

---

---

---

---

---

---

---



---

---

---





**Implementation**



Industry FHWA  
Agency Academia

**QA Spec  
Implementation**

 What are stakeholder considerations? How can they be identified?

 **MODULE A** **IMPLEMENTATION AND HOT TOPICS** **LESSON 15** **3**

---

---

---

---

---

---

---

---

---

---

## Top Level Commitment



A strong commitment must come from the top of the governmental offices to assure the QA program is begun correctly and maintained. The commitment must contain a strong, well-thought-out QA program with achievable milestones and with the understanding that maintaining the necessary personnel, technical, and physical commitment is essential.



---

---

---

---

---

---

---

---

---

---

---

---

## **Implementation Steps to Follow**



1. Sell the QA spec in-house
2. Communicate information about the spec to different stakeholders
3. Integrate spec into the agency and industry
  - Method of integration
  - Training
  - Personnel and lab qualification

---

---

---

---

---

---

---

---


---

---


---


---

## **Step 1: Sell QA Spec In-House**



- Explain the spec and goals for implementation
- Identify target audience and how the spec will benefit users
- Create an implementation team with a “champion”



 U.S. Department of Transportation  
Federal Highway Administration

**MODULE A**

**IMPLEMENTATION AND HOT TOPICS**

**LESSON 15**

**6**

---

---

---

---

---

---

---

---

---


---

---

---

**Step 2: Communicate**

- Specifying agency
- Contractor associations
- FHWA



U.S. Department of Transportation  
Federal Highway Administration

MODULE A

IMPLEMENTATION AND HOT TOPICS

LESSON 15

7

---

---

---

---

---

---

---

---

---

---

---

**Step 3: Integrate Spec Into the Agency**

- Method of Integration:
  - Specification simulation
  - Pilot projects
  - Partnering with industry
  - Phase in pay factors





 **MODULE A** **IMPLEMENTATION AND HOT TOPICS** **LESSON 15** **8**

---

---

---

---

---

---

---

---

---

---

---



### Step 3: Integrate Spec Into the Agency

- Training
  - Content of training
  - Joint training



**Q&A** What is your training experience? How much of your training has been joint training with contractor personnel?

U.S. Department of Transportation  
Federal Highway Administration

MODULE A IMPLEMENTATION AND HOT TOPICS LESSON 15 9

---

---

---

---

---

---

---

---

---

---

---

---

---

### Step 3: Integrate Spec Into the Agency



- Training Content
  - Why procedures are important
  - Basic stats
  - Calculations



---

---

---

---

---

---

---

---

---

---

---

---

### Step 3: Integrate Spec Into the Agency



- Tech Training
  - Time-consuming but necessary
- Tech Qualification
  - Both agency and contractor
  - Qualified versus certified



---

---

---

---

---

---

---

---

---

---

---

### Step 3: Integrate Spec Into the Agency



- Qualified Laboratory
  - Checks test equipment
  - Keeps records of calibration checks



---

---

---

---

---

---

---

---

---

---

---

## Review of Implementation Steps to Follow

- Sell the spec in-house
- Communicate information about the spec to different stakeholders
- Integrate spec into the agency and industry
  - Method of integration
  - Training
  - Personnel and lab qualification



What are some political considerations of implementation? What is being done in your State in terms of QA practices?



---

---

---

---

---

---

---

---

---

---

---


---

---




---

---

### Status of QA Specs



QA specs are used by:

	45 State agencies
	FHWA
	FAA

U.S. Department of Transportation  
Federal Highway Administration

MODULE A      IMPLEMENTATION AND HOT TOPICS      LESSON 15      **14**

---

---

---

---

---

---

---

---

---

---

---

---

## Emerging Issues, Technologies, and Trends



- New test development
  - Example: Superpave protocol
  - Leads to precision statement development
- Pay factor establishment



Do you know of any issues, technology, or emerging trends in your agency?

