

# NUCLEAR DRY CASK FUEL STORAGE OPERATIONS

March 28-29 2017

Hyatt Regency Suite Atlanta NW  
Atlanta, GA



Photo Credit: Nuclear Regulatory Commission



EUCI is authorized  
by IACET to offer  
1.1 CEUs for the  
course

## OVERVIEW

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As spent fuel pool systems continue to exponentially exceed intended design capacities and the move toward long-term storage remains indeterminable, dry cask canisters have emerged as the next step for nuclear power plant fuel management. EUCI has developed the Nuclear Dry Cask Fuel Storage Operations course, taking place March 28th and 29th in Atlanta, GA to explore the technical background, operational requirements, and transfer processes for implementing dry cask fuel storage canisters for all reactor types. This course will provide the necessary background information on compliance and licensing requirements in addition to plant safety for all plants considering making the move to dry cask storage, as well as those already approved for ISFSI sites. This introductory course will be helpful for new plant employees, project managers in fuel management, nuclear and reactor system engineers, equipment providers and consultants to nuclear plants, as well as risk managers, attorneys, and paralegals specializing in nuclear power and energy regulations.

## LEARNING OUTCOMES

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- Analyze the full makeup of a nuclear fuel assembly, equipment requirements, and leak testing
- Define the replacement requirements and location options on dry cask storage canisters
- Outline all NRC regulations as they relate to safety requirements, fuel management, and licensing
- Compare typical dry cask fuel storage design systems, processes, and safety
- Evaluate spent fuel pool systems compared to dry cask storage canisters in reference to cost, implementation processes, and monitoring requirements
- Assess the nuclear fuel transfer process from wet to dry storage in all plant types and storage containers
- Quantify the environmental impact and public health risks associated with spent fuel pools and dry cask storage
- Leverage the current technological advances in dry cask storage and the availability of dry storage on the market to limit up-front cost
- Discuss the future of long-term storage options for nuclear plants

## WHO SHOULD ATTEND

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This event is targeted towards the nuclear industry in need of an update on compliance requirements and an understanding of nuclear fuel storage from the following companies:

- Employees in nuclear power plants requiring an understanding of fuel management
- New professionals in the nuclear industry in need of a background on spent fuel pools and dry cask storage
- Equipment providers to the nuclear industry requiring an understanding of fuel systems
- Nuclear risk management professionals
- Reactor systems, environmental, and nuclear engineers
- Nuclear consultants focused on decommissioning and nuclear waste management
- Project managers leading a plant shift from wet to dry storage
- Attorneys specializing in nuclear power, radioactive fuel management, or energy regulations

# AGENDA

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TUESDAY, MARCH 28, 2017

- 7:30 – 8:00 am                      Registration and Continental Breakfast**
- 8:00 – 10:00 am                    Introduction to Nuclear Systems and Fuel Storage**
- Introduction to common nuclear acronyms
  - Outline of relevant NRC regulations for reference throughout the course
  - Makeup of a fuel assembly
  - Outlining Spent Fuel Pool Systems (SFPs)
  - Heat load / decay heat
- 10:00 – 10:30 am                    Morning Break**
- 10:30 am – 12:30 pm                The Impact and Future of Dry Cask Storage**
- Capacity issues for existing SFPs, dense-packing, and the case for dry cask storage
  - Fuel emergency preparedness requirements for both natural disasters and physical site security
  - Environmental impact of SFPs vs. dry cask canisters
  - Temperature limits in dry cask storage
  - Internal gases and protection for temperature control
  - Casks for transport and final disposal
- 12:30 – 1:30 pm                      Group Luncheon**
- 1:30 – 3:00 pm                        Dry Cask Regulations and Designs**
- Typical dry cask fuel storage system designs – horizontal vs. vertical designs, concrete pad, and thermal analysis in air convection
  - Equipment requirements, leak testing, and stress corrosion concerns
  - Understanding various transfer processes in different reactor types and new cask designs
  - Safety regulations for the transfer process
  - Location of dry cask storage – at-reactor and away-from-reactor, and the associated monitoring requirements
  - Replacement requirements for dry casks after transfer
- 3:00 – 3:30 pm                        Networking Break**
- 3:30 – 5:00 pm                        Challenges and Implementation Strategies**
- Analyzing existing dry cask technologies
  - Up-front investment required
  - Technological improvements on the horizon to limit costs
  - Overall availability of dry cask systems in the market
- 5:00 pm                                  Course Day 1 Wrap-up**

