36	41	23	23
0198 - California Fire and Arson Training Fund	0	28	43	49	28	28

3063 - State Responsibility Area Fire Prevention Fund	0	382	586	667	379	379
3212 - Timber Regulation and Forest Restoration Fund	0	145	223	254	144	144
Total State Operations Expenditures	\$0	\$7,610	\$11,665	\$13,282	\$7,548	\$7,548
Total All Funds	\$0	\$7,610	\$11,665	\$13,282	\$7,548	\$7,548

Program Summary

Program Funding						
2460 - Office of the State Fire Marshal	0	117	178	203	115	115
2465010 - Fire Prevention	0	324	497	566	322	322
2465019 - Fire Control	0	4,979	7,634	8,691	4,940	4,940
2465028 - Cooperative Fire Protection	0	682	1,045	1,190	676	676
2465037 - Conservation Camps	0	1,121	1,718	1,956	1,112	1,112
2470010 - Resources Protection and Improvement	0	222	340	387	219	219
2470019 - Forest Practice Regulations	0	145	223	254	144	144
2470028 - Forest Resources Inventory and Assessment	0	20	30	35	20	20
9900100 - Administration	0	7,610	11,665	13,282	7,548	7,548
9900200 - Administration - Distributed	0	-7,610	-11,665	-13,282	-7,548	-7,548
Total All Programs	\$0	\$7,610	\$11,665	\$13,282	\$7,548	\$7,548

Personal Services Details

Positions	Salary Information			CY	BY	BY+1	BY+2	BY+3	BY+4
	Min	Mid	Max						
1312 - Staff Info Sys Analyst (Spec) (Eff. 07-01-2016)				0.0	1.5	4.0	4.0	4.0	4.0
1470 - Assoc Info Sys Analyst (Spec) (Eff. 07-01-2016)				0.0	4.5	6.0	6.0	6.0	6.0
1583 - Sr Programmer Analyst (Spec) (Eff. 07-01-2016)				0.0	0.8	1.0	1.0	1.0	1.0
1584 - Sr Programmer Analyst (Supvr) (Eff. 07-01-2016)				0.0	1.0	1.0	1.0	1.0	1.0
1587 - Sys Software Spec I (Tech) (Eff. 07-01-2016)				0.0	0.5	2.0	2.0	2.0	2.0
5171 - Telecomms Sys Analyst II (Eff. 07-01-2017)				0.0	0.0	1.0	1.0	1.0	1.0
5393 - Assoc Govtl Program Analyst (Eff. 07-01-2017)				0.0	0.0	1.0	1.0	1.0	1.0
6834 - Heavy Equipt Mechanic (Eff. 07-01-2016)				0.0	0.5	1.0	1.0	1.0	1.0
7418 - Research Program Spec I (Eff. 07-01-2016)				0.0	3.0	4.0	4.0	4.0	4.0
9723 - Battalion Chief (Eff. 07-01-2016)				0.0	1.0	1.0	1.0	1.0	1.0
Total Positions				0.0	12.8	22.0	22.0	22.0	22.0
Salaries and Wages	CY	BY	BY+1	BY+2	BY+3	BY+4			
1312 - Staff Info Sys Analyst (Spec) (Eff. 07-01-2016)	0	105	280	280	280	280			
1470 - Assoc Info Sys Analyst (Spec) (Eff. 07-01-2016)	0	287	383	383	383	383			
1583 - Sr Programmer Analyst (Spec) (Eff. 07-01-2016)	0	62	77	77	77	77			
1584 - Sr Programmer Analyst (Supvr) (Eff. 07-01-2016)	0	81	81	81	81	81			
1587 - Sys Software Spec I (Tech) (Eff. 07-01-2016)	0	35	140	140	140	140			
5171 - Telecomms Sys Analyst II (Eff. 07-01-2017)	0	0	61	61	61	61			
5393 - Assoc Govtl Program Analyst (Eff. 07-	0	0	61	61	61	61			