---

---

---

---

---

---

---

---


---


---

---

## Emerging Issues, Technologies, and Trends

- Evolution of specifications
  - Better/more efficiency in producing and accepting quality products
- Reexamine spec limits through risk analysis
  - FHWA software development
- Performance-related specs



 U.S. Department of Transportation  
Federal Highway Administration

MODULE A

IMPLEMENTATION AND HOT TOPICS

LESSON 15

16

---

---

---

---

---

---

---

---

---

---

---



## SpecRisk Software Program



- “SpecRisk” is a software program developed to permit agencies and contractors to analyze the risks associated with performance-related specification acceptance plans.



---

---

---

---

---

---


---

---

---

---

---



## SpecRisk Input Data

---

SpecRisk System

Setup Analysis

Profiles **Quality Characteristic Data Entry** | Correlation Data Entry | Pay Relationship Data Entry | DC Curves Data Entry | Situation Points Data Entry

Define up to 5 quality characteristics

Quality Characteristic	Pay Equation Designation	Spec Limit	Sample Size (n)	AGL	RQL	Retes
1 AC	PWL(Pay Factor Percent): Proj 10-79 CONTINUOUS METHOD	2 - sided	4	90	50	
2 AV	PWL(Pay Factor Percent): Proj 10-79 CONTINUOUS METHOD	2 - sided	4	90	50	
3 VMA	PWL(Pay Factor Percent): Proj 10-79 CONTINUOUS METHOD	1 - sided	4	90	50	
4 #8 Sieve	PWL(Pay Factor Percent): Proj 10-79 CONTINUOUS METHOD	2 - sided	4	90	50	
5 #200 Sieve	PWL(Pay Factor Percent): Proj 10-79 CONTINUOUS METHOD	2 - sided	4	90	50	

Analyze Selected | **SP Data** | SP Graph | RQL Frequency | Retest Frequency | Multiple DCs Graph | PWL/SD Histogram | Pay Histogram | Random 5

Insert and select individual analysis cases

Select	AC	AV	VMA	#8 Sieve	#200 Sieve	Average $\bar{x}$	Standard ...	5 Percentile	50 Percentile	95 Percentile
<input type="checkbox"/>	100	100	100	100	100	100	0	100	105	105
<input checked="" type="checkbox"/>	90	90	90	90	90	99.9397	3.793	92.9286	100.5603	104.7002
<input checked="" type="checkbox"/>	70	70	70	70	70	89.003	8.4103	78.1402	89.0273	99.2003
<input checked="" type="checkbox"/>	50	50	50	50	50	70.440	6.1245	70.3145	77.7595	80.300
<input checked="" type="checkbox"/>	0	0	0	0	0	70	0	70	70	70

