

## **Standing Up a Comprehensive Training and Position Qualifications Program for a Response and Regulatory Organization**

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### **ABSTRACT:**

The Office of Spill Prevention and Response (OSPR) is tasked with preventing, preparing for, and responding to oil spills impacting state waters throughout California. A key component of prevention and preparedness is a robust training program that ensures worker safety and provides the necessary skills to work effectively. As a response organization, OSPR must also verify that its staff is appropriately qualified to assume specified positions within the Incident Command System, in order to achieve the best protection of California's natural resources, as well as to maintain credibility with stakeholders and partners within the Unified Command. To achieve these training and response objectives, OSPR established a program that includes a dedicated Response Qualifications and Certifications Unit, identification of training needs based on job classification, development of a tracking database, a comprehensive task book system consistent with the framework instituted by the U.S. Coast Guard and the Federal Emergency Management Agency, succession planning, and ongoing evaluations to measure the effectiveness of OSPR's training program. The Response Qualifications and Certifications Unit collaborates with local, State, and Federal agencies, as well as private entities, to develop and provide advanced online, classroom, and hands-on training courses. This paper will outline the successes, complications, and ongoing challenges in establishing OSPR's training and qualifications program, as well as plans for the future of the program.

### **INTRODUCTION:**

As an organization within the California Department of Fish and Wildlife (CDFW), the Office of Spill Prevention and Response (OSPR) has trustee responsibilities for protecting the State's wildlife and natural resources. A primary tenet of OSPR's mission is to provide the best protection for California's natural resources by preventing, preparing for, and responding to spills of crude oil and petroleum products, and by restoring and enhancing affected resources. Since OSPR has significant daily responsibilities in addition to emergency response to oil spills, OSPR staff must be adequately trained to perform their day-to-day duties, as well as to maintain

their qualifications for one or more emergency response roles within or parallel to the Incident Command System (ICS).

