

# CBT: Has its time come ?

By Frank S. Tsakeres, NWI



Computer-based training (CBT) is evolving in industries outside of the nuclear training industry at a quickening pace. When exploring the reasons for that, one point keeps arising out of the complex mire...**Cost Effectiveness** ! Once the initial development has been re-sourced with an efficient and "smart" design architecture, CBT has the flexibility of conducting training 24/7...fitting into the schedules of incumbents who are becoming wider spread throughout the organization. This is especially true in our current business focus of "rightsizing" workforce initiatives. Overhead reduction (O&M) focus has lead to a



"leaner and meaner" organization. Outside

the nuclear industry is not an exception as well. From page turner style information CBT to highly interactive smart CBT programs, this virtual electronic training method is becoming more and more desirable. In order to understand how to use CBT, WBT or distance learning for business applications, it is important to define a few terms first.

**CBT**—An acronym for *computer-based training*, is a type of education in which the student learns by executing special training programs on a computer. CBT is especially effective for training people to use computer applications because the CBT program can be integrated with the applications so that students can practice using the application as they learn.

Historically, CBTs growth has been hampered by the enormous resources required: human resources to create a CBT program. and hardware resources needed to run it. However, the increase in PC computing power, and especially the growing prevalence of computers equipped with CD-ROMs, is making CBT a more viable option for corporations and individuals alike. Many PC applications now come with some modest form of CBT, often called a *tutorial*. CBT is also called *computer-assisted instruction (CAI)*.

**WBT**—Short for *Web-based training*, is a generic term for training and/or instruction delivered over the Internet or an intranet using a Web browser. Web-based training includes static methods such

## Common Pitfalls of Training Programs at US Nuclear Power Plants:

### An Alternative Perspective

By Frank S. Tsakeres, NWI



(CONTINUED FROM THE SUMMER NEWSLETTER)

Recognition of ...behaviors, adverse conditions, and broad-programmatic changes are key focal areas to maintaining a health training program. Prompt action must be taken when these indicators are "surfaced." As trainers, we must carry the "Holy Grail." This translates into being passion-

ate about training activities by interjecting the training perspective at all levels/meetings; speaking out, immediately, showing courage to dispel incorrect training directions, at all training organizational levels. Remember meetings are opportunities to spread the training gospel. In addition, personnel substitutes sent to meetings are not and cannot be "bumps on a log" but fully and passionately participate, providing the train-

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as streaming audio and video, hyperlinked Web pages, live Web broadcasts, and portals

of information as well as interactive methods such as bulletin boards, chat rooms, instant messaging, videoconferencing and discussion threads. Businesses often use WBT to educate employees. The instruction can be facilitated and paced by the trainer or self-directed and paced by the trainee.

**Distance Learning**—A type of

education, typically college-level, where students work on their own at home or at the office and communicate with faculty and other students via e-mail, electronic forums, videoconferencing, chat rooms, bulletin boards, instant messaging, and other forms of computer-based communication. Most distance learning programs include a CBT system and communications tools to produce a virtual *classroom*. Because the Internet and World Wide Web are accessible from virtually all

computer platforms, they serve as the foundation for many distance learning systems.

In April 2006, after 2 long years of being just a good idea, Exelon's Reactor Services and NWI are partnering to develop a first in Reactor Services Technician Training; CBT-based Initial and Continuing Training. Led by CBT project team leader Steve Pettinger, with key support from team members Bill McNeill, Karen Pettinger, and Ken Gerling, the project will be



## NRC Exam Writing—Recent Learnings of Rev 9

By Rob Brixey, Consultant



In late spring of 2006, an NRC exam writer's workshop was held in Lysle, IL and was sponsored by the Region III NRC staff. H. Peterson was the lead at the workshop

representing the NRC position and provided clarification on NUREG 1021 Rev. 9. Highlights of the workshop are presented below as observed by NWI vendor/exam writer Robyn Brixey. Regarding re-qualification examinations for LORT (Licensed Operator Re-qualification Training), per the NRC all re-qualification should have operating and written exams consisting of 30 to 40 written questions. As far as question design, approximately 50% to 60% of each exam should be at the higher cognitive level (e.g., current guidance suggests that all exam questions be at the 100% higher cognitive level). Regarding question design, no direct

lookups should be included. Per Rob Brixey, that might be an extremely difficult requirement/interpretation to satisfy (e.g., fundamental /recall questions that would have to be design to be closed book question, with no references made available for the students. In addition, it was suggested that < 50% overlap exist between exams given during the exam weeks for each crew exam.

Regarding JPMs (e.g., job performance measures), 50% to 60% of the prepared/given JPMs needed to be alternate injection pathway. In addition, the scenario sets must be at least d>50% Also recommended was the exam should be comprise of an un-prescribed mix of exam bank, modified and new exam items.

Regarding exam grading, the only acceptable results were pass or fail only with no margin for allowing a student to pass with remediation. It

should be noted that It is always acceptable to fail someone then reactivate with remediation and re-examination on a DIFFERENT task (meets the requirement as stated in NUREG 1021). In addition, regarding security agreement signatures, these signatures are required for all instructors and candidates participating in the exam/exam development/review, without respect of item re-use.

In one of the last topics of the day, the NRC discussed "Minimum Uniform Conditions" for licensed operator re-qualification training programs. NUREG 1021 is "still considered "optional." However, if Minimum Uniform Conditions are adopted, the "optional" part would be eliminated.