	01-2017)						
6834	- Heavy Equipt Mechanic (Eff. 07-01-2016)	0	28	55	55	55	55
7418	- Research Program Spec I (Eff. 07-01-2016)	0	201	267	267	267	267
9723	- Battalion Chief (Eff. 07-01-2016)	0	123	123	123	123	123
Total Salaries and Wages		\$0	\$922	\$1,528	\$1,528	\$1,528	\$1,528
Staff Benefits							
5150350	- Health Insurance	0	221	375	375	375	375
5150450	- Medicare Taxation	0	13	22	22	22	22
5150500	- OASDI	0	48	84	84	84	84
5150600	- Retirement - General	0	54	65	65	65	65
5150620	- Retirement - Public Employees - Safety	0	194	342	342	342	342
5150800	- Workers' Compensation	0	86	146	146	146	146
Total Staff Benefits		\$0	\$616	\$1,034	\$1,034	\$1,034	\$1,034
Total Personal Services		\$0	\$1,538	\$2,562	\$2,562	\$2,562	\$2,562

Analysis of Problem

A. Budget Request Summary

The Department of Forestry and Fire Protection requests \$7.6 million (\$7.0 million General Fund and \$600,000 Special Funds) and 12.8 positions beginning in Fiscal Year (FY) 2016-17, with additional funding and positions in subsequent years (see Attachment A) to acquire, install, and support Automated Vehicle Location (AVL) and Mobile Data Computer (MDC) devices in all CAL FIRE emergency response equipment to efficiently and accurately locate CAL FIRE equipment and resources while in transit or on an incident. AVL and MDCs will improve the Department's ability to respond with the closest available resources, which can improve firefighter safety and can reduce the negative impact from fires.

The California Natural Resources Agency Information Officer and the Department of Technology have deemed the Situational Command Awareness Data Acquisition (SCADA) project does not meet the requirements of the Project Approval Lifecycle Stage Gate process

B. Background/History

CAL FIRE currently utilizes the Computer-Aided Dispatch (CAD) system to track its equipment. This system is designed to track the location of an engine, using the last position reported over the radio by the equipment operator. Due to the inability of the CAD system to display real-time locations of CAL FIRE resources, the last reported position of an engine could potentially be several miles from the equipment's actual position when it is en-route, at an incident, or returning from an incident.

Currently, when responding to an incident, equipment operators and crew use a paper map book or standalone navigation device to obtain driving directions to the location of the incident. These navigation methods are inefficient, and are prone to error due to manual inputs of the incident location. Commercially available maps are inaccurate in rural areas where CAL FIRE routinely responds to incidents and cannot be used. In addition, during high fire activity, radio traffic often becomes congested, and chances of dispatchers making status and location update errors or omissions increases significantly.

When utilizing the current CAD system, CAL FIRE Emergency Command Center (ECC) Chiefs, as well as other decision-making personnel, do not have comprehensive decision support display screens showing the equipment status and incident location information. This situation leads to missed opportunities to make informed decisions that would lead to optimal use and positioning of firefighting equipment and personnel, which could result in improved firefighter safety. In addition, engine companies and other fire suppression personnel do not have direct access to CAD, and as such, do not have quick access to critical decision-making data that includes, but is not limited to, jurisdictional boundaries, power line locations and ownership, water supplies, bridge weight limits, fire hydrant layers, etc. Overall, the complexity of providing fire protection services and incident volume has increased markedly since CAL FIRE deployed its Geographic Information System (GIS) based CAD systems to its 21 ECCs in 2003.

Due to the factors listed above, CAL FIRE is facing a significant challenge to efficiently and accurately locate CAL FIRE equipment and resources while in transit or on an incident. The Department is also missing opportunities to respond to emergencies with the nearest equipment and resources, which is critical when tasked with responding to large and damaging fires.

C. State Level Considerations

Currently, no State policy exists for AVL; however, the "California Information Sharing Council" has recently been established by the Governor's Office of Emergency Services (Cal OES) in conjunction with the Department of Homeland Security. The expectation is that CAL FIRE will contribute products and data (including AVL information) to a future Statewide data framework, which has not yet been established, and provide input to State level policy in regards to "Common Operating Picture"

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standards, which are being developed, of which AVL is a major factor. The California Natural Resources Agency Information Officer and the Department of Technology have deemed the SCADA project does not meet the requirements of the Project Approval Lifecycle Stage Gate process

This proposal is consistent with the goals and objectives of the Department's 2012 Strategic Plan.

Goal: Recognize and scale to changing budgetary, fiscal and regulatory conditions.