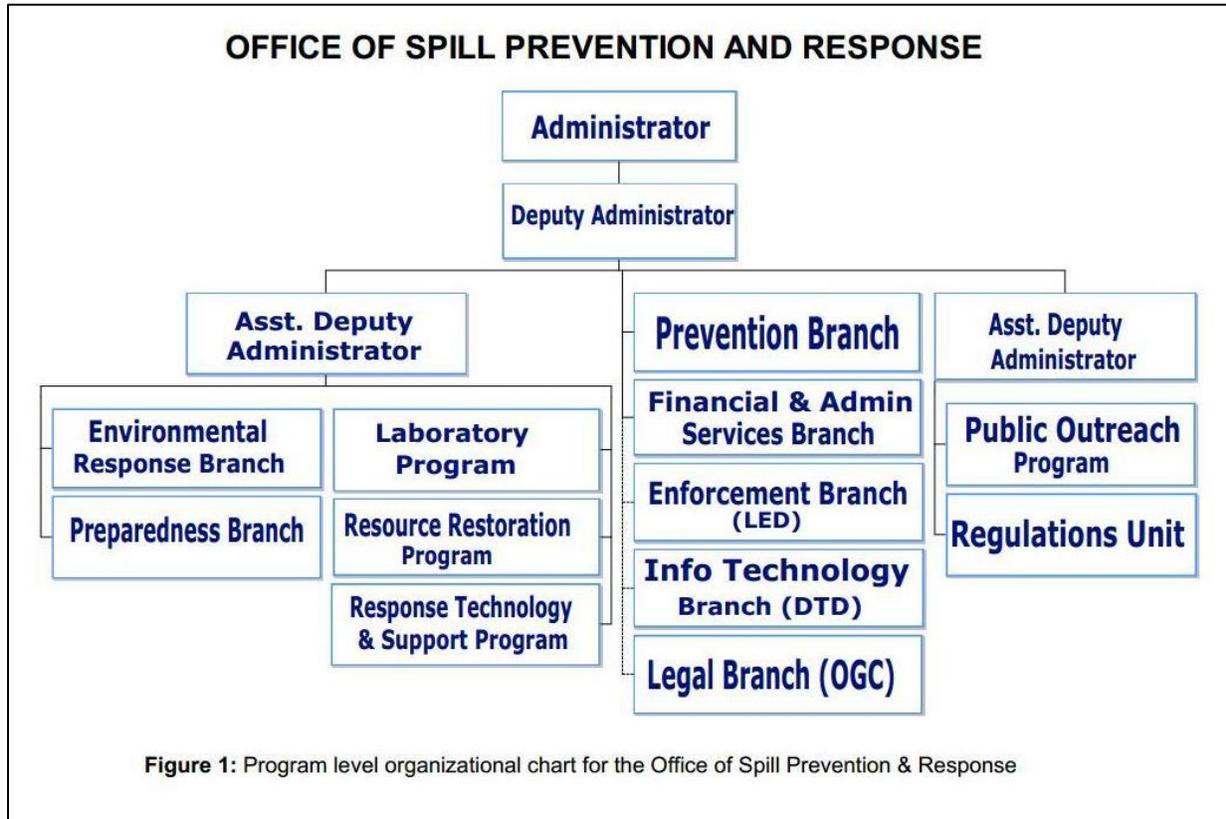
**BACKGROUND:**

On March 24, 1989, the EXXON VALDEZ spilled approximately 11 million gallons of crude oil in Alaska. Less than a year later, on February 7, 1990, the AMERICAN TRADER spilled approximately 416,598 gallons of crude oil off Huntington Beach in Southern California. These events prompted the California Legislature to enact the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990 (Act). The Act covered all aspects of marine oil spill prevention, preparedness, and response in California and established the role of the Administrator, who is given broad powers to implement the provisions of the Act. In 1991, the Office of Spill Prevention and Response (OSPR) opened, headed by the Administrator.

In 2014, OSPR's jurisdiction and responsibilities were expanded beyond marine and tidally influenced water to cover all waters of the state at risk of oil spills from any source, including pipelines, production facilities, and shipments of oil transported by railroads. The expansion provided critical administrative funding to broaden OSPR's core programs statewide and enhance coordination with a growing number of stakeholders. The need to strategically plan for a new, integrated statewide program prompted the reorganization of OSPR's branches and led to the establishment of the Response Qualifications & Certifications Unit (RQCU) to address the spill response training needs of OSPR staff.

