NWI's THROUGHPUT ASSESSMENT SCREENING (TAS)[1]

Selection of candidates for the high Operator Initial License Training (ILT) failure rates has been described as the primary initiating causal factor from several industry-led causal analyses. The NWI Throughput Assessment Screening Tool (TAS) is designed to address this specific causal factor.[2] TAS is a program that applies a rigorous and objective performance analyses for the evaluation of potential licensed operator (ILT) candidates. The TAS evaluation applies a rigorous performance analysis of potential candidates using a multi-phase processes. To find out more about this selection process, please see the hyperlinked TAS subject areas that describes this selection strategy.

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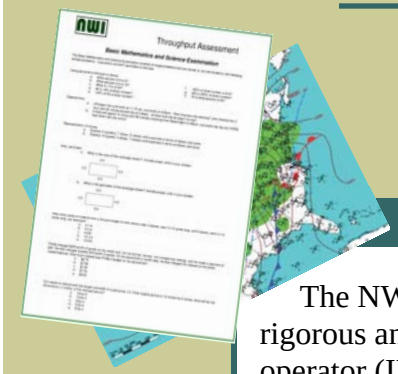
[1] **NOTE: Multiple files are bound together in this PDF Package.** Adobe recommends using Adobe Reader or Adobe Acrobat version 8 or later to work with documents contained within a PDF Package. **If you don't have the latest version of Adobe Reader:**

Click here to download the latest version of Adobe Reader

If you already have Adobe Reader 8, click on a hyperlink in this PDF Package to view it. The NWI Website can be accessed by clicking the underlined link http://www.nwiconsulting.com/ .

[2] NWI Consulting, LLC is a professional consulting firm specializing in power plant services, program assessment, performance improvement, & organizational development. NWI has a broad portfolio of national & international clients in the electrical generation industry with expertise in many areas.



Throughput Assessment Screening

NWI CONSULTING, LLC

The NWI Throughput Assessment Screening or TAS is a program that applies a rigorous and objective performance analyses for the evaluation of potential licensed operator (ILT) candidates. This decision-making tool is designed using a three-phase approach;

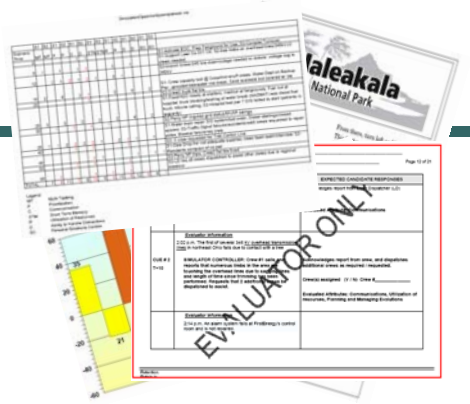
- Basic Mathematics and Science (Entry Level)
- Comprehension (Numerical and Language)
- Situational Awareness (evaluation of seven Fundamental Attributes)

It is conducted as a 1 day assessment per candidate with a confidential performance profile identifying the resultant testing outcome including recommendations for operator license class entry. In addition, developmental areas are highlighted with remediation recommendations provided as part of the TAS summary report.

NWI has a unique price break for clients based on specific student numbers and assessment location. Several advantages that this unique program offers includes:

- Removal of personal bias from final selection decision
- Program conducted at remote or central locations (client preference)
- Assessment yields significant client cost savings (exceptional success predictor)
- Program uses multiple prioritization skill evaluation
- Results in a fixed non-escalating contract price.

Key programmatic features result in a prediction tool that has a technologically and instructionally sound foundation. Inquire soon to find out more about this program from your NWI representative! Call today and start improving the successful throughput of your ILT candidates and save your company lots of resources at a fixed practical price structure.



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Benefits of NWI's Throughput Assessment Screening (TAS)

- **TAS – 4 Evaluation Phases:** Basic Math & Science (BSE), Reading Comprehension (CE), Situational Awareness (SA) Simulation, and Values Psychometric Test.

- **Proprietary Analysis and confidential report to client** containing Candidate Analysis results (all phases), rollup and individual remediation recommendations.

- **Evaluation of ILT candidate's strengths and weaknesses** by employing an evaluated **timed evaluations**; BSE, CE and SA simulation.

- **The site's Operations representative along with the NWI evaluation team observes/evaluates the candidates' performance in a realistic simulation** (SA Phase) ranking performance of 7 key attributes including multi-tasking, priority setting, resources utilization, emotion/stress control, distractions, short-term memory, and communications.

- The candidates' **demonstration of command and control is clearly observable** over the course of the simulation. Observable strengths and weaknesses are identified during a challenging scenario which has been designed to parallel, in a simplified way, the control room operations environment. However, **no prior technical knowledge is needed** as all of the pertinent background information and data are provided.

- During the **SA simulation, interactions with various simulated functions requiring verbalizing thoughts, seeking information, and asking questions** to determine the candidates questioning approach are observable and evaluated. For example their questioning technique, direction, conciseness, and information integration (connection of key data/events (e.g. 2-3 questions deep vs. 4-5 questions deep).is evaluated during the course of the scenario.

- **Candidates demonstrate their innate behaviors** while evaluators observe key attributes and success principles during multiple simulations (similar degrees of difficulty and opportunities for a candidate to demonstrate these key attributes).

- **TAS helps identify the strongest candidate** from the same Department when only one is permitted to attend ILT class (e.g., Trainers, Design Engineers, etc.).

- Written **evaluation of basic mathematics knowledge and general science** (100 multiple choice questions with plausible distracters takes about 2 hours).

- Candidate's **reading comprehension and short term memory is evaluated** by several reading passages that they need to understand and retain. In a timed

manner, written reading passages are distributed to candidates, given timed allowance to read the material and required to answer questions on the passages (without reference material). Questions are increasing in difficulty over the timed evaluation. Candidates are required to retain the information over the entire timed evaluation (about 1 hour).

- A **confidential report** is provided on each candidate (sample attached) containing individual TAS phase scores, analysis, **and potential remediation recommendations**, to supplement the client's standard HR process (e.g., interviews).

- For those **internal candidates that are not chosen**, TAS results can be an **input into their Individual Development Plan IDP**.

- TAS supports **identification of "ready now" candidates for advancement** within an organization for leadership/management positions inside and outside of the operations department.