Objective: Implement a systematic way to establish program budgetary baselines and deliverables and to measure the impact of change.

Goal: Effectively communicate the Departments' mission and vision to employees, partners, and stakeholders.

Objective: Enhance internal communications and facilitate two-way communication at all levels.

Objective: Enhance external communications.

Goal: Seek to improve operational efficiency and effectiveness by shaping, enhancing, and adapting to changing circumstances.

Objective: Revisit upgrades to existing CAL FIRE computing operations in order to increase capacity and provide much needed data for key command and control, and decision support systems.

Objective: Improve the resiliency of ECC Communications.

Objective: Review research and development, and leverage the use of evolving technology.

Goal: Foster a culture that emphasizes and enhances employee health and safety.

Objective: Expand safety communications across all programs.

Objective: Seek actions that maintain and enhance the safety and health of CAL FIRE employees and those of partner agencies, as well as the public.

This proposal is also consistent with the goals and objectives of the Department's 2010 Fire Plan.

Goal #6: Determine the level of fire suppression resources necessary to protect the values and assets at risk identified during planning processes.

Goal #6: (Objective F): Improve policies and strategies to minimize injuries or loss of life to the public and emergency responders during emergency response activities throughout the State.

Goal #6: (Objective G): Ensure all firefighters are provided the appropriate training, equipment, and facilities necessary to successfully and safely meet the increasingly complicated and challenging fire and emergency response environment.

D. Justification

Currently, CAL FIRE does not have the technology to efficiently and accurately locate and communicate with emergency response equipment or personnel. As fire conditions worsen in the fourth year of drought brought on by the ongoing impacts of climate change, there is even greater potential danger to CAL FIRE personnel and the 31 million acres of State Responsibility Area (SRA), which can be mitigated with this technology. By adding AVL and MDC capabilities to the CAL FIRE

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command and control system, the Department's ability to respond with the closest resources will be greatly increased, positively impacting CAL FIRE personnel and citizen safety, and at the same time, reducing the negative impacts from fires. Implementing AVL and MDC has been effective for many municipal fire and police departments throughout the United States. The effectiveness of AVL and MDC is measured in the decision making based on incidents, their location, and the location of resources traveling to and from those incidents. Additionally, AVL, MDC, and communications technologies are now reliable and reasonably priced. Postponing the project could lead to higher fire suppression costs in the coming years.

AVL hardware is designed to send frequent position updates, which would ensure that the nearest equipment could be selected to respond to an incident at all times. These updates can be sent via the most reliable and cost-effective mechanism possible given the current location of the resource. A variety of communications, such as third generation or fourth generation (3G/4G) mobile telecommunications, very high frequency (VHF) radio, and satellite can be utilized to provide redundant, fault tolerant links that will be attainable regardless of terrain or lack of alternative connectivity. The AVL device would allow the Department to dispatch the closest resource to an incident, regardless of where the engine is stationed or heading to/from.

Combined with AVL devices, the use of an MDC greatly reduces navigation mistakes because the incident location is sent by the CAD system to the MDC navigation software. The CAD system utilizes the latest updated and maintained CAL FIRE map, which is highly accurate in rural areas. In addition, fire engine equipment operators and other fire protection personnel would have ready access to critical decision-making data that includes, but is not limited to, jurisdictional boundaries, power line locations and ownership, water supplies, bridge weight limits, fire hydrant layers, etc.

One major advantage to using the AVL and MDC devices on all CAL FIRE engines is that the equipment operator would have the ability to make location status updates without adding congestion to a voice radio channel. Position updates would be made automatically over data radio from the AVL without increasing congestion and related delays as encountered with voice radio channels.

Data collected from the CAD systems where MDC/AVL devices have already been installed in municipal resources indicates that AVL improves equipment response time and reduces the risk of incidents becoming significant or life threatening. The improvement stems from CAD automatically knowing the location of equipment that is in transit or staged in high risk areas. In addition, the AVL device regularly provides CAD with the equipment's location by providing a continuously updated latitude and longitude. In the event where firefighting personnel may experience a potential burn over, the device would allow dispatchers to provide sufficient warning to the engine in danger.

