

## **CERTIFICATION FOR DREDGE PROFESSIONALS- THE WHY AND HOW**

A. Alcorn<sup>1</sup>, D. Hayes<sup>2</sup>, and R. Randall<sup>3</sup>

### **ABSTRACT**

The dredging industry encompasses a wide range of professional disciplines including civil, coastal, dredging, environmental, mechanical, ocean engineering and marine science as well as cost estimation and construction management to name a few. Many organizations currently offer special recognition in the form of certification for attaining a higher level of expertise within the discipline. Examples include Leadership in Energy and Environmental Design (LEED), ENVISION (framework for evaluating roads and infrastructure, similar to LEED standards for buildings) certification, Academy of Coastal, Ocean, Port, and Navigation Engineering (ACOPNE), and many computer industries for specific software. This paper investigates types of certifications available, discusses their applicability to the dredging industry, and proposes certification concepts the Western Dredging Association (WEDA) might champion that could potentially benefit the industry. The paper explores the need for a dredging-specific certification and describes general processes that might be implemented.

**Keywords:** Dredging certification, certification process, value, types of certification.

### **INTRODUCTION**

There has been a concentrated emphasis recently in professional organizations to provide a process to recognize mastery of specialized areas of expertise. There are many catalysts for this trend. Entry-level and early career individuals see a need to differentiate themselves from others to either break into a difficult job market or advance more rapidly in their organizations. Some professional certifications (such as professional engineers and land surveyors) are required by law. Public and private entities sometimes use certifications to establish minimum qualifications for contractors. Certifications are even sometimes embedded into Federal Regulations (e.g. water and wastewater treatment plant operators) to establish minimum qualifications for employees responsible for important public utilities.

This paper considers the potential value of certifications related to dredging - what form it would take if implemented and to what the coverage should extend. Successful dredging projects require a diverse team of specialties to address the complex aspects of the bulk of today's projects. This team ranges from the actual dredge operators to financial planners which makes even the definition of a dredge specialist a difficult task. Therefore, any certification may need to be somewhat broad in scope. Another possibility might be using an already designated process as a means to provide certification by broadening that designation.

### **WHY CONSIDER DREDGING CERTIFICATIONS?**

Why should a dredge specialty certification be considered at all? The impetus for this paper was a request by younger professionals to either offer a more defined approach to dredging education and career progression or at least provide some type of recognition for the special knowledge and skills they have developed. The Western Dredging Association is a logical organization to forward this charge since its very essence contains the goals to promote recognition of achievement in the dredging field. Other professional organizations have successfully leveraged certifications to increase membership and influence.

### **TYPES OF CERTIFICATIONS**

The next topic to cover is what type of certification is appropriate? Most of us are familiar with the more rigorous Professional Engineer that includes state administered exams with laws governing the practice. One type of certification includes more recently implemented fields in sustainable practices such as LEED (Leadership in

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<sup>1</sup> Vice President, Moffatt & Nichol, 1660 Hotel Circle North Suite 500, San Diego, CA 92108, tel: 619-220-6050 , email: aalcorn@moffattnichol.com.

<sup>2</sup> Chair and Professor, Department of Civil, Environmental, and Construction Engineering, University of Nevada, Las Vegas, tel: 702-895-4723; email:Donald.Hayes@unlv.edu.

<sup>3</sup> Professor & Director, Center for Dredging Studies, Ocean Engineering Program, Department of Civil Engineering, Texas A&M University, College Station, Texas, 77843-3136, tel: 979-845-4568, email: r-randall@tamu.edu.

Energy and Environmental Design) and Envision Sustainable Infrastructure that require a fee, test, and requirements for ongoing education to maintain status. Another type of professional recognition is offered by the Academy of Coastal, Ocean, Port and Navigation Engineers (ACOPNE) that includes a form detailing career highlights in several disciplines, a fee, and review by a board to determine eligibility. This designation also requires ongoing education to maintain status. Major software developers such as Microsoft offer a series of classes to obtain a certification to acknowledge successful understanding at the technical level. Some corporate organizations require special certification in safety methods to be allowed to operate on site. Safety officers are another potential comparison point. The USACE has published a Safety Engineering Manual (EM 385-1-1) that includes specific training and experience guidelines (See paragraph 01.A.17) to meet contract requirements. This includes mandatory training, on site experience, and annual continuing education. This is further stipulated for specific requirements for dredging projects in recognition of the types of situations exclusive to that industry.