♦♦♦♦♦♦♦♦

Examples from a TAS Evaluation Report are presented below (a complete report is available upon request)

↓

Appendix A –Individual Candidate Evaluation Results–BSE,CE,SA& Overall

Confidential Personnel Performance Report Summary

Date: XX/XX/20XX
Candidate: John Doe
Last 4 of SSN: XXXX
Client: Client Station
Examination Date: XX/XX/20XX
Location: Client Nuclear Training Center
Testing Proctor: NWI Evaluation Member 1/NWI Evaluation Member 2

Composite Score: 90.13 (Based upon proprietary empirical algorithm)

Individual Scoring:

BSE:	93
CE:	94
SA:	86.76

Strengths:

- Took timely and decisive action that demonstrated appropriate concern for the safety of the plant/equipment, staff, and public at all times during the simulation.
- Keeps all essential personnel and other event personnel informed of events status. Successfully provides others with accurate and pertinent information.
- Mostly, directives enabled safe, integrated and coordinated performance. Remain attentive to indications, stay in a position of oversight, and provide an appropriate amount of direction and guidance that facilitated superior performance.
- Consistently ensures receipt of clear, easily-understood communications from others. Provides repeat backs.
- Mostly provided directives and actions demonstrated thorough understanding of event system operations.

Developmental Areas:

- Few instances of failure to take timely action that resulted in deterioration of conditions or personnel safety. Took early remedial recuperative action when necessary.
- Some instances of omissions, delays or inaccuracies in recognition or verification resulting in event degradation.

Overall Analyses: Acceptable basic mathematics and science score. Subject scored the in the middle tier in SA with multi-tasking, emotion control and communication performance strengths.

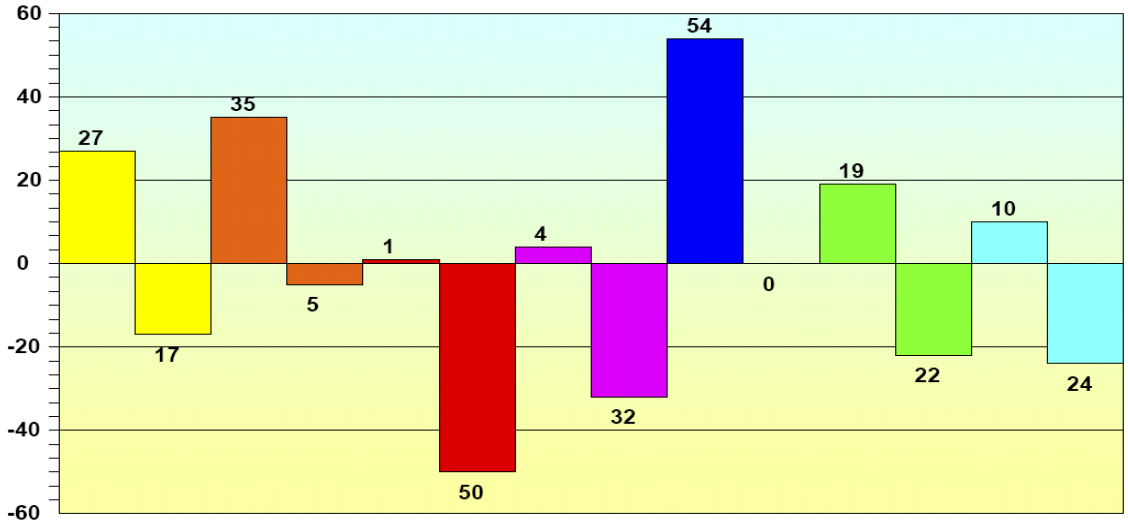
Overall Recommendation: High performer. Due to overall scoring and algorithm rating, this candidate is recommended for ILT admission.

Psychometric: Good integration skills, good drive and strongly respects/follows rules.

Simulation SA Matrix

Simulation: NWI-SimSA-001										
Candidate:	John Doe									
Name										
MSG										
	MT	P	C	STM	R	D	EC			
1		3	3			3				
2	2.5	2.5		2.5	2.5					
3				2	2					
4		2.5				3	3			
5	3	3		2.5	2.5	2.5				
6			3		3	3				
7	3	2.5				2.5				
8	3		3		3	3				
9	2	1.5		1.5	2	2				
10	2.5	2				2.5				
11		1.5	2.5		2	2				
12	3	3	3	3	3	3	3			
13	3	3	3	3	3	3	3			
14	2.5	2.5	2.5	2.5	2.5					
15						2	2			
16	2.5	2.5	2.5	2.5	2.5					
Sum	27	29.5	22.5	19.5	28	31.5	11			
Average	2.70	2.46	2.81	2.44	2.55	2.63	2.75			
Weighting										
	0.68	0.61	0.28	0.24	0.38	0.13	0.28	2.60	<=Overall SA Score	

Psychometric Results



Appendix A –Individual Candidate Evaluation Results–BSE,CE,SA& Overall

Confidential Personnel Performance Report Summary

Date: XX/XX/20XX
Candidate: John Doe 2
Last 4 of SSN: XXXX
Client: Client Station
Examination Date: XX/XX/20XX
Location: Client Nuclear Training Center
Testing Proctor: NWI Evaluation Member 1/NWI Evaluation Member 2

Composite Score: 75.8 (Based upon proprietary empirical algorithm)

Individual Scoring:

BSE:	93
CE:	80
SA:	65.09

Strengths:

- Normally took timely and decisive action that demonstrated appropriate concern for the safety of the plant/equipment, staff, and public. Took early remedial recuperative action when necessary.

Developmental Areas:

- Some instances of directives inhibited safe performance; simulation event participants had to explain why orders could not or should not be followed. Somewhat remained attentive to indications, stay in a position of oversight, and provide an appropriate amount of direction and guidance that facilitated good performance.
- Some instances of failure to take timely action that resulted in deterioration of conditions or personnel safety. Took early remedial recuperative action when necessary.
- Some instances of omissions, delays or inaccuracies in recognition or verification resulting in event degradation.
- Comprehension scored in the lowest in all of the exam population. Analysis of the test data set indicates reading comprehension/data retention performance challenges.

Overall Analyses: Acceptable basic mathematics and science score. Analysis of the test data set indicates reading comprehension/data retention performance challenges. Candidate scored low in SA with short term memory, multi-tasking, resource utilization and communication developmental areas.

