

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.
Budget Request Name 3540-080-BCP-DP-2016-GB		Program <b>Office Of The State Fire Marshal (2460)</b>	Subprogram

Budget Request Description  
 Fire Safety, Flame Retardants and Building Insulation

Budget Request Summary

The Department of Forestry and Fire Protection (CAL FIRE) requests \$125,000 Building Standards Administration Special Revolving Fund on a one-time basis in Fiscal Year 2016-17 for a contract to accomplish the review, research testing, and implementation of any proposed building standards for fire safety of fire retardants in building insulation. The funding will allow the Office of the State Fire Marshal to specifically assess whether non-flame retarded insulation can be used safely in under-slab and subgrade applications. Contracted services are necessary as these particular services are of such a highly specialized or technical nature that the necessary expert knowledge, experience, and ability are not available through the civil service system. This request is part of the Administration's ongoing commitment to reduce and eliminate, where possible, the exposure to harmful flame retardant chemicals and is a part of the commitment to sustainable or "green" buildings, as detailed in Executive Order B-18-12.

Requires Legislation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Code Section(s) to be Added/Amended/Repealed	
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

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.

FSR       SPR      Project No.      Date:

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	Date
Department Director	Date	Agency Secretary	Date

**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 <b>Amanda Martin</b>	Date submitted to the Legislature <b>1-8-16</b>
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# BCP Fiscal Detail Sheet

BCP Title: Flame Retardants and Building Insulation

DP Name: 3540-010-BCP-DP-2016-GB

## Budget Request Summary

			FY16			
	CY	BY	BY+1	BY+2	BY+3	BY+4
Operating Expenses and Equipment						
5340 - Consulting and Professional Services - External	0	125	0	0	0	0
<b>Total Operating Expenses and Equipment</b>	<b>\$0</b>	<b>\$125</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total Budget Request</b>	<b>\$0</b>	<b>\$125</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

## Fund Summary

Fund Source - State Operations

3144 - Building Standards Administration Special Revolving Fund	0	125	0	0	0	0
<b>Total State Operations Expenditures</b>	<b>\$0</b>	<b>\$125</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total All Funds</b>	<b>\$0</b>	<b>\$125</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

## Program Summary

Program Funding

2460 - Office of the State Fire Marshal	0	125	0	0	0	0
<b>Total All Programs</b>	<b>\$0</b>	<b>\$125</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

## Analysis of Problem

### A. Budget Request Summary

The Department of Forestry and Fire Protection (CAL FIRE) requests \$125,000 Building Standards Administration Special Revolving Fund on a one-time basis in Fiscal Year (FY) 2016-17 for a contract to accomplish the review, research testing, and implementation of any proposed building standards for fire safety of fire retardants in building insulation. The funding will allow the Office of the State Fire Marshal (OSFM) to specifically assess whether non-flame retarded insulation can be used safely in under-slab and subgrade applications. Contracted services are necessary as these particular services are of such a highly specialized or technical nature that the necessary expert knowledge, experience, and ability are not available through the civil service system. This request is part of the Administration's ongoing commitment to reduce and eliminate, where possible, the exposure to harmful flame retardant chemicals and is a part of the commitment to sustainable or "green" buildings, as detailed in Executive Order B-18-12.

The funding would be required for outside scientific or technical experts to provide professional consulting services to perform fire testing, research existing data, provide cost benefit analyses, statistical data, and recommendations relating to fire safety of building materials, including safety measures for firefighters.

### B. Background/History

With the passage of Assembly Bill (AB) 127 (Chapter 579, Statutes of 2013), the OSFM, in consultation with the California Department of Consumer Affairs' Bureau of Electronic and Appliance Repair, Home Furnishings, and Thermal Insulation, reviewed the flammability standards for building insulation materials, including whether the standards for some materials require the use of chemical retardants. Based on this review, the OSFM was, if deemed appropriate, to propose updated flammability standards that maintain overall building fire safety, as well as ensure adequate protection from fires traveling between walls and into confined areas for occupants and firefighter safety by July 1, 2015, for consideration by the California Building Standards Commission (BSC).

