

Safety and Health Investment Projects FINAL REPORT REQUIREMENTS

The purpose of the final report of your SHIP project is to:

1. Evaluate and document the achievements, challenges, and shortcomings of the project for the constructive benefit of others interested in learning from SHIP projects; and
2. Provide the Division of Occupational Safety and Health with information that shows:
 - a. The outcomes specified in the project application were met; and
 - b. The grant was used for the purpose(s) for which it was approved and in accordance with relevant WAC rules and any special conditions or requirements; and
 - c. The outputs of the project have been disseminated as specified in the application.

The report format has four sections:

1. Cover Sheet
2. Narrative Report (part I)
3. Financial Information (part II)
4. Attachments (part III)

Please provide complete and detailed information in the final report. If you have questions, please call your SHIP grant manager.

REMINDER!!: All products produced, whether by the grantee or a subcontractor to the grantee, as a result of a SHIP grant are in the public domain and can not be copyrighted, patented, claimed as trade secrets, or otherwise restricted in any way.

SAFETY AND HEALTH INVESTMENT PROJECTS FINAL REPORT

Investment in the Safety and Health of Washington Firefighters
2011XC00170
March 15, 2012 to March 31, 2013

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Washington Fire Chiefs Association
Fire Insurance Risk Enterprise

David Penicook



Funding and support for this project has been provided by the State of Washington, Department of Labor & Industries, Safety & Health Investment Projects.

The Washington Fire Chiefs Association is solely responsible for the content of and views expressed in this report and related materials unless they have been formally endorsed by the Washington State Department of Labor and Industries.

PART I

Narrative Report

Organization Profile:

For awarded organizations, to include partners and collaborators, provide a brief description of each organization. Mission, vision, and purpose for each of the organizations who applied (this includes partners and collaborators) for the grant.

The Washington Fire Chiefs Association represents 373 fire departments in the state of Washington. The Washington Fire Chief's mission is to be a source of information and education to its members and to take a lead role in influencing issues affecting the fire service. The Washington Fire Chief's motto is: We Serve, Educate and Lead.

Fire Insurance Risk Enterprise provides enhanced risk management services to over 300 fire departments in the states of Washington, Oregon and Idaho. F.I.R.E. provided the study team and the data collection and analysis component of this project. The mission of F.I.R.E. is to improve the fire service safety culture and thereby reduce firefighter injuries and deaths.

Outcome Engenuity provided the High Reliability Organization Training. HRO training demonstrates how teams that make decisions in stressful, dynamic environments base their decision on pattern recognition rather than in-depth analysis. These teams are focused on preventing mistakes. Outcome Engenuity provided training in innovative methods for investigating adverse events while improving employee safety. To develop a just culture by creating a system that produces better outcomes (fewer incidents and accidents) at every level of society is the mission of Outcome Engenuity.

Abstract:

Present a short overview of the nature and scope of the project and major findings (less than half a page).

Nationally, firefighters suffer over 70,000 injuries annually. Most fire departments do not collect firefighter injury information for the purpose analysis and to prevent recurrence of the injuries. More departments are not collecting near-miss information. Departments that do collect and analyze this data vary widely in the manner in which the department and their individual firefighters utilize injury and near-miss statistics. A better understanding of how and why firefighter fatalities and injuries occur will help identify corrective actions that will save lives. This grant provided a tool for fire departments to compare their data to similar sized departments in the state as well as comparing their injury data to national statistics. If the Fire Service has comprehensive, consistent, and accurate information about who is being injured, how they are being injured, and what types of injuries occur, then these injuries can be prevented. This information can be obtained through the utilization of root cause analysis.

The types of hazards experienced by firefighters far outweigh the dangers and exposures of most industries. Not enough emphasis is consistently placed on firefighter safety training. The training provided through this grant will improve the firefighter safety culture and reduce the frequency and severity of firefighter injuries as well as reducing the number of firefighter deaths in the state.

Purpose of Project:

Describe what the project was intended to accomplish.

The purpose of this project was to enhance firefighter safety training, provide high reliability organization training and increase the collection and utilization of firefighter injury data. This three phase safety and health program assists fire departments in achieving and exceeding firefighter safety standards, improves the firefighter safety culture, and encourages department's to improve their data collection and analysis to reduce the frequency and

severity of firefighter's injuries.