The types and quality of existing certification programs vary widely. Some represent professional competency in areas required to protect the public. Others only indicate general knowledge of a subject, such as a programming class for certain software. Educational requirements of different certification programs vary as well. Some certifications require advanced degrees and even prior certifications. The American Academy of Environmental Engineers and the American Society of Civil Engineers only offer "Diplomate" status to applicants who are licensed professional engineers in addition to passing a rigorous exam. Other professional certifications are based solely upon demonstrated knowledge and do not have minimum educational requirements; Construction Management Association of America's Certified Construction Manager is a good example. **Error! Reference source not found.** has been developed to document the process, fees, timing, and any special notes for each.

**Table 1. Comparison of some existing certification processes.**

<b>Type of Certification</b>	<b>Fee</b>	<b>Application</b>	<b>Test/ qualifications</b>	<b>Interview</b>	<b>Continuing Education</b>	<b>Notes</b>
LEED Associate	\$250	Yes	Test	No	15 hrs- 2yrs	Prerequisite for LEED AP
LEED AP	\$400	Yes	Test	No	30 hrs- 3yrs	Required for preparation of LEED docs
Envision	\$650	Yes	Test- 4 yr deg	No	Unknown	Required for preparation of Envision documents
ACOPNE	\$400/\$300	Yes	PE, 12 yrs experience, Advanced Knowledge	Maybe	40 PDH/ 2yrs, \$160/\$125	PDH related to Continuing Education Units
Microsoft		Yes	Test	No	No	
Notary Public (CA)	\$44	Yes	Test, 18+, no felony	No	Yes	
Professional Engineer (CA)	\$997	Yes	Test, 6yrs- 4 yr degree, +2 yr, EIT	No	Yes	Required to practice/sign & stamp drawings.
Site Safety Health Officer	Fees for classes only	Yes	Complete 30 hour OSHA safety course. 5 years of on-site experience.	No	8 hours/year	Required by contract for US Federal projects.
WEDA Dredging Certification	\$200/yr	Yes	BS degree, 10 years of dredging experience, WEDA member	No	15 hours- 2yrs	

### **WHAT WOULD A DREDGING CERTIFICATION LOOK LIKE?**

A WEDA dredging certificate example is shown in Figure 1 is to be engraved on a gold plate with black letters and mounted on a distinctive wood or acrylic plaque.



**Figure 1. Example certificate for WEDA Dredging Certification.**

### **DISCUSSION OF MERITS OF CERTIFICATION TYPES**

The WEDA organization is primarily run on a volunteer basis for committees which will need to be considered for implementation of any program. The program would entail additional commitment of volunteer resources to monitor and administer the program which would be the best test of interest for the organization. Additional costs for the certificates would be nominal, and the collection of application fees could be easily incorporated into the existing on-line system. Recommendations would be to make the process known to agencies that have selection criteria for dredge services and include the certification as a distinguishing factor in selection of qualified applicants.

### **WEDA DREDGING CERTIFICATION PROCESS**

The Western Dredging Association Board of Directors needs to establish a standing committee for the evaluation of applications and the selection of members for receiving the distinction of receiving the WEDA Dredging Certification. Applications from member are reviewed annually and the certificates are awarded at the annual Dredging Summit & Expo. Applications are due three months before the annual conference and are submitted electronically to the WEDA Executive Director. Applicants must complete the application and attach a detailed resume. Applicants must be a WEDA member in good standing. The one page application will be developed by the

WEDA Certification Committee establish by the Board of Directors. The recommended start for the first certificate 'class' would be at the WODA program in 2016 if the WEDA Board of Directors finds this program to be a worthy application of resources,. This would allow a wider audience and potential cross pollination to other sister organizations.

### **CONCLUSIONS**

Members of the Western Dredging Association work in the field of dredging and the placement of dredged material in upland, open water, or as a beneficial use. In some cases, WEDA members are engaged in dredging and capping contaminated sediments. Additionally, the environmental and regulatory aspects of dredging and dredged material placement involve scientists, engineers, and others. This discussion of recognizing dredging experts with a dredging certificate that recognizes their expertise and qualification is needed in the dredging industry. Qualifications for the dredging certificate are outlined and the application process is described.

### **CITATION**

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