Personnel and Public Safety

Installing AVL devices in emergency response vehicles will enhance CAL FIRE personnel safety by providing the CAL FIRE ECC with the location of a vehicle that has left the road or been involved in an accident. AVL is critical if the engine crew is in an unfamiliar area, or possibly incapacitated, which can happen when one engine moves up and covers behind another one that is on a call, alternatively, it is a critical element when an engine company from one CAL FIRE Unit is working on a major incident in another Unit. AVL can potentially prevent vehicle crews from being burned over when fighting a wildland fire because the incident operations branch can accurately know the location of the vehicle in relation to the fire perimeter and, in time, warn the vehicle crew and initiate a rescue operation. While responding to a low priority incident or returning from an incident location, an emergency response vehicle with AVL can be determined, by the dispatching software, to have the shortest travel time to an incident. The time saved by sending the nearest emergency response vehicle can reduce the impact of the incident.

The MDC in an emergency response vehicle will enhance CAL FIRE personnel safety as it will provide a panic button and a capability to send and receive critical safety and other text messages in areas

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where voice radio communication is garbled or unavailable, such as canyons or other rural areas. The MDC will also provide the emergency vehicle operator with high-quality maps and driving directions when there are no communication capabilities available, i.e. downed communications towers or power outages. The MDC navigation capability greatly improves personnel safety in situations where emergency response vehicle operators need travel directions to avoid road closures/hazards.

Fire Suppression

The first initial minutes are critical in suppressing a wildland fire. If an emergency response vehicle is equipped with an AVL device, CAL FIRE can potentially send vehicles that respond the timeliest. Initial attack resources (engines, dozers, crews, etc.) could potentially arrive sooner, and in some cases, keep these fires smaller. A situational awareness system fed by AVL devices installed in CAL FIRE resources will provide the information needed to make accurate, timely decisions about how, when, and where to position resources. This will improve the overall effectiveness of the fire suppression effort.

Impact on the Environment

Failing to send the quickest initial attack resources (engines, bull dozers, crews, etc.) will result in longer, larger, and more damaging fires that will directly impact the environment and its ecosystems, listed and endangered species, State and local water supplies, public health, the safety and shelter of individuals in the path of the fire, and local economies. Larger, longer, and more damaging fires increase the amount of black carbon released into the atmosphere, increasing greenhouse gas emissions, and challenging the State to meet its aggressive greenhouse gas reductions targets given the ongoing impact of climate change to both weather and vegetation conditions. Without improving initial attack resource response times through the use of AVL technology, the likelihood of large and damaging wildfires that threaten people's lives, destroy homes, and burn the State's watershed and resources is increased.

When fire activity is high and more stations, engines, crews, and airbases are staffed, more resources will be traveling to or from incident locations or prepositioned in staging areas. Without AVL in CAL FIRE engines, many situational awareness opportunities will continue to be missed. The AVL system would allow the Department to dispatch the closest traveling or staged resource to an incident, much quicker than a resource assigned to its respective fire station. Incidents can be handed off from one ECC to another, and AVL will allow an engine crew in a second location to be moved and respond to an incident while en-route to another major incident. The MDC will also allow resources to receive an incident dispatch text message (location, incident type, etc.) even if radio communications are garbled. This improved fire suppression effectiveness will further protect the environment.

To add AVL and MDC capabilities to the command and control system, CAL FIRE requests the following staff:

1.0 Battalion Chief. The position will act as the AVL/MDC project manager, as well as a subject matter specialist who will provide technical leadership during the procurement, development, and implementation phases of the project. The position will then serve as the Fire Protection AVL/MDC subject matter expert, provide policy and procedural direction for the field, serve as a standing member of the CAD Steering Committee as the AVL/MDC subject matter expert, assist in curriculum development and instruction on AVL/MDC for new ECC personnel, and coordinate ongoing field level support with the CAD Project manager when the project is complete. This position will also be responsible for coordinating ongoing field personnel training, implementing project governance, updating policies and procedures, managing the contract with the SCADA vendor, and approving invoices for payment.

1.0 Senior Programmer Analyst Supervisor. The position will manage the technical aspects of the project procurement, oversee the hiring of the project team, and supervise project staff. The position will work with Fire Protection and the vendor's project manager to develop and update the project plan.

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The position ensures that appropriate project management, tools, techniques, and methodologies are being used and validates and verifies that the project deliverables meet the contract requirements. When the implementation phase is complete, this position will be responsible for supervising the SCADA IT staff and coordinating maintenance, support, training support, and governance activities with the AVL Project Manager.