# AGENDA

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WEDNESDAY, MARCH 29, 2017

**7:30 – 8:00 am**

**Continental Breakfast**

**8:00 – 10:00 am**

**Current NRC Regulations and Industry Evolution**

- Existing ISFSI sites and future approval processes
- General licenses vs. specific licenses and associated NRC requirements
- Length of time approved for dry cask storage – short, long, and indefinite
- Nuclear safety review history and compliance requirements on fuel storage
- Current waste removal process and DOT regulations on transportation
- The move from waste confidence to the Continued Storage of Spent Nuclear Fuel, and other related regulatory updates
- Discussion on the current state of permanent waste disposal, and expectations on how this might develop

**10:00 – 10:30 am**

**Networking Break**

**10:30 am – 12:00 pm**

**Course Summary, Sources, and Examination**

- Review of covered content
- Open forum for discussion and questions
- Examination
- References

**12:00 pm**

**Course Concludes**

# INSTRUCTOR

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## Kenneth Byers

**Consultant, Gilbert Consulting Services**

Kenneth Byers has over 40 years of experience in the nuclear industry covering operation, radiation protection, maintenance, fuel handling, and training. Like many in the nuclear industry, Kenneth started his education and experience in the US Navy Nuclear Power Program. He held several positions within the Palo Verde Nuclear Generating Station (PVNGS) and had significant experience in nuclear fuel handling and oversight. His experience includes a certification as a Senior Reactor Operator (SRO) on Pressurized Water Reactors, and an NRC SRO license for handling fuel. He is fully qualified as a fuel handler and was involved in offloading and reloading reactor fuel in more than 35 refueling outages. Additionally, he has taught initial, continuing, and hands on training for fuel handling and dry cask storage for over 20 years.

## REQUIREMENTS FOR SUCCESSFUL COMPLETION

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Participants must sign in/out each day and be in attendance for the entirety of the course to be eligible for continuing education credit.

## INSTRUCTIONAL METHODS

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Power point presentations and classroom group discussions will be used in this course.

## PROCEEDINGS

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The proceedings of the course will be published, and one copy will be distributed to each registrant at the course.

## EVENT LOCATION

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A room block has been reserved at the Hyatt Regency Suite Atlanta NW, 2999 Windy Hill Road, Marietta, GA 60067, for the nights of March 27-30, 2017. Room rates are \$139, plus applicable tax. Call **770-956-1234** for reservations and mention the EUCI event to get the group rate. The cutoff date to receive the group rate is March 5, 2017 but as there are a limited number of rooms available at this rate, the room block may close sooner. ***Please make your reservations early.***

## IACET CREDITS

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EUCI has been accredited as an Authorized Provider by the International Association for Continuing Education and Training (IACET). In obtaining this accreditation, EUCI has demonstrated that it complies with the ANSI/IACET Standard which is recognized internationally as a standard of good practice. As a result of their Authorized Provider status, EUCI is authorized to offer IACET CEUs for its programs that qualify under the ANSI/IACET Standard.

**EUCI is authorized by IACET to offer 1.1 CEUs for the course.**

## REGISTER 3, SEND THE 4TH FREE

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Any organization wishing to send multiple attendees to these courses may send 1 FREE for every 3 delegates registered. Please note that all registrations must be made at the same time to qualify.



Please make checks payable to: "PMA"

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**Please make your reservations early.**

## PLEASE REGISTER

### ○ NUCLEAR DRY CASK FUEL STORAGE OPERATIONS COURSE

March 28-29, 2017: US \$1395,  
 Early bird on or before March 10, 2017: US \$1195

How did you hear about this event? (direct e-mail, colleague, speaker(s), etc.)

Print Name Job Title

Company

What name do you prefer on your name badge?

Address

City State/Province Zip/Postal Code Country

Phone Email

List any dietary or accessibility needs here

### CREDIT CARD INFORMATION

Name on Card Account Number

Billing Address Billing City Billing State

Billing Zip Code/Postal Code Exp. Date Security Code (last 3 digits on the back of Visa and MC or 4 digits on front of AmEx)

**OR** Enclosed is a check for \$ \_\_\_\_\_ to cover \_\_\_\_\_ registrations.

### Substitutions & Cancellations

Your registration may be transferred to a member of your organization up to 24 hours in advance of the event. Cancellations must be received on or before February 24, 2017 in order to be refunded and will be subject to a US \$195.00 processing fee per registrant. No refunds will be made after this date. Cancellations received after this date will create a credit of the tuition (less processing fee) good toward any other EUCL event. This credit will be good for six months from the cancellation date. In the event of non-attendance, all registration fees will be forfeited. In case of course cancellation, EUCL's liability is limited to refund of the event registration fee only. For more information regarding administrative policies, such as complaints and refunds, please contact our offices at (201) 871-0474.