Phase I. Educate all fire departments on the improvements to the vertical standards and to stress that these are the minimum state standards for firefighters.

Phase II. Helps fire departments to understand and implement the concept of best practices from the High Reliability Organization model.

Phase III. The final phase will be data collection of root cause analysis in identifying the true cause of injuries. This data will be utilized to initiate a cultural change within the Washington Fire Service.

Phase IV. A project evaluation will be conducted and incorporated into the final report for distribution for all Washington fire departments and Washington Labor and Industries.

This three phase safety and health program will help fire departments meet and exceed Washington Industrial Safety and Health Act requirements, change cultures, and measure the reduction of the frequency and severity of firefighter's injuries.

Statement and Evidence of the Results:

Provide a clear statement of the results of the project include major findings and outcomes and provide evidence of how well the results met or fulfilled the intended objectives of the project.

The objectives of this grant were met in part by providing an electronic copy of all of the safety training documents that were developed to every fire department in Washington. Additionally six classes were delivered on the vertical standards, four classes on high reliability organizations, and toolkits were prepared for distribution statewide. Through the process mentioned above we discovered major gaps in reporting and investigating workplace injuries. We distributed forms to allow comparison of local fire departments with peer-to-peer mode's **instruction** from the state as well as a comparison to national statistics. An additional comparison form was available for use by all volunteer organizations. Training was provided on cause analysis. This training included discussions under misreporting and analysis. True analysis of the success of this grant will occur over the next several years comparing postgrad data to pre grant data on firefighter injuries which was developed through this process. It is true that a large number of Washington state fire agencies do not keep adequate records or records of all on workplace injuries nor do they investigate many of the unintended injuries or near misses that occur on the fire ground CTI discussed that in their report. They feel that once the toolkits are deployed the inadequate records and investigations of workplace injuries will decrease amongst the volunteer fire departments.

Relevant Processes and Lessons Learned:

Specify all relevant processes, impact or other evaluation information which would be useful to others seeking to replicate, implement, or build on previous work

AND

Provide information on lessons learned through the implementation of your project. Include both positive and negative lessons. This may be helpful to other organizations interested in implementing a similar project.

It became apparent that not all departments place the same emphasis on firefighter safety. Many departments are not collecting firefighter injury data at the level that was assumed by the study team. It was also found that there is not a consistency in injury reporting since the Fire Marshal's Office has been unable to fund the collection of the data. There exists some confusion on the use of forms and what is required to be reported on those forms. Where there is not confusion on injury reporting there is certainly inconsistency in injury reporting. This is a nation-wide problem that is not limited to Washington. Emphasis should be placed on building a strong foundation in a single, electronic, easy to use injury reporting and analysis system on a nation-wide basis.

The lack of accessibility to data within the state of Washington confounded all of the team members in their attempts to identify measurable benchmarks for instruction and loss prevention goals. It became apparent that not all departments place the same emphasis on firefighter safety. Many departments are not collecting firefighter injury data at the level that was assumed by the study team. It was also found that there is not a consistency in injury reporting since the Fire Marshal's Office has been unable to fund the collection of the data. There exists some confusion on the use of forms and what is required to be reported on those forms. Where there is not confusion on injury reporting there is certainly inconsistency in injury reporting. This is a nation-wide problem that is not limited to Washington. Emphasis should be placed on building a strong foundation in a single, electronic, easy to use injury reporting and analysis system on a nation-wide basis.

Initially the grant funded training opportunities for fire department safety officers and training officers. In November of 2012 the WFC began marketing the SHIP grant trainings as described in the SHIP grant award. In December of 2012 the WFC taught 8 of the two hour grant classes as specified in the grant award. We saw slow registration and not a lot of interest.

The first obstacle we encountered was a skepticism from the Training Officers Section as to the delivery method. It was difficult to proceed as planned with experts teaching at all 10 of the host departments. They asked that we make a change to allow one individual to teach all of the classes in their particular region, however; this was in direct conflict with the intent of the grant and would not work. In addition they were concerned about how many individuals would be able to attend due to station staffing and proximity to locations. As we continued with registration, we realized that mainly representatives from the larger departments were registering to attend, and only one or two from each department (even from the host departments). We continued to receive concerns and suggestions regarding the structure of the curriculum, the 2 hour time frame for each class, and the availability of expert instructors. Kathleen Harmon, with the WFC office, attended the December 11 training in Thurston County and identified the need to improve the PowerPoints with more solutions, less duplication and better presentation of the statistics and facts that were included. We came to the conclusion that the goal of a two hour class might be leading to excess in the training that was not necessary. Plans to revise the PowerPoints were solidified at the meeting with Anar & Jennifer at our meeting on December 12th at the L&I office.