1.0 Senior Programmer Analyst. The position provides technical leadership during the procurement, development, and implementation phases of the project. The position will serve as the CAL FIRE technical expert, provide technical direction for the Information Technology Services (ITS) support team, and coordinate problem resolution, system maintenance, and software support activities with the system integration vendor. When the implementation phase is complete, this position will be responsible for coordinating the testing and rollout of software updates on an ongoing basis.

2.0 System Software Specialist I. The positions will assist in the review of vendor proposals and develop system installation and maintenance plans in concert with the ITS Enterprise Architecture Office. The positions will update AVL data collection, distribution, situational awareness, and database servers on an ongoing basis. The positions will also develop, test, troubleshoot, and deploy client software, map distribution tools, and MDC images on an ongoing basis.

4.0 Staff Information Systems Analyst. The positions will participate in the evaluation of vendor proposals. The positions will test AVL and MDC client software, provide technical support to field personnel, and configure replacement AVL/MDC hardware as part of the ongoing maintenance and support activities. The positions are also responsible for supporting the field ITS coordinators and the Public Safety Communications Office (PSCO) personnel responsible for updating software and replacing hardware in the CAL FIRE emergency response equipment after the implementation phase is complete.

4.0 Research Program Specialist I (GIS). The positions will build the initial statewide map layers, coordinate map update activities, and continually update statewide map layers. The positions will also perform map quality assurance checks and coordinate map correction efforts on an ongoing basis.

6.0 Associate Information System Analysts. The positions will coordinate the installation of AVL/MDC in CAL FIRE emergency response equipment. After the implementation phase is complete, the positions will install MDC software and MDC map updates. The positions will also coordinate troubleshooting and repair activities that involve PSCO and/or the AVL/MDC vendor on an ongoing basis. The positions are also responsible for maintaining an inventory of spare parts and ensuring that equipment repairs meet the contract requirements.

1.0 Telecommunications Systems Analyst II. The position coordinates with PSCO and ITS during the installation and maintenance phases of the project. The position will assist ITS with resolving radio system issues and developing AVL/MDC testing and troubleshooting procedures. The position works with ITS and the vendor to maintain effective communication with PSCO regarding issues or emerging changes in policies or procedures, FCC license maintenance, and project prioritization with PSCO as Fire Protection's liaison, and AVL/MDC subject matter expert in regards to the telecommunications aspect of the project during the implementation and maintenance phases of the project.

1.0 Associate Government Program Analyst. The position is responsible for setting up a system to track the AVL/MDC hardware and software inventory. The position is responsible for tracking software license renewals, including increases in deployed copies of software covered by enterprise license agreements on an ongoing basis.

1.0 Heavy Equipment Mechanic. The position coordinates the installation of AVL/MDC systems in newly purchased CAL FIRE equipment. The position also assists the AVL/MDC project team in resolving wiring problems and other issues that require the expertise of an equipment mechanic, once

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the implementation phase is complete. The position is also responsible for removing AVL/MDC hardware from equipment that is being retired on an ongoing basis.

E. Outcomes and Accountability

Installing AVL and MDC devices in CAL FIRE equipment will result in the improvement of incident response times, personnel safety, and the management of fire protection equipment and personnel. In some cases, faster response times will result in increased efficiency with suppressing large and damaging vegetation fires.

With this technology widely available and currently in use by other agencies to ascertain the position of an emergency responder, not approving this project would put the Department at-risk in the event that damages and/or injuries were sustained by first responders or civilians that may have otherwise been avoided by employing AVL/MDC technology.

F. Analysis of All Feasible Alternatives

Alternative 1: Approve \$7.6 million (\$7.0 million General Fund and \$600,000 Special Fund) and 12.8 positions beginning in FY 2016-17 (see Attachment A) to allow CAL FIRE to acquire, install, and support AVL and MDC devices in all CAL FIRE emergency response equipment.

Cost:

- See Attachment A.

