

Commonwealth Edison Company  
Byron Generating Station  
4450 North German Church Road  
Byron, IL 61010-9794  
Tel 815-234-5441

August 11, 1995

**ComEd**

LTR: BYRON 95-0281  
FILE: 1.10.0101

United States Nuclear Regulatory Commission  
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Byron Station Nuclear Power Station Units 1 and 2  
Response to Request for Additional Information Inspection  
Report 50-454/95006; 50-455/95006 NRC Docket Numbers 50-454;  
50-455

REFERENCES: G. Grant letter to K. Graesser dated July 14, 1995 transmitting  
NRC Inspection Report 50-454/95006 and 50-455/95006

Gentlemen:

This letter provides additional information requested per the G. Grant letter to K. Graesser dated July 14, 1995 transmitting NRC Inspection Report 50-454/95006 and 50-455/95006.

Operations and Training management had been monitoring the increasing number of simulator demonstration failure experienced during the 1995 Annual Operational Examinations. At the end of the examination period (on June 22, 1995), Problem Identification Form (PIF) 454-230-95-0016, "Increasing Rate of License Operator Failure during Simulator Demonstrations," was written. The PIF was self identified by Training and Operations personnel.

This PIF trend investigation was initiated to determine if there were contributors to the increased number of License Operator failures during simulator demonstrations at Byron Station in 1995. The investigation covers a review of data for 1993, 1994 and 1995.

The focus of this investigation was twofold:

- 1) To review and determine if the increased number of failures, as manifested in the 1995 License Regualification Examination process, are supported by an increased number of significant in-plant human performance events.
- 2) To review and determine if there are concerns/problems in the Licensed Operator Training Program that could have lead to this increased number of failures.

(p:95bylrs/950281/081195)

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This investigation produced two major conclusions.

The increase in 1995 simulator demonstration failures is not supported by an increase in significant human performance events by licensed operators in the plant. There was no increase in significant human performance events by licensed operators in the plant.

The results of this investigation are that there was no single root cause among the six simulator failures. The increased number of simulator failures were determined not to have an impact on plant operations. The license operator program is effective overall.

While the increase in simulator exam failures cannot be discounted, only one crew displayed performance that challenged plant safety (i.e. simulator critical task failure). The remaining crews displayed performance that failed to meet Byron Station standards and expectations. All crews were adequately remediated and re-examined prior to resuming license duties.

The standards established for the Operator Regualification Program are in line with Byron Station management expectations for continuous improvement in Operator performance.

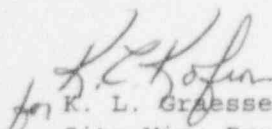
Through the normal progression of the Training System Development (TSD) process the Licensed Operator Training Program at Byron Station continuously undergoes revisions due to a variety of reasons (industry/management standards, operator feedback, in-plant performance, etc.). Several "changes" that had evolved were found to have impacted the license operator regualification program. The root cause report contains recommendations to address these changes. As per the TSD process, improvement areas were previously identified to address programmatic, human performance weaknesses and observations noted during the 1995 Annual Operational Examinations and Inspection. These improvement areas were incorporated into an action plan (attached) which has been updated.

Operations and Training management continually monitor performance of the Operations Department (in Training and in the plant) to ensure that the operators are meeting expectations for continuous improvement. Operations and Training management will constantly incorporate revisions/improvements as required in order to ensure safe operations and continuous improvement.

Byron Ltr. 95-0281  
Page 3  
August 11, 1995

If you have any questions or need additional information, please contact Bob Wegner, Shift Operations Supervisor, at (815) 234-5441 ext. 2215 or Steve Pettinger, Operations Training Supervisor, at (815) 234-5441 ext. 3212.

Respectfully,

  
for K. L. Graesser  
Site Vice President  
Byron Nuclear Power Station

KLG/RC/rp

Attachment(s)

cc: H.J. Miller, NRC Regional Administrator - RIII  
G.F. Dick Jr., Byron Project Manager - NRR  
L.F. Miller Jr., Reactor Projects Chief - RIII  
H. Peterson, Senior Resident Inspector - Byron  
D. L. Farrar, Nuclear Regulatory Services Manager - Downers Grove  
Safety Review Dept., c/o Document Control Desk, 3rd Floor - Downers Grove

Byron Station License Regual Training Performance "Action Plan"