Overall Recommendation: Marginal performer. Due to overall scoring and algorithm rating, this candidate is not recommended for ILT admission.

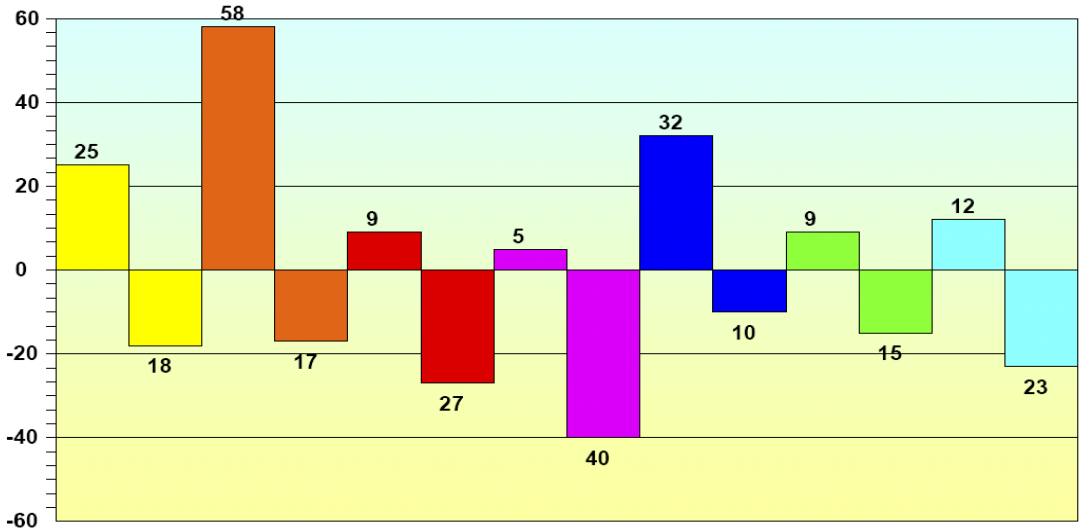
General Remediation Plan (Analyses Team Recommendation): N/A

Psychometric: Moderate integration skills, reasonable drive and lower respect for or following rules.

Simulation SA Matrix

Simulation: NWI-SimSA-001										
Candidate:	John Doe #2									
Name										
MSG										
	MT	P	C	STM	R	D	EC			
1		1	1.5			1				
2		2			2					
3				2	1.5					
4						1.5	2			
5	2	1.5		2	1.5	1.5				
6			1.5		1.5	1.5				
7	2	2				2				
8	1.5		1.5		1.5					
9	2	2.5		2.5	2	2				
10	2	2				2				
11			2			3	3			
12	2	2	2	2	2	2	2			
13	1.5	1.5	2	2	1.5	2	2			
14	2	2	2.5	2	2.5					
15			2			3	3			
16	2	2	2	3	2					
Sum	17	18.5	17	15.5	18	21.5	12			
Average	1.89	1.85	1.89	2.21	1.80	1.95	2.40			
Weighting										
	0.47	0.46	0.19	0.22	0.27	0.10	0.24	1.95	<=Overall SA Score	

Psychometric Results



Candidate Handout
NWI's Throughput Assessment Screening Tool (TAS)

A. Executive Summary

Failures in initial operator license examinations and high license candidate drop out rates are impacting utility staffing needs and challenging the utility's confidence in the ability to prepare license candidates. In general, most utilities have had difficulties in achieving high throughput (e.g., successful licensed candidates/initial number of candidates entering initial license training class *100%) due to numerous factors. A recent INPO Common Cause Evaluation on Operator License Examination Failures indicated that the large number of failures were due to a number of factors of which the most significant include:

- Selection of candidates for initial licensing, both reactor operator (RO) and instant senior reactor operator (ISRO), are lacking formality and rigor. Experience requirements for ISRO are waived or lack the minimum standards required to ensure an adequate practical knowledge of plant operating systems and processes. In some cases candidate selection is based solely on seniority as a non-licensed operator (NLO). Labor agreements sometimes require poorly performing candidates to be re-admitted into the licensing program even after repeated failures or a demonstrated lack of aptitude.
- Training materials lack technical depth and challenging (higher cognitive order) objectives needed to prepare candidates for the integrated application of the subject matter. Periodic progression exams do not test to the same rigor and cognitive level as the license exam.
- Formal processes are not sufficient to closely monitor and track candidate performance. This may mask the need for the early intervention necessary to improve academic performance. Direct observation and oversight by line managers is often focused on performance of existing operating crews during requalification training in the simulator, while initial licensing programs and other training settings often receive minimal observation or oversight.
- Examination materials receive insufficient validation and approval. In some cases, there has been insufficient oversight to ensure the exams will meet NRC requirements.

Selection of candidates for the high ILT failure rate has been described as the primary initiating cause. The NWI ILT Throughput Assessment Screening Tool is designed to address this specific causal factor.

The NWI Throughput Assessment Screening Tool (TAS) is a program that applies rigorous and objective performance analyses of potential licensed operator (ILT) candidates. This decision-making tool is designed using a three phase approach;

- Basic Skills Evaluation (Basic Mathematics and Science)
- Comprehension Evaluation (Reading Comprehension and Problem Solving)
- Situational Awareness.

It is conducted as assessment with a confidential candidate performance profile identifying the resultant testing outcome including recommendations for ILT class entry. Most utilities test for basic mathematics and science abilities with test batteries...so does NWI. In addition, a comprehension evaluation is used to ensure successful short-term understanding (reading and understanding ability). In addition, NWI has added a unique feature, situational awareness, to assist in predicting ILT candidate performance. The situational awareness tool is used to evaluate the candidates' decision-making abilities in a non-linear timed interactive environment. There are parallels to the control room environment including complex and vigilant monitoring of multiple indications, distractions (bonus activities to secure points with varying worth) like procedural/surveillance activities on shift, short term memory tests (tracking paths analogous to system flow paths) and visual recognition of changing/developing abnormalities. Scoring is based upon the candidate's ability to successfully predict an outcome in a timely fashion (points awarded based on recognition time and successful prediction decisions). NWI has developed a unique complex series of algorithms with inter-relationships between each testing module normalized to readily identify differences between high and weak performers. Several advantages that this unique program offers include:

- Removal of personal bias from final selection decision
- Assessment yields significant client cost savings
- Program uses multiple prioritization skill evaluation

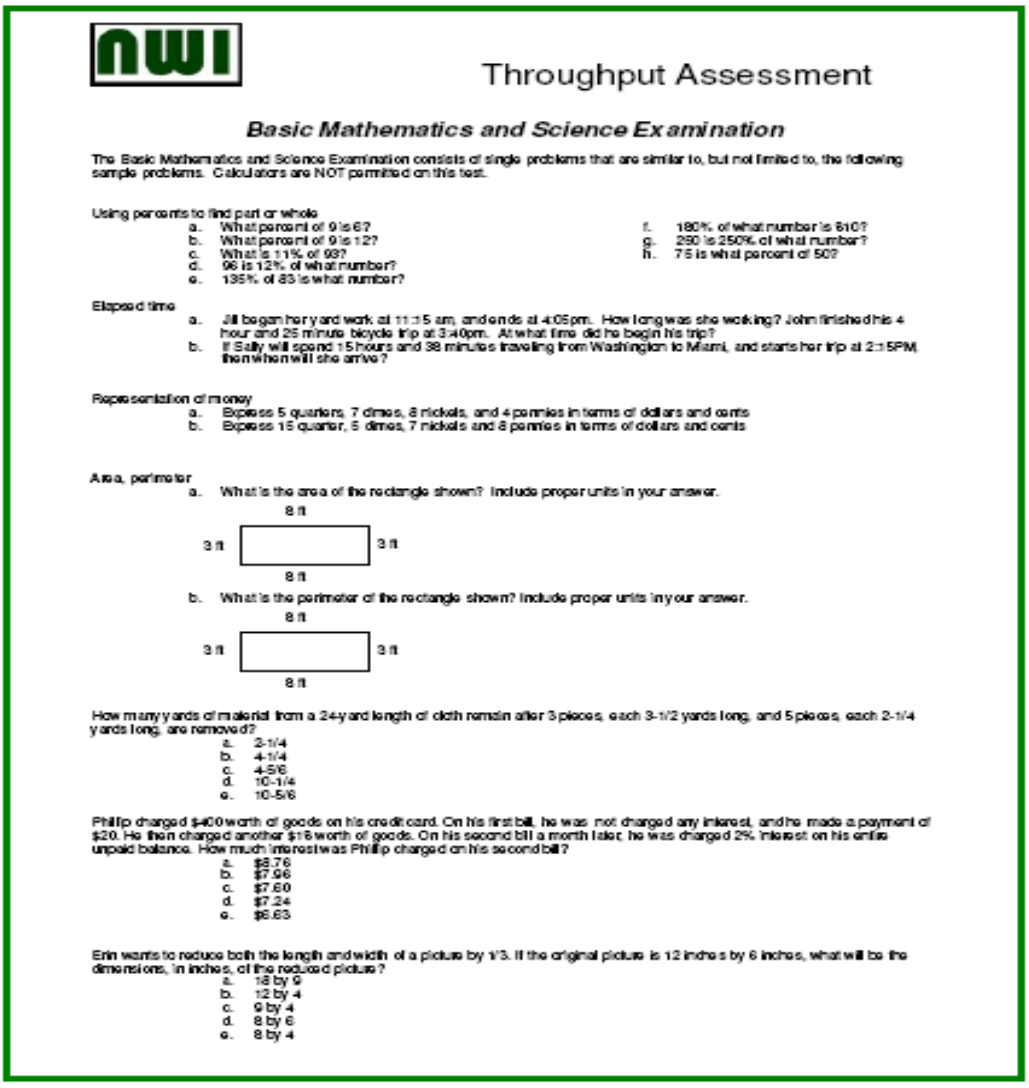
B. General

The NWI Throughput Assessment Screening Tool (TAS) is a three-phase prediction tool primarily designed for determining the probability of an initial license (ILT) or initial non-licensed operator (NLO-I) candidate to successfully complete the ILT or NLO-I training program at U.S. nuclear power plants. The individual performance output of the three examination phases are processed using a complex empirically-derived algorithm that correlates basic mathematics & science knowledge, comprehension and problem solving abilities and situational awareness performance.

C. Throughput Assessment Screening Phase 1: Basic Skills Evaluation (BSE)

The BSE phase of the TAS center is used as an initial benchmark to evaluate entry-level knowledge and understanding of numerical problems and problem solving including integer functions, arithmetic averaging, content area determinations, operations with decimals, fractions, percentages, ratios and proportions, sums, products, division, simple polynomials, numerical skills and problem solving (word problems). The BSE encompasses the following focal evaluation areas;

- **Basic Mathematical Computation & Problem-Solving**
- **Numerical/Graphical Relationships**
- **Statistical Principles**
- **Estimation & Measurement**
- **Basic Science**



Throughput Assessment

Basic Mathematics and Science Examination

The Basic Mathematics and Science Examination consists of single problems that are similar to, but not limited to, the following sample problems. Calculators are NOT permitted on this test.

Using percents to find part or whole
a. What percent of 9 is 6?
b. What percent of 9 is 12?
c. What is 11% of 93?
d. 96 is 12% of what number?
e. 135% of 83 is what number?
f. 180% of what number is 810?
g. 280 is 250% of what number?
h. 75 is what percent of 50?

Elapsed time
a. Jill began her yard work at 11:15 am, and ends at 4:05pm. How long was she working? John finished his 4 hour and 25 minute bicycle trip at 3:40pm. At what time did he begin his trip?
b. If Sally will spend 15 hours and 38 minutes travelling from Washington to Miami, and starts her trip at 2:15PM, then when will she arrive?

Representation of money
a. Express 5 quarters, 7 dimes, 8 nickels, and 4 pennies in terms of dollars and cents
b. Express 15 quarter, 5 dimes, 7 nickels and 8 pennies in terms of dollars and cents

Area, perimeter
a. What is the area of the rectangle shown? Include proper units in your answer.

b. What is the perimeter of the rectangle shown? Include proper units in your answer.