After much consideration and thought, as well as feedback from the intended targets and the program evaluation done by experts, it was concluded that training toolkits would be a more effective delivery method of the training information. We learned that evaluation results can reveal approaches that are helping to achieve program goals and objectives, as well as illustrate ineffective approaches. Also, evaluations can help clarify which effects are attributable to a program, identify reasons for success or failure, and recommend changes that can help a program achieve its goals and objectives.

We prepared to amend the grant after feeling like the delivery method of the education was not meeting the initial intent of the grant. The departments we really wished to reach (the smaller departments with fewer resources) were not attending and would not receive any benefit from the trainings that were being held.

Just prior to the December 12th meeting at the L&I office, the WFC staff brainstormed on better ways to provide this

education to as many departments across the state as possible, providing a wider benefit to the program and better meeting the intent of the grant. It was suggested that CD-ROM's be created with revised PowerPoints and Instructor notes, and that they be distributed to all departments in the state via a kit of materials. This suggestion was tentatively supported at the December 12th meeting by Jennifer and Anar and we requested to move forward with an official amendment to the grant.

We then took this idea to our Training Officers Board and WFC Board during a conference call on December 19th, where we started to find experts to help us improve the PowerPoints and Instructor notes. We were pleased to find that the Training Officers thought the kits were a great idea and requested we move forward with the amendment. We also met with the host departments who we had originally scheduled the 80 trainings with to inquire about their feedback. They all were supportive of the change in delivery and excited to receive their own kits.

We amended the grant to replace the remaining of the 80 trainings (71) with delivery of the kits. We would like to move the remaining funds from the Instructor category to allow for edits by experts to several of the PowerPoints, and to offset the cost of the kit creation and shipping to each department in the state. These kits will allow departments to teach the training within their own department's schedule and time frame, and will allow us to reach those small departments who do not have the resources to create this material themselves. This will also allow for this program to live far longer than the grant period. We will ask departments to provide us with feedback on the materials, report when they teach a class and how many of their department personnel were taught. These reporting and feedback materials will be included with each kit. There will also be a short tutorial on best practices to use when teaching these classes to their department included with the kit.

We started the amendments to the PowerPoints and Instructor notes in this next milestone. We plan to send out the Kits by the end of the next milestone to all Departments in Washington State.

In addition and outside the grant scope, the WFC plans to teach several of these developed classes around the state at existing yearly events to help promote the program.

The project evaluator - Compelling Technologies Incorporated, identified in their report the demographical differences between full-time career firefighters and volunteer firefighters. These demographics appear to be a primary reason why a large percentage of the volunteer firefighters neither report nor investigate workplace injuries, and why participation in the regional workshops failed to meet targets.

It is worth noting that in the volunteer fire service in Washington State we have four primary generations. They range from those who would be considered of the Veterans generation, the Baby Boomers generation, Generation X and finally the Millennials. Full-time career fire service members, generally speaking, are more homogeneous and today are primarily comprised today of Generation X. The diversity of the volunteer firefighting force presented unique instructional challenges.

The project team hopes that all Washington fire departments will utilize the injury type, injury cause statistics and research finding/recommendation generated through this project and applies it in their daily work. We anticipate that the end product –safety training kit will allow departments to teach the training within their own department's schedule and time frame, and it will reach those small departments who do not have the resources to create this material themselves. We are hoping that once the toolkits are deployed, all fire departments would utilize the training materials and resources so that the inadequate records and investigations of workplace injuries will decrease amongst the volunteer fire departments.

Lessons we learned through the implementation of this project is that things don't always go as planned. It can be challenging and sometimes frustrating to alter the plan. One need to understand that as the grant progresses, its likely things will change and timelines will need to be adjusted.

Measures to Judge Success:

If relevant, state what measures or procedures were taken to judge whether/ how well the objectives were met and whether the project or some other qualified outside specialist conducted an evaluation.