Developed for Upper Management 6/25/95. Updated 8/08/95

I. Investigate the Trend PIF (Trend #95-16 written 6/22/95)

- 1) Select Team Members from R.A., Ops, Training, PTD  
RCE Lead - Bill Pirnat  
Operating - Tim McDougal (NSO)  
Training - Jeff Hamilton  
Training / Operating - Ray Franklin  
Production Training Department - Paul Digiovanna

[Completed 6/27/95]

- 2) Finalize the Root Cause Action Plan

[Completed 7/03/95]

- 3) Collect License Regual Training AND Operational Plant Performance Data (ie. "gather and establish facts")

Suggested Start:

- Review 93, 94, 95 Data
- JPMs, Simulator, Quiz Pass Rate (quarterly and annually)
- Individual / Crew Trends
- Analyze scenario issues
- Analyze In Plant Operations Performance

Perform Interviews/Surveys of operators, instructors, etc.

Evaluate 'type of failures' (Training vs. Plant)

Write the PIF Report and receive approvals

[PIF Report signed by Station Manager on 8/10/95]

II. Each SE will 'brainstorm' with their crews to collect possible causes/reasons for training trend. This will be fed into the Root Cause investigation to be compiled with 'change analysis'.

[Completed. Six Operating Dept. Crews and Training Dept. Instructors submitted 'brainstorming items' on 7/06/95.]

III. Identify ALL the NRC Concerns/Weaknesses and issue TRR's:

Examples:

- Individual and crew performance should be traced 'Low Power'
- Simulator Sets should be evaluated
- Appraisal and Remediation Documentation can be more complete
- JPMs should be evaluated more frequently
- ROs should be reminded that Simulator sets can be stopped in the middle for training (I-view item)

[Completed. Fifteen Training Revision Requests (TRR's) written by 6/30/95]

- IV. Communicate 1995 NRC Regual Program Inspection Comments/Conclusions to all licensed operators.

[Completed. All licenses received cc-mail 6/30/95]

- V. Operations Manager & Shift Operations Supervisor to introduce 3rd Quarter Regual Classes.

Discuss:

- Facts and concerns from 2nd Quarter Regual Period
- Personal responsibility in training and on shift
- Being Self Critical on individual performance
- Being part of solution

[Ongoing. Shift Operations Supervisor communicating expectations on first day of regual training.]

- VI. Develop and implement a system to track individual/crew performance (over a period of time). System will feedback to supervisors for Evaluations or other Actions. The Supervisors (eg. SE) should observe all their crew members.

[Completed 7/28/95. Computer program will track written exam and simulator performance. BTP 100-16 revision.]

- VII. Ensure a Formal Feedback Mechanism for communicating training or operating performance issues to all license holders (expanded use of Required Reading possibly).

[Completed 7/28/95. TRR 95-153 written to capture student and instructor issues per BTP 100-16.]

- VIII. Validate & Verify (ie. human factor) Procedures for the following JPM concerns:

- QPTR BOS
- S/G PORV, Manual Operation BOP
- Inverter to CVT Transfer

Special consideration to procedure enhancements and tagging/label improvements.

[Completed 6/28/95. No problems were found procedurally. Tagging/labeling improvements to occur.]

Validate & Verify Procedures for the Simulator Concerns:

- BFR H.1
- Feed & Bleed Criteria
- Use of PZR Heaters
- BEP-2 SG Isolation

[J. Bowers, B. Quigley due 8/17/95]



IX. Consider and develop aids/enhancements for the Procedure Reader/SRO.

These Include:

- Method to formally check that all BEP Steps are read and performed
- Method to ensure all Procedure Continuous Action Steps are followed
- Method to ensure the Operator Action Summary Sheets are reviewed during procedural usage

[S. Swanson, B. Quigley due 8/17/95]

X. Each SE will perform a crew Self Assessment on the "Communications Standard, Ops Policy #400-21". S/A to address: what works good; what needs discussion; what's not understood; etc.  
Enhancements will be incorporated in a revision to the Policy.

