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Dynamic Learning Activities...Effective Group OJT/TPE?

A Dynamic Learning Activity (DLA) is an effective adult learning technique that had been developed for nuclear power plant training in the early 90's to facilitate learning in a group setting. Feedback was almost immediate...as this "Hands-on" style of training evolved. A "cradle to grave" design included work package and pre-job briefs through the actual activity finishing with a post-job critique in which all the participants, including observers, gave candid feedback to each other. Normally led by the first line supervisor, workers practiced work evolutions exactly like they performed work in the plant, sometimes in an environment that even simulated the actual noise level experienced at the job site. This non-confrontational but yet effective training technique evolved into an evaluation side with tools that ranged from questions to check for understanding to actual hands-on activity evaluations (e.g., some

utilities even coined the term DLE or Dynamic Learning Evaluation). This non-standard training setting was unlike the one-on-one OJT (on-the-job training) or TPE (task performance evaluation) as defined through INPO ACAD documents. It was an effective way of peers learning from peers during the course of the evolution!

DLAs can be performed using plant mock-ups, equipment and tools replicating those in the plant, or by using in plant equipment in an operations-controlled environment. Some DLA topical areas include;

- Electrical safety and other industrial safety topics
- Circuit board troubleshooting
- Fundamentals self & peer check (and other verification practices), control board awareness, log keeping, 3-way communications, self-check simulators, etc.
- Print reading

By Frank Tsakeres, NWI Editor

- Live loop simulations
- Other scenario based DLAs such as faulted scenarios, rigging, pump alignment, & MCC troubleshooting

One key to a successful DLA is to involve as many of the work groups for a particular job evolution as practical...those that would typically interface while performing the work in the plant. The inter-departmental learning and improvement in work group interfacing and teaming is one incredible byproduct that can only help the organization, especially for new workers or dysfunctional organizational interfaces.

DLAs are a synergistic learning approach that even today has produced remarkable results, even in the throws of poor labor relations. Mechanics no longer were lulled to sleep by the "standup talking head" approach to training but responded energetically to a

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Safety Culture Compliance

Workers don't comply with safety culture expectations in many cases due to shortfalls in knowledge and in skills. Yet the nuclear industry does much in these areas. The solution is not to rely totally on the training department but make training a joint effort with operators, managers, trainers, engineers and all incumbent workers. Training has to be out in the field and consistently reinforcing the efforts in the classroom. Because, by the time people get into the field, they normally forget a large portion of what they learned in the classroom. Simply put, the reality is not like classroom demonstration.

Cultures - There is an educational aspect to cultural norms and expectations. When cultural issues in plants are considered, multiple cultures exist as there is no one culture in power plants. There very distinct cultures; management, engineering, control room, and the one that's proba-

bly ignored the most is the culture of maintenance. New workers in each of these areas will learn very different norms, values and ways of working. It is imperative to understand that power plant cultures, although different, are by their very nature required. The key is facilitation, so that these very different cultures compliment each other and yet have a higher set of norms and values that transcend all of the individualized differences (e.g., nuclear safety). For example, engineering personnel are desired to do their best at design; operators are to be most realistic in terms of what they do with unexpected events; and management to ensure cost consciousness but with high degree of safety in mind. It's really a problem of organizational alignment rather than integration. Individual cultures have to understand that they are only one point of view, and they must learn to live with each other and align their goals. Based on research at



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"train as we work" environment! Effective – ABSOLUTELY...by all measures...especially in fundamentals such as industrial safety, rad practices and other behaviors that are reinforcing management expectations. If you haven't tried it, you don't know what you and your team are missing!



NWI: New Beginnings...

By S. Scott Sakiris, NWI Assoc. Editor

Two years of business growth and physical expansion isn't all that this consulting firm has under its corporate belt. In the short time since company conception, valuable experience, repeat clientele and refined technique have accompanied a standard of excellence that has become widely accepted in the nuclear world of business. Spawned from one man's vision to help support specific industry needs in training and corrective actions, NWI Consulting, LLC continues to offer consulting in an array of services crucial to client success. Inspiration, diligence and entrepreneurship motivated Frank Tsakeres, Ph.D., founder, president and director of NWI to commence the ground-breaking of a business plan destined to break the traditional grounds of lackadaisical precursors in the consulting realm.