How many yards of material from a 24-yard length of cloth remain after 3 pieces, each 3-1/2 yards long, and 5 pieces, each 2-1/4 yards long, are removed?
a. 2-1/4
b. 4-1/4
c. 4-5/8
d. 10-1/4
e. 10-5/8

Phillip charged $400 worth of goods on his credit card. On his first bill, he was not charged any interest, and he made a payment of $20. He then charged another $16 worth of goods. On his second bill a month later, he was charged 2% interest on his entire unpaid balance. How much interest was Phillip charged on his second bill?
a. $8.76
b. $7.96
c. $7.60
d. $7.24
e. $8.63

Erin wants to reduce both the length and width of a picture by 1/3. If the original picture is 12 inches by 6 inches, what will be the dimensions, in inches, of the reduced picture?
a. 18 by 9
b. 12 by 4
c. 9 by 4
d. 8 by 6
e. 8 by 4

Figure 1. Example of the NWI BSE Phase

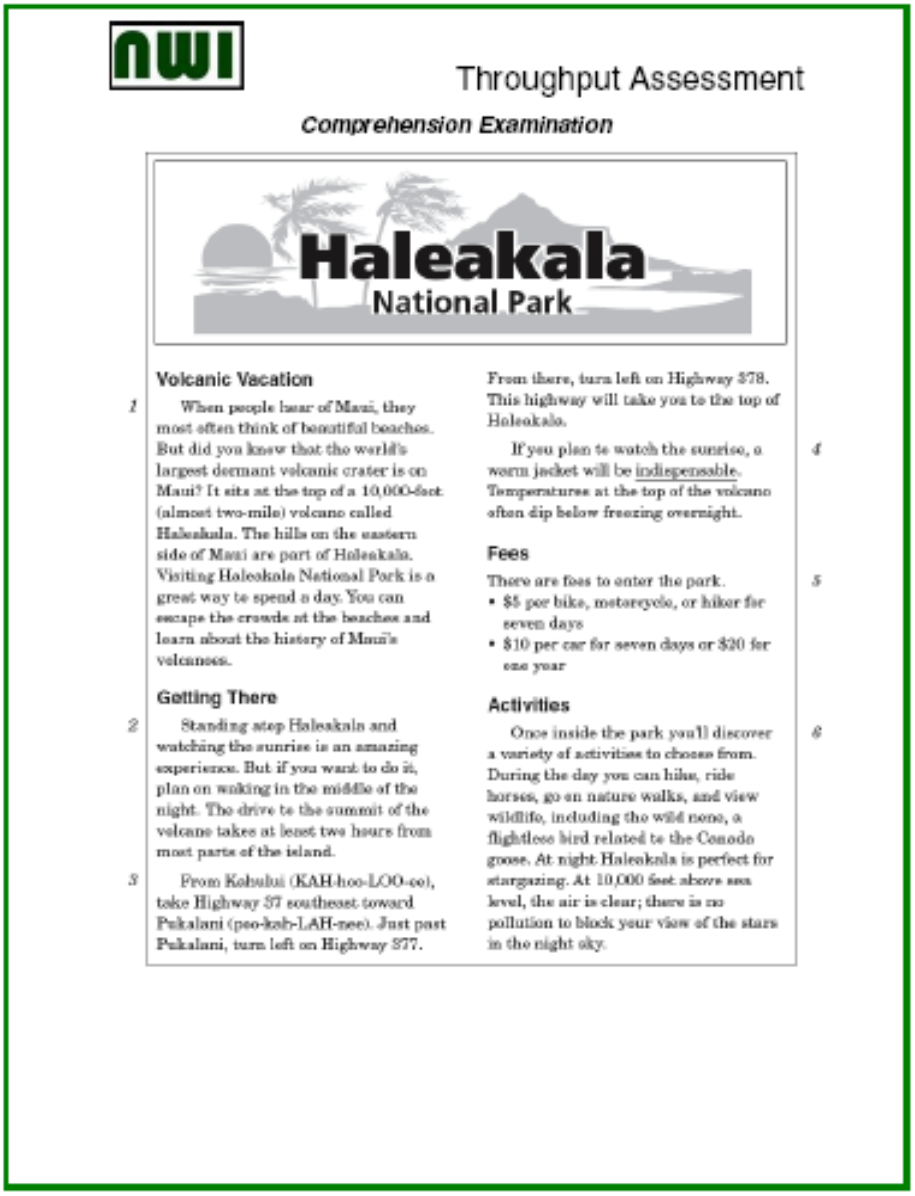
These evaluations are rudimentary and include basic earth science knowledge elements that are evaluated for basic entry-level understanding. The problem solving capability is correlated to the other phases and incorporated into a complex algorithm that is the ultimate cumulative predictor outcome.

D. Throughput Assessment Screening Phase 2: Comprehension Evaluation (CE)

The second phase, CE, is a series of exercises comprised of reading a paragraph and answering questions, both lower

and high cognitive, which evaluates the candidates ability to deductively reason. In addition, the paragraphs are general in nature requiring no prior knowledge of the subject material removing bias from the overall evaluation. Again, problem solving and logic sequence outcomes are primary input into the overall predictor algorithm. While comprehension tests have helped quantify candidates' ability and aptitude for problem solving and deduction, the key to this NWI phase is the correlation that is generated based on the pattern of candidate responses and ultimate decisions. The CE encompasses the following focal evaluation areas;

- **Reading Comprehension & Context**
- **Critical Analyses**
- **Research & Reference Skills**
- **Lower & Higher Cognitive Levels**
- **Retention**



NWI

Throughput Assessment

Comprehension Examination

Haleakala
National Park

Volcanic Vacation

1 When people hear of Maui, they most often think of beautiful beaches. But did you know that the world's largest dormant volcanic crater is on Maui? It sits at the top of a 10,000-foot (almost two-mile) volcano called Haleakala. The hills on the eastern side of Maui are part of Haleakala. Visiting Haleakala National Park is a great way to spend a day. You can escape the crowds at the beaches and learn about the history of Maui's volcanoes.

Getting There

2 Standing atop Haleakala and watching the sunrise is an amazing experience. But if you want to do it, plan on waking in the middle of the night. The drive to the summit of the volcano takes at least two hours from most parts of the island.

3 From Kahului (KAH-hoo-LOO-oo), take Highway 37 southeast toward Pukalani (poo-kah-LAH-nee). Just past Pukalani, turn left on Highway 377. From there, turn left on Highway 378. This highway will take you to the top of Haleakala.