Advantages:

- The Department will be able to efficiently and accurately locate CAL FIRE equipment and resources while in transit.
- This alternative will improve the Department's ability to respond with the closest available resource and provide critical decision-making information to fire protection personnel, which can reduce the negative impact from fires.
- This alternative will result in time saved by sending the nearest emergency response vehicle that can improve the survival rate and recovery outcomes of injured citizens.
- This alternative will provide CAL FIRE with the information needed to make accurate and timely decisions about how, when, and where to position resources.
- This alternative will limit the potential for incidents to damage and/or inflict injuries to first responders or civilians.

Disadvantages:

- This alternative will require additional General Fund, Special Funds, and position authority.

Alternative 2: Continue past practices and provide no additional funding or personnel to acquire and support AVL and MDC devices in all CAL FIRE emergency response equipment.

Cost:

- None.

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Advantages:

- No additional funding from the General Fund or Special Funds.

Disadvantages:

- The Department will not be able to efficiently and accurately locate CAL FIRE equipment and resources while in transit.
- This alternative will not improve the Department's ability to respond with the closest resources and provide critical decision-making information to fire protection personnel, which can reduce the negative impact from fires.
- This alternative will not result in time saved by sending the nearest emergency response vehicle that can improve the survival rate and recovery outcomes of injured citizens.
- This alternative will not provide CAL FIRE with the information needed to make accurate and timely decisions about how, when, and where to position resources.
- This alternative will not limit the potential for incidents to damage and/or inflict injuries to first responders or civilians.

Alternative 3: Approve General Fund and Special Funds with 20.0 permanent positions to allow CAL FIRE to acquire, install, and support only AVL (no MDC) devices in all CAL FIRE emergency response equipment.

Cost:

- Less General Fund and Special Funds than Alternative #1.

Advantages:

- The Department will be able to efficiently and accurately locate CAL FIRE equipment and resources while in transit.

Disadvantages:

- This alternative will require additional General Fund and position authority.
- Without an MDC, vehicle personnel will not be able to receive incident dispatch, safety alert, and other important text messages. This will decrease fire suppression efficiency and which could result in loss of time and the resultant negative impact upon the watershed and its ecosystems.
- Absent an MDC, personnel safety and civilian safety will continue to be at risk when radios are not working or transmissions are garbled.

G. Implementation Plan

In June 2016, ITS expects to advertise for the positions through the CalHR Vacancy Database. All list eligible, lateral/transfer, and/or SROA candidates will be considered. ITS expects to have staff in the new positions starting in August 2016.

H. Supplemental Information

CAL FIRE is requesting funding in FY 2016-17 for a total of eight vehicles. One vehicle is required for the Battalion Chief for coordinating ongoing field level support. Six vehicles are required for the Associate Information System Analysts, in order to coordinate the installation of AVL/MDC in CAL FIRE emergency response equipment, install MDC software updates, and install MDC map updates. The other vehicle is required for the Heavy Equipment Mechanic to travel, as required, for AVL/MDC installation and maintenance. There are no additional vehicles that can be redirected due to the current cap on vehicles, so funding in FY 2016-17 is necessary to acquire and pay for new vehicles.

Based on current capacity of CAL FIRE's office buildings and the Department of General Services estimates for allowable work space, CAL FIRE will need to lease new office space in order to accommodate the additional Sacramento based positions. CAL FIRE is requesting funding for a per-position facility component, consistent with State Administrative Manual Section 6453, to account for the marginal adjustments of staff; therefore, it is not necessary to coordinate this request with the CRUISE Form 9.

I. Recommendation

Alternative 1. Approve \$7.6 million (\$7.0 million General Fund and \$600,000 Special Funds) and 12.8 positions beginning in FY 2016-17 (see Attachment A) to allow CAL FIRE to acquire, install, and support AVL and MDC devices in all CAL FIRE emergency response equipment. Installing AVL and MDC devices in CAL FIRE equipment will result in the improvement of incident response times, personnel safety, and the management of fire protection equipment and personnel. It can also reduce the negative impact from fires as the closest available resources can be sent to a fire, along with having critical decision-making information made available to fire protection personnel.