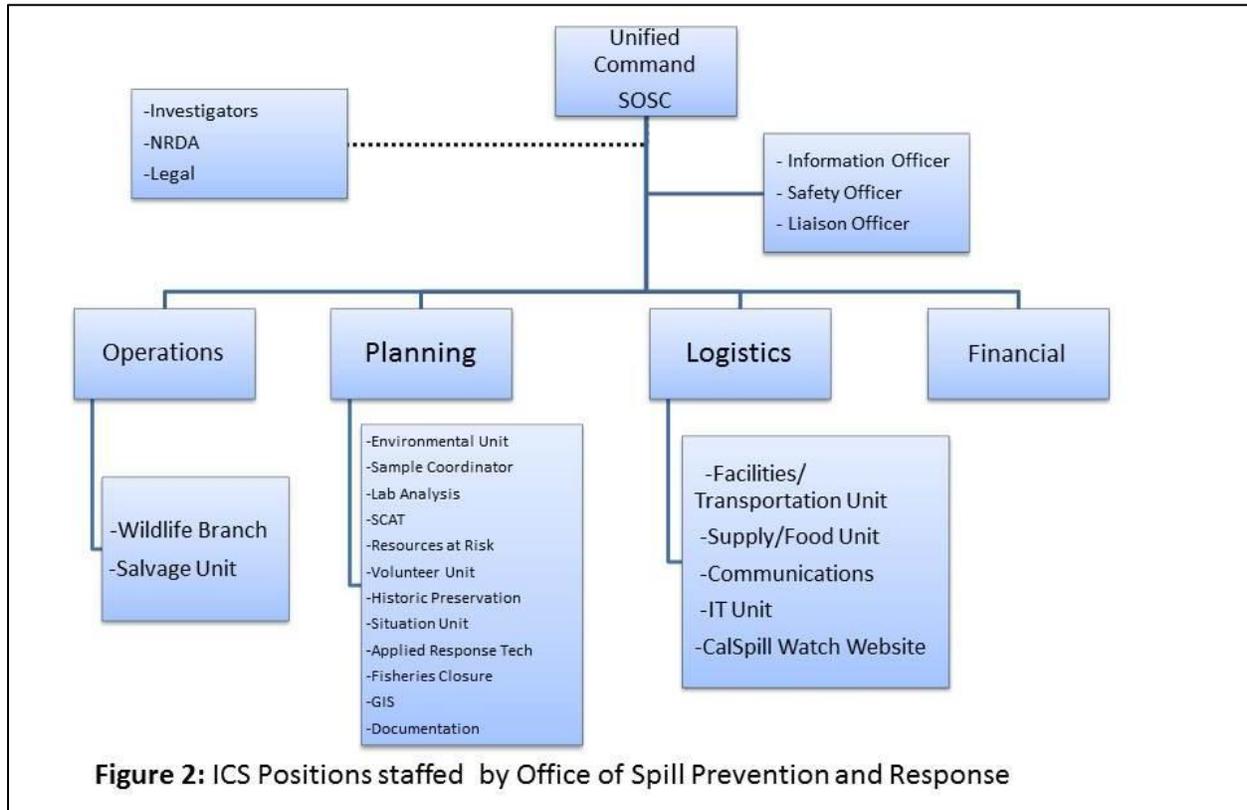
The day-to-day duties of OSPR staff are wide ranging and include law enforcement, laboratory operations, drills and exercise participation and evaluation, industry contingency plan review, financial responsibility determinations, Geographic Response Plan and Area

Contingency Plan development, local government and public outreach, resource restoration, regulation development, Oil Spill Cleanup Agent licensing, Oil Spill Response Organization rating, and wildlife response and research (see Figure 1).



During a major spill event, most OSPR staff members will also occupy one or more positions within or parallel to the Incident Command System (see Figure 2). The remaining positions are generally staffed by the U.S. Coast Guard (USCG), the U.S. Environmental Protection Agency (EPA), the responsible party, local government representatives, technical experts, and other partner agencies and organizations. ICS is a standardized and scalable approach to the command, control, and coordination of emergency response, which provides a common hierarchy within which responders from multiple agencies can be effective. ICS was initially developed to address problems of inter-agency responses to wildfires in California and Arizona, but has evolved for

use in All-Hazards situations.



OSPR’s various functions in enforcement, research, and response present unique challenges in setting up a comprehensive training program for the entire organization.

**METHODS**

**Establish training team**

In 2015, OSPR established the RQCU within the Health and Safety Program in the Preparedness Branch, since spill preparedness and response training is an integral part of OSPR’s commitment to worker health and safety. The Health and Safety Program consists of two Industrial Hygienists, who act as safety officers for the entire organization and ensure compliance with all Occupational Safety and Health Administration (OSHA) training

requirements. A primary objective of the RQCU is to ensure that OSPR employees are appropriately identified, trained, and qualified for their ICS roles. To meet that objective, the RQCU added a Senior Environmental Scientist position, who serves as the training coordinator for spill preparedness and response.

In addition to the training coordinator, OSPR has identified subject matter experts (SMEs) for each of the ICS positions occupied by OSPR staff. OSPR's senior management team works with both the training coordinator and the SMEs to match staff skillsets to ICS training positions to ensure that there are enough sufficiently trained staff for each ICS role. The SMEs are responsible for the training of new staff for their ICS roles, ensuring that training qualifications are maintained and serving as instructors for OSPR-led trainings. The RQCU training coordinator works closely with all SMEs to meet programmatic needs and to ensure that milestones are met. The SMEs are also responsible for task book development and maintenance, as discussed below.