[Shift Engineers, J. Heaton due 8/17/95]

XI. Consider Regual Training 'Back to Basics'.  
(eg. Read EOP's and Bases in class, present Systems 'straightforward', evaluate simulator board time)

[M. Brown, S. Pettinger, B. Wegner due 8/17/95]

XII. Evaluate/Re-train on generic weaknesses from 2nd Quarter:

Simulator Examples

- BFR H.1 ("Hot Dry S/G", Continuous Action Step, Feed & Bleed Criteria), BCA 2.1
- RCS Temperature Stabilization-Post Faulted S/G
- PZR Htr Control (RO responsibilities)
- SG PORV/Steam Dump Control relative to RCS Heatup or Cooldown rate (use of computer point on CRT #3)

[S. Fruin evaluation due 8/17/95, training completed by 12/11/95]

XIII. Discuss the Final Conclusions and Completed Actions with the NRC.

[Completed 8/10/95. Letter, Action Plan, and PIF Report distributed to NRC]

ComEd Company  
Trend Investigation Report

Report Number: Trend 95-016 (PIF 454-230-95-0016)

Evaluator: Bill Pirnat (Root Cause Analysis Process Expert)  
Ray Franklin (Shift Engineer in Training Department)  
Jeff Hamilton (Operations Training Instructor)  
Paul Digiovanna (PWR Operations Training Supervisor, PTC)  
Steve Pettinger (Byron Operations Training Supervisor)  
Tim McDougal (Licensed NSO)  
Nick Crawford (Licensed EO)

Item Date: 6/22/95

Rev Number: 00

Title: Increasing rate of License Operator failures during  
simulator demonstrations

Executive Summary:

This PIF trend investigation was initiated to determine if there were contributors to the increased number of License Operator failures during simulator demonstrations at Byron Station in 1995. The investigation covers a review of data for 1993, 1994 and 1995.

The focus of this investigation was twofold:

- 1). To review and determine if the increased number of failures, as manifested in the 1995 License Regualification Examination process, are supported by an increased number of significant in-plant human performance events.
- 2). To review and determine if there are concerns/problems in the Licensed Operator Training Program that could have lead to this increased number of failures.

This investigation produced two major conclusions.

The increase in 1995 simulator demonstration failures is not supported by an increase in significant human performance events by licensed operators in the plant. There was no increase in significant human performance events by licensed operators in the plant.

Procedure usage was the only common causal factor between simulator performance and the in-plant events by licensed operators. Twenty-two percent (5 of 23) of the 1995 in-plant licensed operator events (first quarter data) and 33% (2 of 6) of the 1995 simulator demonstration failures could be attributed to procedure usage.

## Executive Summary: (cont.)

The licensed operator program is effective overall.

Through the normal progression of the Training System Development (TSD) Process, the Licensed Operator Training Program at Byron Station continuously undergoes revisions due to a variety of reasons (industry/management standards, operator feedback, in-plant performance, etc.). Several "changes" that had evolved were found to have impacted the license operator regualification program. Procedure usage was impacted by two areas of change: classroom training time and methodology (procedure review). The ability to meet management expectations was impacted by two areas of change: simulator standards (enforcement of standards) and the simulator self assessment process.

The results of this investigation are that there was no single root cause among the six simulator failures. The increased number of simulator failures were determined not to have an impact on plant operations. While the increase in simulator exam failures cannot be discounted, only one crew displayed performance that challenged plant safety (ie: simulator critical task failure). The remaining crews displayed performance that failed to meet Byron Station standards and expectations. The standards established for the Operator Regualification Program are in line with Byron Station management expectations for continuous improvement in Operator performance. All crews were adequately remediated and re-examined prior to resuming license duties.

## Background:

On June 22, 1995, Problem Identification Form (PIF) 454-230-95-0016 "Increasing rate of License Operator failures during simulator demonstrations" was written. The PIF was self identified by Training and Operations personnel as the result of a noted increase in 1995 annual simulator operational exam failures over 1994 and previous years.

## Methodology:

In order to do a complete evaluation, a methodology or process is necessary as a "how to" guide for the individual or team performing the investigation. Commonwealth Edison Byron Station uses a Root Cause Process consisting of many accepted analytical techniques. This PIF trend analysis was performed using various analytical techniques including document review, change analysis, barrier analysis, and interviews.

Training performance data reviewed consisted of exam results, classroom and simulator topics for 1994-1995, training methods and techniques in addition to formal written operator and management feedback. Human performance event PIFs for 1993-1995 and previous PIF trend reports, both for the overall Station population and specifically for licensed operators, were also analyzed.

During the change analysis over 20 changes were initially identified. These 20 were narrowed down to 6 that had a potential impact on the training performance observed. These 6 were then substantiated and/or refuted through interviews and data review.