## Common Pitfalls of Training Programs at US Nuclear Power Plants: An Alternative Perspective

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ing perspective. A key area sometimes minimized is business planning, a key source of resource allocation, especially for the training organization. Representing training at all levels requires you to exhibit professional courage – speaking up at high level gatherings (e.g., POD, Outage, Project Review, Budget meetings). Preparation for primary and substitute training representatives is needed to be at least 3 questions deep.

Other key actions to promote your training program include; Fully utilize CAP, Invigorate training committees by utilizing formal action tracking/quality action closure review and selecting thoughtful/tactical topics, Hold line and other training staff accountable for training involvement, Utilize meaningful performance indicators – change them periodically, Develop a 5 year training plan – not just for staffing but for all accredited programs, Don't be insulated – seek

outside perspectives (phone calls are cheap). Do you're part at your level! Passionate trainer can and do make a difference, even when it doesn't seem like they do. Attitudes are contagious...as positive training performance will build on itself. Remember, to continue to do the same things and expecting different results is the definition of insanity...therefore, make a difference – trainers (instructors and managers) should and must..."Carry the Holy Grail."



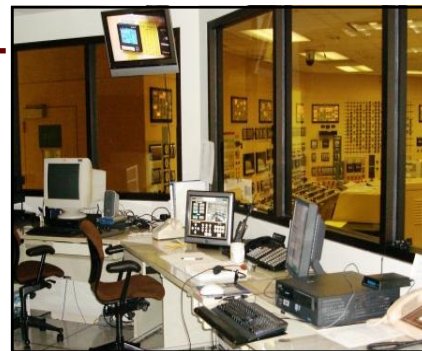
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up and running by the first of 2007. That means that a CBT-based system will be used by Exelon to support the training needs of Reactor Services technicians and supervisors in both initial and continuing training settings. The design includes 2 plants, Quad Cities and Dresden, having a common interactive module with nested video clips based upon common procedures with separate modules for site-specifics. It is also SMART as the requalification module is interactive asking questions upfront allowing for bypassing modules that the student has already mastered (thereby not wasting extra time in requalification). An online exam and feedback module at the conclusion of the module highlights automatic recordkeeping that can be exported into the site's training data bases. This flexible product can be run via CBT, WBT or via distance learning via the NWI Intranet! This product will be the first automated interactive training system produced by NWI but certainly not the last as plans and development activities are underway for future CBT/WBT projects! For a demonstration, please contact us at NWI!

### NWI News Update...

- Steve Pettinger, NWI Consultant, began the **ILT NRC exam development** for DC Cook Nuclear Plant, Bridgman, MI starting August 21, 2006. The project continues through March of 2007 ending with the NRC exam mid March 2007.
- **TAS**—NWI's ILT Throughput Assessment Screening evaluation tool has been tested and validated at now 2 separate utilities with incredible success. Call for more information today !



## PROS Meeting—St. Louis, MO. (June, 2006)



NWI supported the annual PRO's meeting in St. Louis. NWI is a supporting vendor of the PROs organization. Key-note speaker, Randy Eddington, CNO of Cooper Station, Entergy, spoke on the "fundamentals" of operations. He stressed

the focus should be on improving knowledge of our nuclear power plant operators using the structures and processes such as SAT and procedures...not just focusing on processes which tends to "dumb down" operational knowledge and experience. He stated that oral boards and es-

say/short answer exam questions should be brought back affording a real knowledge evaluation in addition to the existing multiple choice examination method. He is currently working on incorporating these concepts with INPO and the NRC. Pictures of the meeting are attached to this announcement. The NWI marketing team was present at the meeting and also visited nearby Callaway Plant, talking with Training Manager Mike Evans about NWI services and products.

By Frank Tsakeres, NWI



## TVA WBN ILT Contract Awarded to NWI Services

NWI was awarded a contract to provide staff augmentation support in a managed task project for WBN Operations Training. Up to 5 PWR SRO Instructor professionals are sup-

porting the current ILT class both in classroom/simulator instruction as well as selected training material development.





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## Employee Hotline:

## WELCOME NEW NWI EMPLOYEES...

- Exelon's Quad Cities Nuclear Station has teamed with NWI Services to conduct a Turnkey Project in certifying new instructors. NWI vendor's Rob Brixey, Bill Lindsey, Nils Dahlin, and new NWI employee George Thullen are teaching the QC candidates that commenced in April, 2006. A special thanks is due to new NWI employee Ken Gerling, who helped fill in for the Generic Fundamentals portion of the class initially!. Included in the class are 3 INPO employees. A special thanks goes out to Rob Brixey for "staying the course" while awaiting support recently from Bill, Nils and George.
- Ken Gerling and new NWI employee George Thullen begin two back-to-back system courses for first line maintenance supervisors at LaSalle County Station in Marseilles, Illinois. Some engineers and chemistry management are included in the class making it a real challenge for instructing due to the diverse background of the student population. This is the first time in over 5 years that this course has been taught onsite and in a turn-key project! Welcome George to the NWI team!
- Bob Bates and John Roden have just joined the NWI team in providing ILT support for the TVA Watts Bar Plant. Welcome Bob and John!

We wish to express special thanks to the following clients for making NWI a preferred consulting company.

- AEP's D.C. Cook Nuclear Power Plant
- Exelon's Three Mile Island, Dresden, LaSalle and Quad Cities Nuclear Stations
- Exelon's Outage and Reactor Services
- SCE's San Onofre Nuclear Generating Station
- Exelon's Braidwood Station
- TVA's Watts Bar Plant

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