U.S. Department of Transportation  
Federal Highway Administration

MODULE A

IMPLEMENTATION AND HOT TOPICS

LESSON 15

18

---

---

---

---

---

---

---

---

---

---

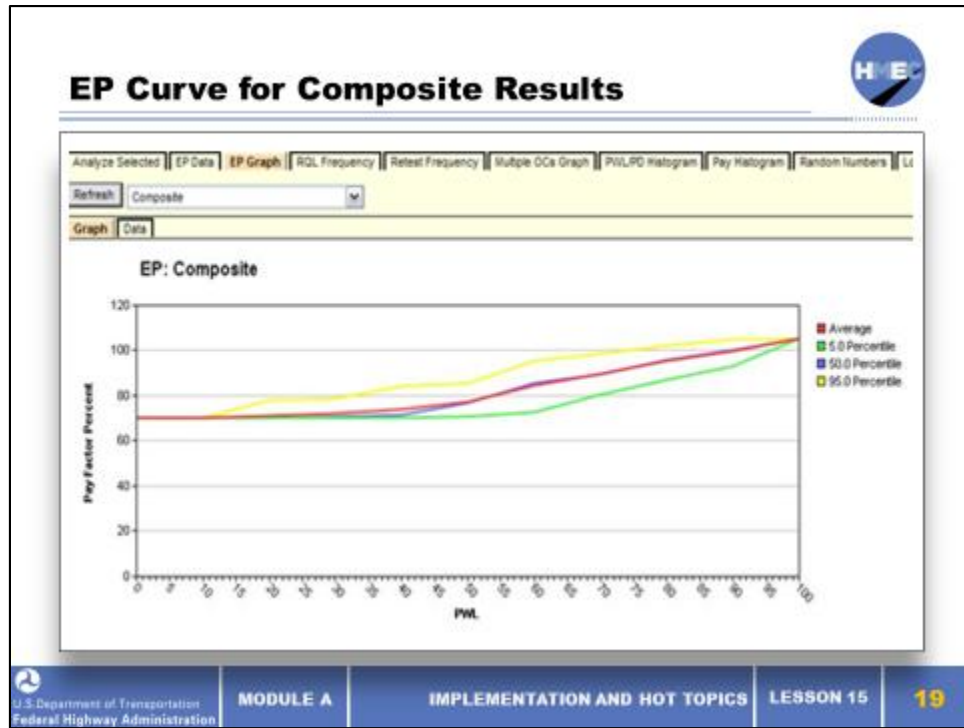
---

---

---

---

---



---

---

---

---

---

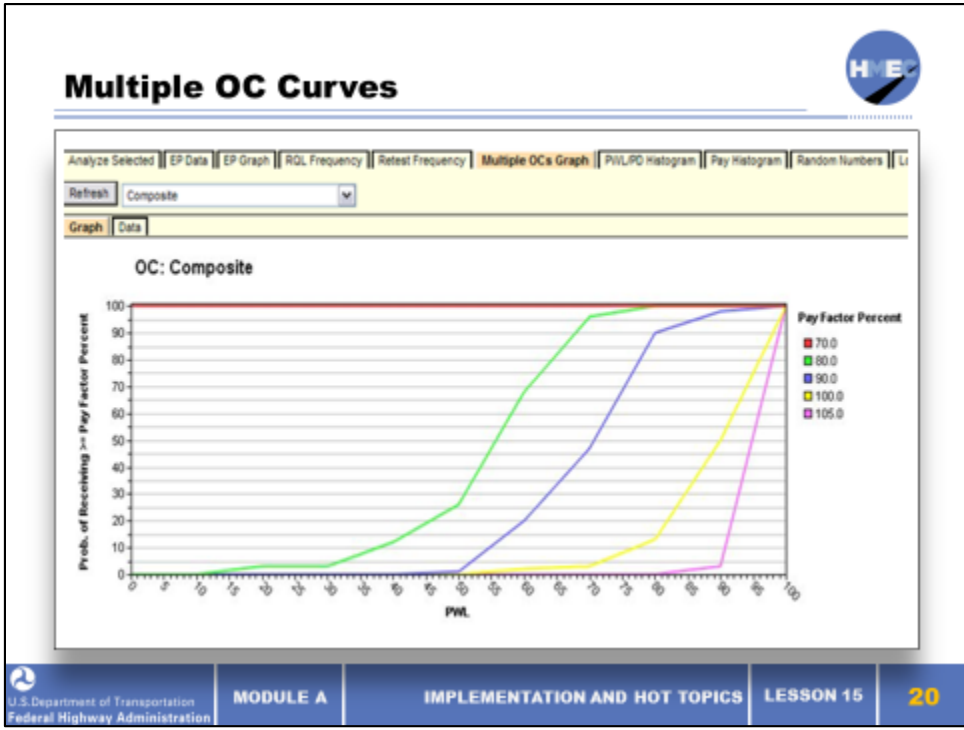
---

---

---

---

---



---

---

---

---

---

---

---


---

---

---

---

---




## **Learning Outcomes Review**

---

You are now able to:

- Identify potential political considerations of implementation
- Generate a recommendation document based on best implementation practices in the United States
- Develop a personal action plan for promoting a specific change in your organization
- List the implementation steps
- Identify emerging issues, technology, and trends that may affect the application of QA principles in the future

 U.S. Department of Transportation  
Federal Highway Administration**MODULE A****IMPLEMENTATION AND HOT TOPICS****LESSON 15**21

---

---

---

---

---

---

---

---

---

---

---