True success of this grant will occur over the next several years comparing post-grant data to pre-grant data on firefighter injuries which was developed through this project. A great deal of valuable information to be gained from the statistics that were collected and the application of the recommendations of this study can be utilized in the WA fire departments.

Product Dissemination:

Outline of how the products of the project have been shared or made transferrable.

All of the information from the grant; 1) training power points, 2) safety bulletins, 3) HRO information, 4) data collected, 5) data analysis, 6) comparative forms and 7) recommendations is being made electronically as well as distributed in a toolkit format to every department in the state.

Feedback:

Provide feedback from relevant professionals, stakeholder groups, participants, and/ or independent evaluator on the project.

Compelling Technologies Incorporated, reviewed and reported on the grant and amended grant deliverables. Their report included written feedback on the high reliability organization training. It should be noted that this feedback was received from a protest about who was from an all career fire department in the state and was being compensated for attending the class. The fire service leaders and managers from the all career fire departments approach workplace injuries in a more cognitive fashion due in part to compliance and labor union mandates.

The Tri-Cities Fire Department attendees to the Western Washington HRO training held Spring 2013 gave feedback on the workshop. They stated in an article written in the Washington Fire Chiefs newsletter: "This presentation has valuable learning for us all. It can impact our organizational culture and environment, our effectiveness as managers, and the performance of frontline members of our Organizations. With understanding, it is not complex or expensive to implement and maintain. Please do not dismiss its value, at least until you have heard and seen more about it firsthand."

Project's Promotion of Prevention:

Explain how the results or outcomes of this project promote the prevention of workplace injuries, illnesses, and fatalities?

The toolkits developed through this project along with the training already provided on high reliability organizations were effective and well received. The accident reporting forms, near miss reporting forms that were provided to every department will allow the departments to compare their data to peer departments and to national statistics. This will result in more effective data being captured and utilized which will place more emphasis on firefighter safety in every department. It will also provide a foundation for future education/instruction to volunteer fire departments statewide. It is our beliefs that as firefighters see a commonality in near -miss events and actual workplace injuries they will work to creating safer work practices. The final report and the CTI evaluation also contain additional recommendations for improvement

which every department will be able to implement.

Uses:

How might the products of your project be used within the target industry at the end of your project?

Is there potential for the product of the project to be used in other industries or with different target audiences?

Multiple safety trainings from fifteen minutes activities to two hour trainings are included in the training kit. This material will provide valid training opportunities for years to come.

The information will also be useful for many other industries. This will occur through volunteer firefighters receiving this material at their fire department and taking the safety information back to and implementing it at their full time workplace.

Additional Information

Project Type <input type="checkbox"/> Best Practice <input type="checkbox"/> Technical Innovation <input type="checkbox"/> Training and Education Development <input type="checkbox"/> Event <input type="checkbox"/> Intervention <input type="checkbox"/> Research <input type="checkbox"/> Other (Explain):	Industry Classification (check industry(s) this project reached directly) <input type="checkbox"/> 11 Agriculture, Forestry, Fishing and Hunting <input type="checkbox"/> 21 Mining <input type="checkbox"/> 22 Utilities <input type="checkbox"/> 23 Construction <input type="checkbox"/> 31-33 Manufacturing <input type="checkbox"/> 42 Wholesale Trade <input type="checkbox"/> 44-45 Retail Trade <input type="checkbox"/> 48-49 Transportation and Warehousing <input type="checkbox"/> 51 Information <input type="checkbox"/> 52 Finance and Insurance <input type="checkbox"/> 53 Real Estate and Rental and Leasing <input type="checkbox"/> 54 Professional, Scientific, and Technical Services <input type="checkbox"/> 55 Management of Companies and Enterprises <input type="checkbox"/> 56 Administrative and Support and Waste Management and Remediation Services <input type="checkbox"/> 61 Educational Services <input type="checkbox"/> 62 Health Care and Social Assistance <input type="checkbox"/> 71 Arts, Entertainment, and Recreation <input type="checkbox"/> 72 Accommodation and Food Services <input type="checkbox"/> 81 Other Services (except Public Administration) <input checked="" type="checkbox"/> 92 Public Administration
Target Audience: Firefighters Emergency Medical Technicians	
Languages: English	
Please provide the following information - - <i>(information may not apply to all projects)</i>	
# classes/events:	12
# hours trained	48
# companies participating in project	18
# students under 18	0
# workers	96
# companies represented	212
# reached (if awareness activities)	>500
Total reached	>886
List, by number above, industries that project products could potentially be applied to.	
Potential impact (in number of persons or companies) after life of project? 1,500 in Washington	
Have there been requests for project products from external sources? <i>If Yes, please indicate sources of requests:</i> Outside State Fire Chief's Associations, stakeholders, and the Western Fire Chiefs Association.	