4 If you plan to watch the sunrise, a warm jacket will be indispensable. Temperatures at the top of the volcano often dip below freezing overnight.

Fees

5 There are fees to enter the park.
- $5 per bike, motorcycle, or hiker for seven days
- $10 per car for seven days or $20 for one year

Activities

6 Once inside the park you'll discover a variety of activities to choose from. During the day you can hike, ride horses, go on nature walks, and view wildlife, including the wild nene, a flightless bird related to the Canada goose. At night Haleakala is perfect for stargazing. At 10,000 feet above sea level, the air is clear; there is no pollution to block your view of the stars in the night sky.

Figure 3. Example of the NWI CE Phase

E. Throughput Assessment Screening Phase 3: Situational Awareness Evaluation (SA)

The third phase is the SA phase which determines within a short period of time the candidate's ability to multi-task and predicts situational outcomes while monitoring and making decisions using significant amounts of data. The evaluation is scenario based. Like an operator in the main control room, large amounts of data and critical parameters are required to be monitored and evaluated resulting ultimately in some type of decision. In addition, the amount of system interrelationship information and knowledge required to make such decisions, some distractions compound the operators' problem-solving ability by adding distractions in the ways of surveillances, procedural questions from workers outside of the control room envelope and even questions from the field by non-licensed operators requesting insights about local panel annunciation just to name a few. This phase evaluates the ability of a candidate to ascertain the correct information and prediction from a large amount of scenario-driven variable data streams.

The goal of the scenario exercise is to provide an opportunity to evaluate the potential License candidate's ability to perform activities in the following areas:

- Multi-tasking
- Prioritization
- Communication
- Short Term Memory
- Utilization of resources provided
- Ability to handle distractions
- Personal emotions control

The objectives of the SA is to;

- Demonstrate the ability to predict and / or monitor changes in parameters associated with a given scenario.
- Demonstrate the ability to correctly use procedures or processes to correct, control, or mitigate the consequences of normal and abnormal operations for the appropriate tasks.
- Demonstrate the ability to monitor ongoing developments within a given scenario to ensure proper completion of the appropriate tasks.
- Demonstrate the ability to complete administrative requirements, as necessary, within a given scenario to complete the appropriate tasks.

It is important to note that during the Situational Awareness Phase, the candidate demonstrate their abilities between 1-1.5 hours during scenario evaluations. The output of the results in inputted into the predictor algorithm combining the phases for an overall score.

F. Throughput Assessment Center: Overall Performance Evaluation Algorithmic Analyses

The outcomes of all three phases are inputted into a complex algorithm resulting in a confidential report that is provided to the client. The overall performance evaluation algorithm encompasses the following focal areas;

- **Attention to Detail**
- **Data Retention**
- **Problem Solving**
- **Tracking & Monitoring**
- **Prioritization**
- **Remediation**
- **Recommendation.**

G. Summary

The performance gap that is targeted by the NWI Throughput Assessment Screening Tool (TAS) tool is to:

- Reduce NRC license failures and increase throughput from selection to successful licensure for reactor operator and senior reactor operator candidates.
- Secure a more technically-based decision process for license candidate selection.
- Reduce stranded investment costs from license candidate failures.

Baseline data is being collected which is used to empirically validate and improved precision of the ILT or NLO-I screening and selection prediction algorithm. A group of successful and non-successful candidates (e.g., 15 with an approximately 50/50 split of successful to non-successful candidates) was chosen from a pilot PWR and BWR site (NOTE: The pool of non-successful ILT candidates was selected from technical failures only and not personal, medical or family issue influenced failures). Data analyses indicate that the prediction tool is about 95% accurate (precision of 0.9).

Recent results are surprisingly positive. At a US nuclear power plant, validation of TAS was performed comparing the prediction outcome from experienced instructional professionals (e.g., each with over 35 years of operations training in initial license candidate preparation/instruction) with actual individual TAS evaluation results. The prediction correlated 100% for the sample ILT candidate pool utilized. Also, results from the TAS

evaluations associated extremely well with recent NRC GFES scores yielding a 1 to 1 correlation with respect to candidate ranking and exam performance.

H. Summary

The NWI Throughput Assessment Center is a program that applies rigorous and objective performance analyses of potential licensed operator (ILT) candidates. This decision-making tool is designed using a three phase approach;

- Basic Skills Evaluation (Basic Mathematics and Science)
- Comprehension Evaluation (Reading Comprehension and Problem Solving)
- Situational Awareness.

It is conducted as a 6 hour/candidate assessment with a confidential candidate performance profile identifying the resultant testing outcome including recommendations for ILT class entry.

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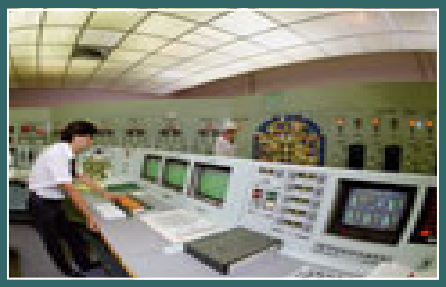
NWI Consulting, LLC

Product/Service Information



Our Client Feedback ….

NMC Monticello Power Plant – "Thanks for coming up on such short notice. Your assessment has provided very strategic recommendations that will help our program." SVP (February, 2004)

DC Cook Power Plant – "Your comments and suggestions will help us get even better and made this a stronger document!" Training Manager (February, 2004)

Exelon Reactor Services – "I really thought the root cause analysis report was comprehensive and well written, especially given the sensitivity of the issues." NWI "really nailed the root causes." Outage Manager (February, 2004)

Quad Cities Station – "Very valuable insights provided" when NWI participated as chair on two preparatory boards. SVP (December, 2003 and November, 2003)

American Electric – "Great report! This will definitely help us get better." Training Manager (January, 2004)

LaSalle County Station – ...in bringing in NWI as mock board support… "We need to do this kind of thing again. The insights really helped us get ready for the accreditation board!", SVP (November, 2003)

Exelon Reactor Services – "The root cause report looks great. Thanks for all your help with this." "Nice job!" Root Cause Reviewer and Project Manager (April, 2004)

Exelon Reactor Services, Dresden Station – "The training materials for dry cask storage re-qual training look great and were very effective. Thanks for all your help with this…" Site Reactor Services Manager (April, 2005)