The OSFM convened a Flammability Standards for Building Insulation Working Group (Working Group) in January 2014 to review published data and technical information, to examine peer reviewed scientific studies and information, and to propose recommendations to the State Fire Marshal. In July 2015, the Working Group finalized the Flammability Standards for Building Insulation Materials Report and Recommendations (Report). The Report outlined two formal recommendations, and one informal recommendation to the State Fire Marshal to take under consideration.

When the Working Group Report and recommendations were completed, the State Fire Marshal did not feel that it was appropriate to propose updated flammability standards to the Building Standards Commission. Without fire testing and additional research, the State Fire Marshal could not ensure that overall building safety, occupant safety, and firefighter safety could be maintained. Consequently, the OSFM needs to secure funding to move forward with the Working Group's recommendations, and has prepared a plan of action that involves two additional phases being added to the project.

The initial Working Group Report is referred to as Phase I, and has been completed. Phase II will look at the use of non-flame retarded insulations in under-slab and subgrade applications (a recommendation of the Working Group). Phase III will perform proof of concept testing of the Proposed Performance Tests that were created during Phase I.

Phase II will evaluate the fire hazard of non-flame retarded insulation installed in under-slab and subgrade applications. This phase will conduct small scale fire testing to determine what fire hazards non-flame retarded insulation present when stored at a job site, during installation, and in the built environment when it is finally installed under slab and subgrade. A Phase II Working Group will need to be formed to evaluate the fire testing results, address fire safety concerns, and to propose building code changes to the Building Standards Commission. The fire safety concerns the Phase I Working Group identified included, but were not limited to, performance of product without flame retardant chemical added, marking and identification requirements of non-flame retarded products, job site storage requirements, and installation requirements.

## Analysis of Problem

Phase III of the project will further research and evaluate the Proposed Performance Tests through proof of concept testing that was a recommendation from Phase I. The Working Group's Proposed Performance Test included a Non-Rated Wall Assembly, a Floor-Ceiling Assembly, a Floor-Crawl space Assembly, and an Attic Assembly. The basis for the Proposed Performance Tests was to establish a Baseline Assembly and a Candidate Assembly. The Baseline Assembly is a basic configuration meeting the minimum code requirements and containing flame retardants. The Candidate Assembly is a similar configuration to the Baseline Assembly that can be constructed more robustly, if necessary, and contains insulation without flame retardants. In the Proposed Performance Tests concept, the Candidate Assembly will be compared, through fire testing, to the Baseline Assembly to determine if the Candidate Assembly meets or exceeds the fire safety performance. Funding for Phase III, if necessary, will be requested in a future proposal.

The OSFM is the agency responsible for developing building standards to implement the State's fire and life safety policies and mandates. The OSFM continues to participate in existing activities and forums designed to facilitate and attain consensus among various individuals and groups involved in the development of the State's codes on fire and life safety.

The Health and Safety Code (HSC) §§ 13108, 13113, 13131, 13143, 13211, and 17921 mandate the OSFM to promulgate regulations and building standards relating to fire and panic safety in specific occupancies throughout California. These regulations and building standards are enforced by the OSFM, local enforcing agencies, and other State agencies. Additionally, in accordance with HSC § 18930 and Government Code (GC) § 11359, the OSFM is required to review all building standards and/or regulations that promote fire and life safety.

The State's fire and life safety building standards, as developed by the OSFM and adopted by the Building Standards Commission, continue to be based on the State's fire and life safety policy, goals, and mandates. Under current statute, the OSFM carries out the provisions of HSC Division 12, Part 2 (commencing with § 13100), and the provisions of Division 13, Part 1.5 (commencing with § 17910) relating to building standards, as defined in HSC § 18909, with emphasis placed on the development, adoption, publication, and improvement of green building standards and educational outreach.

Executive Order B-18-12 details out the Administration's commitment to green building practices that use energy, water, and materials efficiently throughout the building life cycle, enhance indoor and outdoor air quality, improve the health, productivity, and working lives of State employees, incorporate environmentally preferable products, and substantially reduce the costs and environmental impacts associated with operating State buildings. The need to evaluate the fire hazard of non-flame retarded insulation installed in under-slab and subgrade applications is a component part of using green building materials.

Concurrent with the activities authorized in Executive Order B-18-12, the Administration has taken action to modernize and revise flammability standards for upholstered furniture sold in the State. These actions were taken to reduce Californians' exposure to harmful flame retardant chemicals.