Tsakeres began his diversified career in the engineering and power plant profession over 30 years ago. His chosen path provided for experience in such vital plant roles as Director of Training for Exelon's Midwest Regional Operating Group and Radiation/Chemistry Manager and Training Director for Exelon's Quad Cities Station. Tsakeres' technical and managerial experience in the areas of training, operations, maintenance, radiation protection, chemistry and emergency preparedness have allowed for an expertise in worldwide nuclear consulting. In August of 2003, his skill and expertise proved to be the foundation for NWI.

"We want to become the preferred consulting company for training in the nuclear power industry," says Tsak-

The Million Dollar Examination (Part 2)

(Continued from Last Quarter's NWI Newsletter)

A project plan for developing an effective NRC initial license exam includes the following:

- Review NUREG-1021 and all available NRC Exam related documents (Recent Exam Reports, NRC website FAQs, INPO OE, etc.) before beginning project planning.
- Meet with the NRC Chief Examiner to verify Exam and Submittal dates. The NUREG-1021 Form ES-201-1 dates may be adjusted with prior agreement from the NRC regional office.
- Set Internal Completion dates five to ten days prior to the NRC submittal date. Check on NRC availability to receive material if submitted early.
- Develop and validate the exam prior to the outline submittal to the NRC. Questions, JPMs, and scenarios should be drafted and verified (run JPMs & scenarios) prior to Outline submittal. Although this presents the risk of significant re-work, it helps to ensure that questions can be written for the selected KAs and that the

Scenarios and JPMs will work.

- Enter Key milestones in the approved project plan entered action tracking system.
 Any delay or extension to the approved project schedule should require a formal risk analysis and Plant Management approval.
- Schedule Simulator time for validations.
- Review (with TM, OM & PM) required
 Operations Department Support required for verification and validation.
- Ensure that the Project Manager notifies the Training Manager and Operations Manager at the earliest possible opportunity if additional resources are needed.
- Assign a Operations department manager or supervisor assigned to the Exam Team to provide oversight and act as the Facility Representative.
 - Should be the primary point of contact for the exam developers on questions of operational significance and validity.
 - Should NOT be one of the developers.

By Steve Pettinger, NWI Consultant



- Helps prevent NRC Exam Developer conflict by resolving exam review issues
- Should be experienced SRO

Validation....A thorough validation is critical to successful exam.

- Ensure that several Licensed Operators take the written examination.
- Administer the exam as you would an NRC exam.
- Review each question & distracter in detail.
- Ensure you understand the reason for each missed question.
- Validate JPMs with actual paperwork & Simulator Setups (ICs) and grouping.
- Validate Scenarios with all turnover information & paperwork.



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Safety Culture Compliance (Continued from Page I)

MIT on more than 15 U.S. nuclear plants (e.g., Constance Perin, Shouldering Risks: The Culture of Control in the Nuclear Power Industry), it was shown that departmental cultures have different ways to assess risk, and that it is inevitable that tradeoffs are made based on the cultural focus or what drives that team. With tradeoffs, the differ-

ent cultures try to come to terms with each other, rather than any one of them being right or wrong, or some super-culture being an integration of the others.

When the new generation of workers enters the workforce, embracing safety culture just doesn't happen. It has to be targeted for training, both

conceptually and by reviewing key elements comprising nuclear safety principles. Some non-nuclear organizations (e.g., DEC computers) actually designed what they called "boot camps" where newcomers would go off for as much as a week with old-timers and management. The newcom-



10 Reasons Nuclear Workers Don't Comply with Safety Culture Expectations

Ignorance

"I did not know this was a hazard."

Lack of skill

"I did not know what to do about it."

Mistrust of authority

"They lied to us before about safety, so how do I know they're telling the truth now?"