### **Acquire and develop training tools**

ICS training is necessary to ensure efficient and effective emergency response operations. To train staff for their ICS roles, OSPR has adopted the task book system utilized by the USCG and the Federal Emergency Management Agency (FEMA). Task books list the performance requirements for a position in a format that allows for the evaluation of a trainee to determine if an individual is qualified for a specific position. The trainee's performance of the listed tasks are observed and recorded by a qualified evaluator/trainer, usually during a drill or exercise. Successful performance of all tasks and completion of the training requirements results in a recommendation that the individual be certified in the position. Since OSPR occupies unique

positions within the ICS, many task books had to be adapted or built from the ground up, using a basic template (see Figure 3). The revision or development of a task book starts with the RQCU

Position Title and Abbreviation	
REQUIRED TRAINING	ICS 100, 200, 800, IS 700-NIMS, Other Position- Specific Training
TARGET PERSONNEL	OSPR Staff Positions
CERTIFYING OFFICIAL	OSPR Branch Chief/Program Manager
FITNESS STANDARD	Easy
CURRENCY	5 Years
CURRENCY REQUIREMENTS	Every Year: Serve at least one day as ICS Position or Asst ICS Position at a drill or spill.
OTHER POSITION REQUIREMENTS THAT WILL MAINTAIN CURRENCY	None

RECORD OF VERIFYING OFFICERS				
Date	Title	Verifying Officer's Name	ICS Qual	Initials

Record of Completion	Date	Verifying Official's Signature
<b>Training Prerequisites</b> 1. Completion of Training Courses: a. ICS 100 Introduction to the Incident Command System b. ICS 200 ICS for Single Resources and Initial Action Incidents c. IS 700 National Incident Management d. ICS 800 National Response Framework 2. <b>Insert other requirement</b>		
<b>Completion of ICS Position Task Book</b> Successful participation in 2 days at a drill or spill serving as ICS Position or Asst Position		
Qualification/Certification Letter (page 2) submitted for approval to Branch Chief/Program Manager		
Qualification/Certification Letter (page 2) recorded by OSPR Response Qualifications & Certifications Unit		

Figure 3: Template for Task Books developed by the Office of Spill Prevention and Response

training coordinator working with the SME to identify the required training and prerequisites. If there is an existing USCG or FEMA Task Book for the position, the RQCU and SME will review each task and make changes where necessary to fit OSPR's specific roles and training requirements. If there is not an existing task book, the SME will make task recommendations and develop a draft task book consistent with FEMA guidelines, generally in

collaboration with the other staff who fill that position. Task books developed by OSPR include, but are not limited to: Environmental Unit Leader, Volunteer Coordinator, Resources at Risk Coordinator, Shoreline Cleanup Assessment Technique (SCAT) Coordinator, Wildlife Branch Director, and Sampling Coordinator. Once a draft task book is developed, it is forwarded to the SME's supervisor or manager for review and then on to the Preparedness Branch Chief for final approval. Since the process for updating task books is time intensive, it is anticipated that they will be reviewed approximately once every five years or after any significant incident where the findings suggest a review or revision.

In addition to ICS task books, new employees receive a position-specific training plan. Prior to the establishment of the RQCU, training plans for new employees, other than field response team members, were generally informal and based on recommendations from supervisors and senior staff. The RQCU created a customizable training packet that consists of a checklist of mandated and position-dependent training classes, links to training resources, policy information, a list of required Personal Protective Equipment, and the task books for their ICS positions. Within the first month of hiring, the new employee meets with the RQCU and their supervisor to discuss appropriate classes and select PPE based on their day-to-day duties and ICS positions.