FY 2016-17 SCADA (AVL) BCP
Multi-Year Funding Plan

Personal Services	PY's	FY 2016/17	PY's	FY 2017/18	PY's	FY 2018/19	PY's	FY 2019/20 + ongoing
1.0 Battalion Chief	1.0	\$ 193,109	1.0	\$ 193,109	1.0	\$ 193,109	1.0	\$ 193,109
1.0 Senior Programmer Analyst Supervisor	1.0	\$ 136,149	1.0	\$ 136,149	1.0	\$ 136,149	1.0	\$ 136,149
1.0 Senior Programmer Analyst	0.8	\$ 103,719	1.0	\$ 129,649	1.0	\$ 129,649	1.0	\$ 129,649
2.0 System Software Specialist I	0.5	\$ 58,926	2.0	\$ 235,702	2.0	\$ 235,702	2.0	\$ 235,702
4.0 Staff Information System Analyst	1.5	\$ 176,810	4.0	\$ 471,492	4.0	\$ 471,492	4.0	\$ 471,492
4.0 Research Program Specialist I (GIS)	3.0	\$ 337,457	4.0	\$ 449,943	4.0	\$ 449,943	4.0	\$ 449,943
6.0 Associate Information Systems Analyst	4.5	\$ 483,747	6.0	\$ 644,996	6.0	\$ 644,996	6.0	\$ 644,996
1.0 Telecommunications Systems Analyst II	0.0	\$ -	1.0	\$ 102,401	1.0	\$ 102,401	1.0	\$ 102,401
1.0 Associate Governmental Program Analyst	0.0	\$ -	1.0	\$ 102,401	1.0	\$ 102,401	1.0	\$ 102,401
1.0 Heavy Equipment Mechanic	0.5	\$ 47,991	1.0	\$ 95,983	1.0	\$ 95,983	1.0	\$ 95,983
Total Personal Services	12.8	\$ 1,537,908	22.0	\$ 2,561,825	22.0	\$ 2,561,825	22.0	\$ 2,561,825

Operating Expenses Associated with PS

General Expense	\$ 26,000	\$ 44,000	\$ 44,000	\$ 44,000
Printing	\$ 13,000	\$ 22,000	\$ 22,000	\$ 22,000
Communications	\$ 26,000	\$ 44,000	\$ 44,000	\$ 44,000
Postage	\$ 13,000	\$ 22,000	\$ 22,000	\$ 22,000
Travel-In State (IST)	\$ 13,000	\$ 22,000	\$ 22,000	\$ 22,000
Training	\$ 24,000	\$ 36,000	\$ 36,000	\$ 36,000
Facility OPS	\$ 77,000	\$ 132,000	\$ 132,000	\$ 132,000
Facility OPS (Office Space)	\$ 390,000	\$ 294,000	\$ 252,000	\$ 252,000
Utilities	\$ 13,000	\$ 22,000	\$ 22,000	\$ 22,000
Data Processing	\$ 115,000	\$ 158,000	\$ 154,000	\$ 154,000
OTHER ITEMS OF EXPENSE:				
PPE	\$ 13,000	\$ 10,000	\$ 10,000	\$ 10,000
Uniform	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000
Vehicle Ops	\$ 64,000	\$ 64,000	\$ 64,000	\$ 64,000
RPP	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000
EQUIPMENT:				
Vehicle	\$ 352,000	\$ 71,000	\$ 71,000	\$ 71,000
Handie Talkie/Mobile Radio	\$ 35,000	\$ 12,000	\$ 10,000	\$ 10,000
Subtotal	\$ 1,178,000	\$ 957,000	\$ 909,000	\$ 909,000
Procurement, Consulting, & Contract Services	\$ 255,000	\$ 170,000	\$ 170,000	\$ -
Hardware (Modems, AVL/MDC Locators, Displays, Base Station receivers/controllers, etc.)	\$ 1,475,714	\$ 5,661,186	\$ 5,684,163	\$ 134,763
Software (MDC Client, Windows Core, AVL Manager, MDC Manager, etc.)	\$ 3,049,680	\$ 2,276,400	\$ 3,939,350	\$ 3,942,660
Training (User, IT Support Team, HEM, etc.)	\$ 113,500	\$ 39,000	\$ 18,000	\$ -
Subtotal	\$ 4,893,894	\$ 8,146,586	\$ 9,811,513	\$ 4,077,423
Total Operating Expenses	\$ 6,071,894	\$ 9,103,586	\$ 10,720,513	\$ 4,986,423
TOTAL ANNUAL COST	\$ 7,609,802	\$ 11,665,411	\$ 13,282,338	\$ 7,548,248