Three Mile Island – "The probation recovery assistance that you provided was extremely valuable and timely. The recovery strategy was of great help to us in successfully getting us back on track!" Training Director (March, 2005)

FP&L Corporate - "The work on Human Performance NWI did for our plants will definitely take us forward as a company…the deliverables were of high quality and the project was very cost effective!" Corporate Training and Human Performance Manager (October, 2004)

Palo Verde Nuclear Generating Station – "Thanks for helping us get through a very challenging time at PVNGS. I don't know what we would have done without NWI's expert help!" ImPACT Project Group Manager- NRC 95-003 (October, 2007)

San Onofre Nuclear Generating Station –"The leadership review was very thorough and very atypical of most vendor reports...as it had practical actions that we can take action on!" Engineering and Training Vice President (January, 2008)

Exelon New Plant Development –"I have been trying to get results from other vendors and NWI came in and gave us a quality product in just 2 1/2 months!" New Plant Development Manager (April, 2008)

With competitive rates, NWI Consulting, LLC provides power plant and corporate services in numerous areas including training, operations, maintenance, radiation protection, chemistry and emergency preparedness. These areas as well as organizational development strategies and executive management effectiveness are just some of the broad expertise NWI retains. High value and results oriented, NWI Consulting, LLC has a broad portfolio of nationwide clients.

Human Performance **NWI has developed effective strategies and tools such as Dynamic Learning Activities and Human Performance Checklists to help your workforce minimize errors on the job.**

Maintenance **Work management techniques, valve training, instrumentation and controls, and behavior improvement tools are just some of the products and areas of expertise that NWI delivers to obtain effective results.**

Operations **Whether it's configuration control challenges, crew dynamics, simulator fidelity/realism or workforce standards issues, let NWI provide plausible strategies and tools to get results.**

Dry Cask Fuel Storage **Effective implementation of dry cask storage (e.g., spent fuel preparation, transport, and storage) is a critical challenge today. Let NWI's experienced professionals help you train your workforce for this critical work evolution.**

Radiation Protection/Chemistry/EP **Whether your challenges include areas for improvement in source term controls, ALARA, post job critiques, shutdown chemistry strategies, e-plan submittals or workforce standard issues, NWI provides tools which will improve organizational performance in these areas and more.**

Training **Training and qualification can be particularly challenging trying to navigate through accreditation objectives, criteria, and writing standards for Accreditation Self Evaluation Reports. NWI provides critical assessments as well as mock board design and implementation which leads to successful accreditation renewal. In addition, NWI can augment your training staff with experienced professionals, develop NRC ILT exams, conduct effective instructor simulator training as well as developing and conducting training in all of your principle disciplines.**

NWI Consulting, LLC

✓ *Capability, Support and Expertise*

Frank S. Tsakeres, Ph.D., Director of Operations
NWI Consulting, LLC
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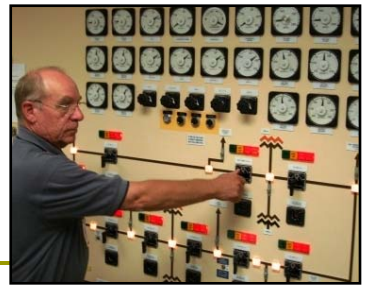
Capability



- NWI Consulting or Nuclear Worldwide Inc.
  - Specialty Nuclear Consulting Since 2003
  - Based in Knoxville, TN
  - Client base in North America and Asia
- Experienced personnel
  - Consortium of over 50 professionals with extensive utility & regulatory expertise (highly skilled staffer through executive levels)
  - NWI has over 350 years of combined training expertise both at NTOLs (current generation) and COL facilities from enhancement of existing training programs, development of new/radically modified training programs, and probation recovery
- High quality deliverables
  - Diverse projects

Areas of Expertise

- Power Plant Support
  - Operations
  - Training
  - Maintenance
  - Engineering
  - Outage & Work Control
  - Radiation Protection
  - Chemistry
  - Performance Improvement (CAP)
  - Oversight (NSRB, NOS)
  - Emergency Preparedness
- Diverse Projects
  - Safety Culture/Leadership Assessment
  - ATV Support/Probation Recovery
  - Executive Coaching/NSRB
  - EPU
  - ILT Throughput Assessment - TAS
  - Dry Cask Storage
  - NRC 95-003 Collective Evaluation
  - INPO PN-14 Recovery
  - CBT (WAN deployed)
  - Simulator (new build integration)
  - Causal Analyses
  - Safety Analysis (50.59)
  - New Reactor Training Design (Human Factors Engineering / Task Analysis)

NWI Recent Client List:

- AEP's D.C. Cook Nuclear Power Plant
- APS's Palo Verde Nuclear Station
- Bruce Power, Ontario Canada
- Constellation's Nine Mile Nuclear, Calvert Cliffs & Ginna Station's
- CNNC and DBNC – Peoples Republic of China
- Detroit Edison's Fermi 2 Station
- Dominion's Millstone Station
- Duke Energy's Oconee, and McGuire Stations
- Energy Northwest's Columbia Station
- Entergy's Grand Gulf, Indian Point, River Bend Station & Corporate (N & S)
- Excel Energy's Monticello & Prairie Island Stations
- Exelon's Byron, Braidwood, Three Mile Island, Clinton, Dresden, LaSalle, Oyster Creek, and Quad Cities Nuclear Stations and Exelon's Outage and Reactor Services, New Reactor Deployment
- Exelon Nuclear Partners
- FPL's Seabrook, St. Lucie, and Turkey Point Stations
- Idaho National Laboratory
- OPPD's Fort Calhoun Nuclear Station
- Progress Energy's Robinson & Crystal River Stations
- PSEGs Salem and Hope Creek Nuclear Generating Stations
- SCE's San Onofre Nuclear Generating Station
- TVA's Watts Bar Plant, Browns Ferry and Corporate

What NWI offers…

- Professional Support…
  - Nuclear Oversight/Quality Assurance
  - Work Management and Outage Support
  - Executive and Mid-Level management support
    - Leadership development/executive effectiveness
    - Safety Culture Assessments/Analyses
  - Technical challenge boards/Mid-Cycle Assessments
  - EPU Engineering Support