### C. State Level Considerations

Approval of this proposal would ensure CAL FIRE's continued support of the Administration's sustainable or "green" building efforts in establishing laws and policies to protect public health, the environment, and maintain building fire safety, as well as providing a related firefighter safety benefit, as detailed within Executive Order B-18-12. Using efficient materials during the building life cycle will enhance indoor and outdoor air quality, improve the health, productivity, and working lives of State employees, incorporate environmentally preferable products, and substantially reduce the costs and environmental impacts associated with operating State buildings.

The request is also part of the Administration's ongoing commitment to reduce and eliminate, where possible, the exposure to harmful flame retardant chemicals. New standards are necessary to keep homes fire-safe and limit unnecessary exposure to toxic flame retardants. Numerous studies have found links between exposure to chemicals used as flame retardants to cancer and fertility issues, and demonstrate that firefighters have significantly elevated rates of cancer, including non-Hodgkin's

## Analysis of Problem

lymphoma and brain cancer. A study published in the Journal of Occupational and Environmental Medicine concluded that firefighters have a significantly elevated risk of cancer that may be attributed to toxic chemicals they inhale, including flame retardants. Modern manufacturing methods can lower the use of harmful chemicals.

This proposal is consistent with the mission of the OSFM and the goals of CAL FIRE's Strategic Plan. Specifically:

Goal #1: Respond to California's changing fire protection needs by improving CAL FIRE's Statewide Fire Protection system.

Goal #4: Foster mutually beneficial relationships with all levels of government and the private sector to improve services and achieve efficiencies.

Goal #6: To be an efficient, effective, and quality organization with resources necessary to carry out our mission.

### D. Justification

During the Phase I portion of this project, the OSFM implemented the mandates of AB 127 by utilizing a collaborative effort to include a Working Group of stakeholders and internal review. These efforts reviewed and supported two formal recommendations and one informal recommendation. AB 127 required the OSFM, in consultation with the Bureau of Electronic and Appliance Repair, Home Furnishings, and Thermal Insulation, to review flammability standards for building insulation materials. This project included an involved data review of all published documentation and standards to determine if some insulation materials only meet fire safety regulations with the addition of chemical flame retardants. Finally, AB 127 required the State Fire Marshal, if deemed appropriate based on the data review and report, to propose for consideration by the Building Standards Commission revisions to the California Building Standards (California Building and Fire Codes) that maintain overall building fire safety and ensure that there is adequate protection from fires that travel between walls and into confined areas.

The OSFM did not have fire test data of non-flame retarded insulation to justify moving forward revisions to the California Building Standards at the completion of the Phase I of this project. The OSFM contends that the Phase II portion of this overall project will be able to determine, after fire testing, if non-flame retarded insulation can be used in under-slab and subgrade applications without reducing fire safety. The Phase II portion of this project will look at the material labeling, site storage, and site installation of the product within the adopted codes, and some fire testing will be required to ensure an increased fire hazard does not exist.

Once the Phase II portion of the project is complete, a set of California Building Standards will be developed and promulgated. The requested one-time funding in FY 2016-17 will support the need for outside scientific and technical experts, which will provide professional consulting services to perform fire testing, research existing data, provide cost benefit analyses, and statistical data. However, if these conditions change in the future given emerging technologies, a subsequent request will be made.

Existing law (HSC § 18931.7) provides a funding source through the Building Standards Administration Special Revolving Fund for the OSFM to develop and implement building standards. The fees are to be collected and deposited in the Building Standards Administration Special Revolving Fund. Funding is available to the Building Standards Commission, Housing and Community Development, and the OSFM for expenditures in carrying out existing laws that relate to building standard development and promulgation, with emphasis on green building standards.

CAL FIRE expects to seek a contract for services outside of civil service. The contracted services requested are not available within civil service, cannot be performed satisfactorily by civil service employees, and are of such a highly specialized or technical nature that the necessary expert knowledge, experience, and ability are not available through the civil service system.