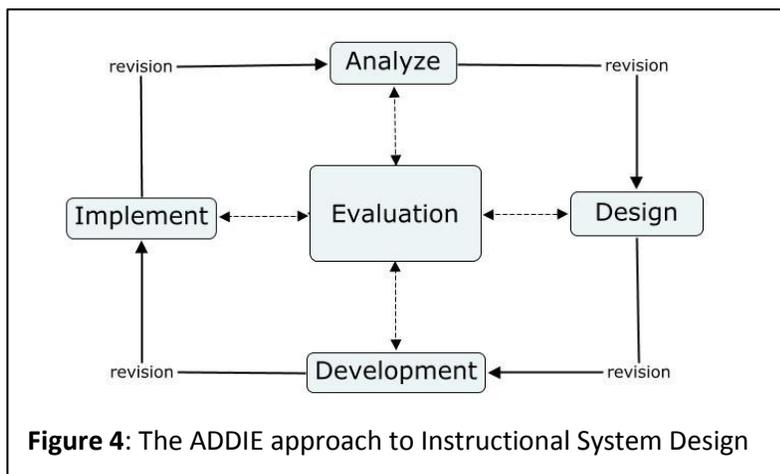
Training records are tracked using Cornerstone OnDemand's LEARN software, which rolled out for CDFW in May of 2016. Supervisors and training coordinators can access employee training records to ensure that they are on track with their training plan and taking classes necessary to maintain their certifications, such as Hazardous Waste Operations and Emergency Response (HAZWOPER). LEARN can also be used to post and advertise CDFW and OSPR-led trainings. OSPR plans to obtain additional or updated LEARN software that will allow supervisors and training coordinators to develop individual training plans for employees that will auto-generate reminders for required classes. The anticipated software would also track employee certifications and ICS positions, which would allow users to quickly generate lists of staff qualified for specific ICS positions in the event of a spill.

In order to develop OSPR-specific online trainings, the RQCU acquired Articulate Global's E-learning software. The goal is to create online trainings to provide general, office-wide information, as well as to improve specific, on-the-job performance. One potential

application is the development of a guide to filling out Chain-of-Command forms and sample labels, which can then be assigned to field staff who habitually submit mislabeled or incorrectly tracked samples to OSPR's laboratory. Articulate could also be used to reach remote field staff, where face-to-face training is cost-prohibitive or difficult to arrange.

### Identify effective training methods

A key component of a successful training program is the identification of effective instructional methods that lead to on-the-job results. To achieve a better understanding of adult learning principles, the RQCU training coordinator attended the California Department of Human Resources Training Trainers series, which is centered on the "ADDIE" model approach (see Figure 4) and the basic tenets of andragogy and pedagogy (Forest, 2016). One of the major



themes of the training series is that student participation and a pluralistic training approach that appeals to a variety of learning styles is crucial for information retention (Gardner, 1995). The RQCU training coordinator

works with OSPR's instructors to explore various training methods and to include more hands-on elements to their trainings, instead of relying on Power Point and lecture. For example, OSPR's Sample Collection Methods training was adapted to include an exercise where groups developed a sampling plan based on a scenario provided by the instructor, followed by a lecture to expand upon the concepts illustrated by the exercise. At the conclusion of the class,

participants visited four sampling stations to watch a demonstration of the appropriate collection methods and then collected their own samples, with guidance from the instructors. OSPR's annual Environmental Response to Oil Spills training was also reformatted to include more participatory exercises and lectures were reduced to no more than 20-45 minutes, in accordance with the theory that adults listen with retention for approximately 20 minutes and listen with understanding for up to 90 minutes (Cornish & Dukette, 2009). Two field trips were included in the agenda, where attendees helped set up boom along a shoreline, conducted a mock Shoreline Cleanup Assessment Technique (SCAT) survey, watched the construction of overflow/underflow dams, and identified wildlife and habitats along a nature trail located downstream from an oil pipeline. The RQCU also developed an 8-Hour HAZWOPER certification refresher course based on scenarios that are developed in class, with the goal of training staff to identify hazards associated with oil spill events and develop appropriate site safety plans, using learner-driven educational methods.