PART II

Financial Information Budget Summary

Project Title: Investment in the Safety and Health of Washington Firefighters

Project #: 2011XC00170

Report Date: August 15, 2013

Contact Person: Mike Brown

Contact #: 360-352-0161

Start Date: 4/6/2012

Completion Date: 8/31/2013

1.	Total budget for the project	\$ <u>189,895.00</u>
2.	Total SHIP Grant Award	\$ <u>189,895.00</u>
3.	Total of SHIP Funds Used	\$ <u>177,999.20</u>
4.	Budget Modifications (if applicable)	\$ <u>0</u>
5.	Total In-kind contributions	\$ <u>0</u>
6.	Total Expenditures (lines 3+4+5)	\$ <u>177,999.20</u>

Instructions:

- Complete the Supplemental Schedule (Budget) form first (on the next page).
- The final report must include all expenditures from date of completion of interim report through termination date of grant.
- Indicate period covered by report by specifying the inclusive dates.
- Report and itemize all expenditures during specified reporting period per the attached supplemental schedule.
- Forms must be signed by authorized person (see last page).
- Forward one copy of the report to Mike Brown **Project Manager** at **PO Box 44612, Olympia, WA 98504-4612**

PART II
(Continued)

*Financial Information
Supplemental Schedules (Budget)*

Project Title:	Investment in the Safety and Health of Washington Firefighters		
Project #:	2011XC00170	Report Date:	August 15, 2013
Contact Person:	Mike Brown	Contact #:	360-352-0161
Total Awarded:	\$189,895.00		

ITEMIZED BUDGET: How were SHIP award funds used to achieve the purpose of your project?

	Budgeted for Project	Amount Paid Out	Difference
A. PERSONNEL	\$95,346.00	\$95,340.71	\$5.29
Explanation for Difference and other relevant information:			

	Budgeted for Project	Amount Paid Out	Difference
B. SUBCONTRACTOR	\$33,450.00	\$33,450.00	\$0
Explanation for Difference and other relevant information:			

	Budgeted for Project	Amount Paid Out	Difference
C. TRAVEL	\$13,352.00	\$7,916.42	\$5,435.58
Explanation for Difference and other relevant information:			

	Budgeted for Project	Amount Paid Out	Difference
D. SUPPLIES	\$20,150.00	\$20,150.00	\$0
Explanation for Difference and other relevant information:			

	Budgeted for Project	Amount Paid Out	Difference
E. PUBLICATIONS	\$5,120.00	\$0	\$5,120.00
Explanation for Difference and other relevant information:			

	Budgeted for Project	Amount Paid Out	Difference
TOTAL DIRECT COSTS	\$167,418.00	\$156,857.13	\$10,560.87

	Budgeted for Project	Amount Paid Out	Difference
TOTAL INDIRECT COSTS	22,477.00	\$21,143.15	\$1,333.93

	Budgeted for Project	Amount Paid Out	Difference
TOTAL SHIP BUDGET	\$189,895.00	\$177,999.20	\$11,895.80

	Budgeted for Project	Amount Paid Out	Difference
F. IN-KIND	\$0	\$0	\$0
Explanation for Difference and other relevant information:			

I hereby certify that the expenditures listed on this report were made with my approval:

8/29/2013

Date



Signature of Project Manager

PART III

Attachments:

Provide resources such as written material, training packages, or video/ audio tapes, curriculum information, etc. produced under the grant.

Also include copies of publications, papers given at conferences, etc.

This information should also be provided on a **CD** or **DVD** for inclusion in the file.

REMINDER!!! All products produced, whether by the grantee or a subcontractor to the grantee, as a result of a SHIP grant are in the public domain and can not be copyrighted, patented, claimed as trade secrets, or otherwise restricted in any way.