## Analysis of Problem

### E. Outcomes and Accountability

One-time funding in FY 2016-17 would be used to conduct the needed research with outside scientific and technical experts who will perform fire testing, research existing data, and provide cost benefit analyses and statistical data. The work product will then allow for a set of California Building Standards to be developed and promulgated. The outcomes will be available on the OSFM's website under the Code Development and Analysis Division and the Fire Engineering Division, with detailed information of activities relative to the development and promulgation of fire and life safety regulations.

### F. Analysis of All Feasible Alternatives

**Alternative 1:** Approve one-time funding of \$125,000 Building Standards Administration Special Revolving Fund in FY 2016-17, for technical consulting services to perform fire testing, research existing data, and provide cost benefit analyses and statistical data that will enable changes to be made to the California Building Standards for fire safety of fire retardants in building insulation.

#### Cost:

- \$125,000

#### Advantages:

- This alternative would provide the means to support the goals within Executive Order B-18-12 and the Administration's efforts in reducing and eliminating, wherever possible, the exposure to harmful flame retardant chemicals. By doing so, the request would protect public health, the environment, and increase firefighter safety.
- The OSFM would have the ability to review the flammability standards for building insulation materials, including whether the standards for some materials require the use of chemical retardants if deemed appropriate, and to then propose updated flammability standards that maintain overall building fire safety and also reduce the use of harmful chemicals.
- This alternative will not jeopardize the OSFM's mandates in HSC § 18930 to review all state regulations and California Building Standards changes proposed by other State agencies that promote fire and life safety, which include the adoption, deletion, and amendment of all model codes and State regulations developed.

#### Disadvantages:

- This alternative would require additional funding.

**Alternative 2:** Use the General Fund to initiate the work described in the alternative above.

#### Cost:

- \$125,000

#### Advantages:

- This alternative would provide the means to support the goals within Executive Order B-18-12 and the Administration's efforts in reducing and eliminating, wherever possible, the exposure to harmful flame retardant chemicals. By doing so, the request would protect public health, the environment, and increase firefighter safety.

## Analysis of Problem

- The OSFM would have the ability to review the flammability standards for building insulation materials, including whether the standards for some materials require the use of chemical retardants if deemed appropriate, and to then propose updated flammability standards that maintain overall building fire safety and also reduce the use of harmful chemicals.
- This alternative will not jeopardize the OSFM's mandates in HSC § 18930 to review all State regulations and California Building Standards changes proposed by other State agencies that promote fire and life safety, which include the adoption, deletion, and amendment of all model codes and State regulations developed.

### Disadvantages:

- Would require additional General Fund dollars that could be used for other higher priority requests, especially when a statutorily allowable fund could be used for the work requested.

**Alternative 3:** Wait until nationally-based standards are created.

### Cost:

- None.

### Advantages:

- Will not require additional funds.
- Utilizes nationally-based consensus standards and provides uniformity.

### Disadvantages:

- This alternative is impractical. A proposal to allow non-flame retarded insulation in under-slab and subgrade applications, very similar to the scope of Phase II, was brought forward to the International Code Council Code (ICC) Development Hearings for publication in the 2018 International Building Code. At the hearing, the Code Development Committee voted to not include the code change proposal based on lack of fire testing. Without fire testing, proposals similar to the one heard at the ICC Hearings will not move forward in nationally-based standards.

## **G. Implementation Plan**

CAL FIRE will begin the technical services contract efforts upon enactment of the Budget Act of 2016.

## **H. Supplemental Information**

With proper funding in FY 2016-17, the program will initiate a \$125,000 contract for outside scientific and technical experts to provide professional consulting services to perform fire testing, research existing data, and provide cost benefit analyses and statistical data, and recommendations relating to fire safety of building materials, including safety measures for firefighters. These particular services cannot be performed satisfactorily by civil service employees. The services are of such a highly specialized or technical nature that the necessary expert knowledge, experience, and ability are not available through the civil service system.

## Analysis of Problem

### I. Recommendation

Alternative 1: Approve one-time funding of \$125,000 Building Standards Administration Special Revolving Fund in FY 2016-17, for technical consulting services to perform fire testing, research existing data, and provide cost benefit analyses and statistical data that will enable changes to be made to the California Building Standards for fire safety of fire retardants in building insulation. The request would allow the Administration to continue with efforts to implement Executive Order B-18-12 and to take actions to reduce and eliminate, wherever possible, dangerous chemicals used in flame retardant materials.