### **Utilize existing training resources**

Since OSPR's staff is wide-spread and varied, it is not possible to meet all of their training needs internally. As such, OSPR has reached out to a variety of partner agencies and organizations to cost-effectively obtain necessary training from established practitioners. The EPA offers an Inland Spill Training course that includes hands-on demonstrations of effective booming strategies. USCG offers unfilled ICS training spots to partner agencies and the California Office of Emergency Services (CalOES) provides no-cost ICS training to anyone involved in emergency response. The National Oceanic and Atmospheric Administration (NOAA) provides SCAT training and workshops on the scientific aspects of oil and chemical spill response. The Department of Transportation's Pipeline and Hazardous Materials Safety

Administration provides pipeline safety and compliance training. Recently, the U.S. Forest Service and Department of the Interior agreed to provide Interagency Aviation Training classes to OSPR staff who assist with surveys and overflights during oil spill response.

OSPR personnel also attend trainings offered by the oil and response industry, which provides OSPR staff with necessary safety and educational training from experts in the field. Shortly after the expansion of OSPR's responsibilities to all waters of the State, the railroad industry provided several Railroad 101 classes for OSPR staff. The railroad industry has also invited OSPR staff to participate in their swift water boating, advanced tank car safety, and crude-by-rail trainings. Several of the Oil Spill Response Organizations allow OSPR staff to observe their internal drills and equipment deployments, which provides new employees with the opportunity to become familiar with response strategies and equipment. These types of trainings are not generally available from outside vendors, but are necessary to achieve the level of technical familiarity and awareness to safely respond to spill incidents. Attending industry-led training also allows OSPR staff to develop strong working relationships with their industry counterparts, which can be crucial for successful operations during an actual spill response.

## **CHALLENGES & FUTURE PROJECTS**

As an agency with a varied and geographically dispersed workforce, OSPR faces challenges in establishing a consistent and responsive training program. Since training for ICS positions is time intensive, expertise tends to become concentrated amongst a few, long-term employees. Certain day-to-day positions also require specific knowledge and lengthy experience to achieve proficiency and, in many cases, there are only one or two people with the requisite skillset in the entire organization. To address this issue, OSPR will create succession plans and

cross-train employees to prevent a knowledge gap in the event of unexpected employee turnover.

Another complication associated with being an emergency response agency is that staff can be called to a spill event at any time, which makes trainings difficult to schedule. Canceling trainings at the last minute can be costly to the organization and frustrating for instructors. Further, the staff is spread out over eight offices and five laboratories, so bringing everyone together for training is expensive and logistically complicated. To that end, OSPR plans to develop more user-driven online trainings that can be accessed anywhere and at any time. Developing online trainings to explain new policies can also be helpful to ensure procedural consistency among the various units and offices. The online trainings will adhere to the ADDIE and pedagogical training principles discussed above and will include quizzes and interactive exercises to reinforce the material.

OSPR also plans to establish a system to ensure that all staff members are on track with their individual training plans. The LEARN software is the first phase, but is limited in that it currently only tracks training courses that are input manually by the employee, which may result in incomplete or erroneous records. In the future, OSPR seeks to obtain either an add-on to LEARN or alternate software that will allow the input of individualized training plans with deadlines for completion, which will auto-generate reminders to sign up for the classes required to maintain their certifications. Ideally, the software would track certifications and ICS positions and include a reporting function that will allow users to generate lists of who is filling each ICS role and at what stage they are in their training, so that staffing resources can be quickly identified during a spill event.

Finally, the RQCU will continue to seek out creative ways to measure the success of

OSPR's internal trainings, in keeping with the ADDIE training model. It is difficult to quantify the transfer from coursework to real-world results, but evaluation measures will include data collection, participant surveys, and interviews with management and supervisors. For example, interviews with laboratory staff after the Sampling Collection Methods trainings in 2016 indicate that they are receiving higher quality samples, increased use of appropriate collection containers, and a reduction in problems associated with sheen collection. Additionally, surveys of participants in the Sample Collection Methods and Environmental Response to Oil Spills trainings indicate that the participatory, learner-driven sections were the most useful and enjoyable elements of these trainings. These results will be shared with OSPR's instructors to encourage them to abandon traditional lecture and PowerPoint formats in favor of more engaging, participatory teaching methods. Data collected about the on-the-job impacts of training courses will also be used to identify areas of improvement to ensure that OSPR maintains a robust and effective training program, in order to provide the best protection for California's natural resources.

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