Personal experiences

"Nothing bad ever happened to me before by doing it this way, so why worry now?"

Lack of incentives

"What's in it for me? Why should I follow this much harder procedure?"

Mixed incentives

"My boss tells me to report unsafe conditions but still expects me to get the job done on time and with less help."

Unclear disciplinary processes

"Nothing bad will happen to me if I ignore the hazard or do things my own way."

Group norms

"If I point out the hazard, my buddies will think I'm ratting on them; or if I insist on following some procedure, they'll think I'm a wimp."

Macho self-image

"I can do this job in spite of the hazards, I can be a hero, and others will respect me for it."

Personality factors

"I know better - who needs to work that hard? Who cares - it's not my problem."

Safety Culture Compliance: Doing Right Voluntarily!

ers had an opportunity to listen to the old-timers talk, to ask questions, and to discuss why things are done a certain way. It also had a powerful secondary effect - it forced the old-timers to confront their own shortcuts and justify them. Nuclear plants could run their own boot camps - pull all the newcomers together periodically to help bridge this culture gap and align organizational thinking.

Mistrusting authority - It's much easier to create mistrust than to build trust. You lose trust very fast, and it takes years to rebuild it. It has to do with how management handles critical incidents. Some union groups remember when, many years ago, management did them wrong, and that leads them to still think they're not going to get the best equipment, fairest treatment, etc. So if trust is an issue, management has to lean over backwards to give employees a sense that they're getting the best equipment/fairest treatment and that the right amount of money is being spent to ensure safety. Employees will measure that. They'll point out that, when everything is going smoothly, there seems to be no money for certain maintenance and safety procedures. But when either the press gets involved or there's an incident, suddenly money appears like magic. They'll ask, "Why wasn't that same money spent earlier when we could have used some maintenance to prevent the problem?"

The attitudes of today's workforce are built much more around our rights and our privileges than they used to be. The old idea of being good, loyal soldiers is long gone. Nowadays, people feel they should be treated as individuals who have rights, often to the chagrin of management because the rights supersede the obligations. That's a social trend - it's for real and is here to stay.

An organization can maintain an atmosphere of trust over time, particularly when management may changes occur. Since each plant has unique cultures and unless a new manager learns that culture, he or she might have a lot of difficulty. Or worse, the new manager can end up with a lot of conflict by prematurely trying to sell a new set of values in a plant that has lived by other values. Managers should take the time to get acquainted with how a particular plant works before they say "ok, this is how I'm going to run it." You can't manage hierarchically - you have to manage with trust and transparency. When there are layoffs, budget cuts, and decreases in benefits, etc., management can maintain trust and credibility with the workforce by educating the workforce to the economic realities of the business. If you hide financial data from the workers, and then say, "Oh, we're in trouble now," there's no reason why they should believe you. It would be appropriate to get all the plant people together with the chief financial officer and say, "Here's where we are - here's where our parent company has budget constraints, these are the realities." If you encourage people to ask questions, and you make the economics somewhat transparent, the employees will better accept the bad news because they understand the basis of it.

NEXT ISSUE—A Continuation of Safety Culture Compliance.

This article summarized from an INPO Q&A editorial with Dr. Edgar Schein, a Sloan Fellows professor of management emeritus at the Massachusetts Institute of Technology.

NWI: New Beginnings... (Continued from Page 2)

eres, when asked about his personal vision for NWI. "We expect that with our focus on client satisfaction and excellence in our deliverables, we will meet and exceed client expectation; thereby, securing a significant market share in the nuclear industry."

Both internal and external company growth stand high on NWI's priority totem. "We expect to grow not only in consulting, but in diverse areas such as corrective action programs and specialties like dry-cask storage," says Tsakeres. "Two business areas we intend to develop in the future are staff augmentation to support our client's needs and technical product advancement, such as highly interactive computer-based training. Growth depends on customer satisfaction. We expect to be the best value for our clientele in providing high-quality technical products at a competitive price."