What NWI offers…

- Training
  - Instructional Design, Implementation and Evaluation Expertise
    - Professional training and procedure development
    - Interactive Computer-Based Training applications (e.g. Dry Cask Storage CBT)
    - Specific Training Projects (ANSI SRO Certification, Basic Simulator instructor courses, etc.)
    - Dynamic Learning Activity (DLA) and evaluation development and implementation support
  - Extensive Training Accreditation and Recovery Experience - Planning & Recovery Management
  - NRC License Exam Development/ILT Support
  - ILT Throughput Assessment – TAS
    - 3 phase ILT/NLO selection screening tool using candidate performance data in basic math/science knowledge, comprehension and situational awareness. Prediction algorithm based upon performance elements from the 3 phases identifies candidate strengths & weaknesses
  - Simulator Assistance
    - Specification Development
    - Bid Reviews
    - Implementation Assistance
  - Program Evaluations and Effectiveness Reviews
  - Staff Augmentation

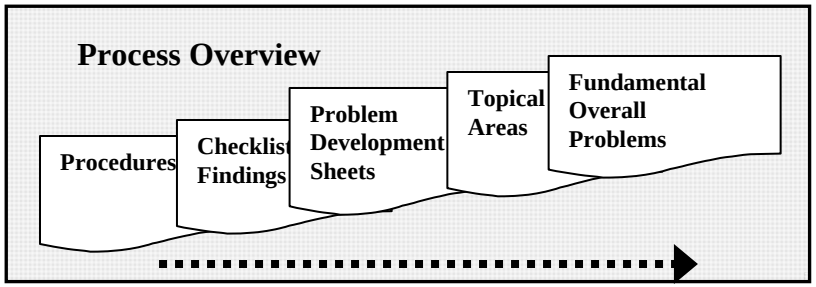
What NWI offers…

- Dry Cask Storage
  - Campaign Leadership/Supervisory Support
    - Tactical Implementation/Monitoring for safe/efficient DCS campaigns
    - High Quality, Experienced Experts – (Multiple Vendor Systems Experience)
  - Procedure Development
  - Training - CBT software/Instructional Support (Traditional Methods)
  - Assessment and Evaluation
    - Improve Performance Through Programmatic Enhancements
  - Coaching/Mentoring
    - Implementation Assistance for Industry Lessons Learned and Good Practices
    - Performance Safety Assessment
      - Nuclear
      - Radiological
      - Industrial

What NWI offers…

- Performance Improvement Expertise
  - NRC/INPO interface strength with extensive Utility/NRC/INPO experience onboard
    - Discipline-specific analyses/critical assessments & causal analyses
  - Performance improvement expertise
    - Corrective Action Program Design and Implementation
    - NRC 95-003 & 002 Inspection Preparation (Complex problem solving and support, collective evaluation, RCA, Effectiveness Evaluation, ACE, Self-Assessment)
    - Problem Identification and Resolution Program Recovery
  - Targeted Management Coaching, Mentoring and Training
  - Staff Augmentation

Areas of Expertise



- NRC 95-003 Inspection Preparation (Example Only)
  - Developing procedures that specify the activities to be carried out in each area, including, for example, the collective evaluation of information developed in individual assessment areas;
  - Creating checklists to guide reviewers and to document observations and findings from specific assessment activities;
  - Developing Problem Development Sheets (PDSs) to describe related checklist findings;
  - Developing Topical Areas (also called Topical Problem Descriptions) to group related findings for presentation to the Review Team; and
  - Developing Fundamental Overall Problem (FOP) statements to describe broad problem areas that appear to underlie station performance issues and warrant further evaluation and corrective action plans.

NWI Consulting, LLC

- ***Why NWI?***
  - **Core Competency is Training, Performance Improvement and Oversight**
  - **Best of Class**
  - **Process Driven**
  - **Practical Approaches**
  - **Proven Performance**
  - **Accountability**
  - **Expertise Depth and Diversity**
  - **Project Team Commitment and Teamwork**
  - **Value-Added Project Results**
  - **Focused on Earning Client Trust**

About Us…

Nuclear Worldwide Inc. (NWI) is a professional consulting firm specializing in power generation performance improvement services, specialized learning interventions, computer based training, organizational development, and professional staff augmentation. NWI has a broad portfolio of U.S. and international clients in the electric generation industry.

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Request for Proposals; Contact Frank Tsakeres by phone at (865) 934-7100 or email at: ftsakeres@nwi-llc.com
Recruiting: Send inquiries and resumes to**: nwi@nwi-llc.com**

NWI CONSULTING, LLC.

WWW.NWI-LLC.COM

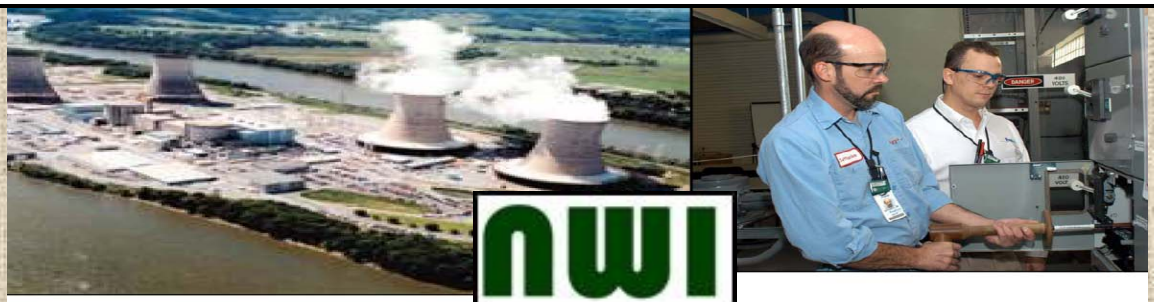
For more information call:
(865) 385-6166

NWI Consulting, LLC is a professional consulting firm specializing in;

- ***Power Generation Performance Improvement Services***
- ***Specialized Learning Interventions and Computer Based Training***
- ***Organizational Development***
- ***Professional Staff Augmentation.***

High value and results oriented, NWI has a broad portfolio of U.S. and international clients in the electric generation industry providing professional staff augmentation power plant services in numerous areas including training, operations, maintenance, radiation protection, chemistry and emergency preparedness.

If you need support for your site or are interested in being part of the NWI team, send your résumé to recruit@nwi-llc.com or contact Frank Tsakeres at (865) 385-6166.



"Committed to Excellence"

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