The small-but-effective network of consultants at NWI is a team with each member having their own expertise. "There are 15 highly qualified consultants [working for NWI] with over 200 years combined power-plant experience," says Tsakeres. Consultants working for NWI have to have met specific expectations enforced by company standards of excellence. "We look

for highly qualified people with extensive experience and expertise in the areas of training, executive coaching, operations, maintenance, and radiation protection," says Tsakeres. Kate Hendrickson, director of marketing for NWI, says, "Besides a qualified background in the field, we gear our employee evaluation and hiring procedures to finding those who can contribute to company improvement with a willingness to be accountable to collaboratively working to provide the collective advice and access to talent that clients require."

NWI products come in both tangible and intangible form. Both have proven to be of high value to consumers. "We offer a client our services, ranging from self-assessment and effectiveness reviews based results-oriented executive management to root-cause evaluations and mock accreditation board simulations," says Tsakeres.

Example proves to be the best method of advertisement for NWI, as improvement shown in self assessments, given to all potential clients, brings repeat business on which the firm thrives.





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We add value to your business at a reasonable cost!

We're on the Web! See us at www. nwiconsulting.com

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
- Constellation's Nine Mile Nuclear Power & Ginna Station's
- Energy Northwest—Columbia Station
- Exelon's Braidwood, Three Mile Island, Dresden, LaSalle, Salem & Hope Creek, and Quad Cities Nuclear Stations
- Exelon's Outage and Reactor Services
- FPL's Seabrook, St. Lucie, and Turkey Point Stations
- NMC's Monticello Station
- OPPD's Fort Calhoun Nuclear Station
- San Onfre Nuclear Generating Station

Our program specialties include: Human Performance, Training and Accreditation, Simulator Instructor Training, Operations Training, Engineering Services, Corrective Actions Program Improvement, Root Cause Analysis and Self-Assessment, NRC Exam Writing, CBT for Dry Cask Storagel RadWaste Training, and many Human Performance Trainers.



Is it selection or a programmatic issue?

By Bill Hensley, NWI Consultant

While there may be many reasons why initial operator training performance is being challenged...the question needs to be asked; *Is it selection problem or another programmatic reason as to why initial candidates aren't successful in obtaining their license?* In other words, have we got the right folks with the right experience, learning abilities and skill sets going into the classes or is it something else like...training material quality/thoroughness or are training staff able to support the ever increasing number of Instant SRO candidates. Failures in initial operator license examinations and high license candidate drop out rates are impacting staffing needs and challenging the regulators' confidence in our abilities to prepare license candidates.

Could it be an application of fundamental SAT principles: Answer the following questions...

- Are your lesson objectives tied to NRC K&A catalog? If not, inadequate lesson plan objectives and content can prevent candidates from recognizing the knowledge requirement of the training material. (ANALYSES)
- Does your training material lack technical depth and higher cognitive order objectives needed to prepare candidates for the integrated application of the subject matter? (DESIGN)
- Do your periodic progression exams test to the same rigor and cognitive level as the license exam? (DESIGN)
- Do your periodic examination materials receive sufficient validation and approval? (DEVELOPMENT)
- Are the experience requirements for Initial SRO candidates waived or are absolute minimum standards used to ensure an adequate practical knowledge of plant operating systems and processes? (DEVELOPMENT)
- Are the instructors' knowledge, skills, & experience current and strong or are they limited ? (IMPLEMENTATION)
- Are weak performers identified and provided with additional training or removed from the class? Leaving weak performers in the class diverts instructor and other resources that could be focused on high potential performers. (EVALUATION)
- Has your Initial License program content and duration increased with the increase in class size and less experience? 1990 industry average class size was 8 candidates (90% upgrades). 2005 average class size was 16 candidates (~50% instant candidates) (EVALUATION)

All of the above questions were derived from problem statements or causal factors from various root cause analysis performed individually at different sites. Is the solution as simple as.. "Let's get back to the basics." Have we been to busy doing more with less and shortening programs to fit outage schedules that we have not built or programs for success but one of survival? Give us a call and let us help with the solution.