#### Methodology: (cont.)

In addition, 12 licensed individuals were interviewed to substantiate or refute the impact of these changes. Interviewees were picked to provide a cross section of instructors, managers, and operators who both passed and failed the exam. A standardized list of questions was developed to perform the interviews (see attachment). These questions were developed based on brainstorm sessions from all 6 Operating Department crews, brainstorm sessions from Byron Training Instructors, and from data reviewed.

#### Results of Investigation:

The investigation covers a review of data for 1993, 1994 and 1995. During this time frame the following failures were noted:

<u>Year</u>	<u># of Sim Demo Crews</u>	<u># of JPMs</u>	<u>Written Exams</u>	<u>Written Test Score Avg.</u>
1993	0 of 24	23 of 465	0 of 93	95.5%
1994	1 of 24	18 of 470	5 of 94	94.5%
1995	6 of 23	16 of 445	0 of 24*	95.6%*

\*Year to Date--written exams not complete for 1995

#### The focus of this PIF Trend investigation was twofold:

Focus one was to review and determine if the increased number of failures, as manifested in the 1995 License Regualification Examination process, are supported by an increased number of significant in-plant human performance events.

The investigation considered written examinations, the six simulator demonstration failures and 16 JPM failures that were experienced during the 1995 requalification exams. To date, written examination and JPM pass rates have been and continue to be consistently greater than 94%. Therefore, concentration of this investigative effort was in the simulator demonstration failures. Two causal factors for the 6 simulator failures were determined to be verbal communication errors (lack of information exchange) and work practice errors (procedure usage/diagnostics).

This investigation determined that the increase in simulator failures is not supported by an increase in significant human performance events by licensed operators in the plant.

Results of Investigation: (cont.)

Byron Station data shows that in 1993 1285 PIFs were written, in 1994 2214 PIFs were written and in 1995 the station is at a pace to reach 3000 PIFs. Significant in this data is the increase starting with 1994. The increased number of PIFs reported is due to the lower threshold created in early 1994. Based on a self assessment, an Integrated Reporting Program (IRP) awareness training was conducted. This in conjunction with frequent management communications resulted in a reduced threshold for PIF generation. This generated an increase in nonsignificant events recorded. Studies show that on average, for every 10 non-consequential events, one significant event will occur. Since the significant (level three) events had not increased, this supports the conclusion that the increase in the non-consequential (level four) events is primarily due to the reduced reporting threshold. Based on data reviewed, significant PIFs involving licensed operators showed a slight decrease: 20 Human Performance Events in 1994 (4 LERs in 3rd and 4th quarters combined); 7 Human Performance Events in the first 6 months of 1995 (2 LERs in 1st and 2nd quarters combined).

Causal factors were evaluated for commonality between simulator and in-plant events. Procedure usage was the only common causal factor between simulator performance and in-plant events by licensed operators. Of these events, it can be concluded that 22% (5 of 23) in-plant licensed operator events and 33% (2 of 6) simulator failures could be attributed to procedure usage. Both the simulator demonstrations and the plant procedure usage errors could be classified as "inattention to detail". This concern has previously been identified in PIF Trends 95-009 (Wrong Unit/Train/Component) and 95-011 (Mispositionings). JPM failures also showing a common causal factor of procedure usage are being addressed in part by the corrective actions identified for in-plant events. The most notable of these actions is to provide Questioning Attitude/Quality Verification and Validation (QVV) training (Trend 95-009) and review the self check training presentation to help the operators better internalize self checking (Trend 95-011).

Focus two was to review and determine if there are concerns/problems in the Licensed Operator Training Program that could have lead to this increased number of failures.

A thorough review of the simulator failures was conducted. The three shift crew and three staff crew failures involved four exam scenarios. The following is the breakdown of these scenarios.

Sim Exam Number	Title	Times used	Failures
BY-04	Loss of Heat Sink with subsequent Faulted S/G (FW Break)	6 crews	2 shift crews 1 staff crew
BY-05	ATWS with subsequent Faulted S/G	4 crews	1 shift crew
BY-10	Dropped Rod and S/G Tube Rupture	6 crews	1 staff crew
BY-29	Faulted/Ruptured S/G with failure of Steam Line Isolation	4 crews	1 staff crew

Results of Investigation: (cont.)

This review resulted in no single common cause being identified among the six failures. While the increase in simulator exam failures cannot be discounted, no major problem in the licensed operator program was found. The licensed operator program is effective overall.

Two of the failures associated with BY-04 involved usage of Functional Restoration Procedure BFR H.1. One of these failures concerned the amount of FW supplied to a "Hot-Dry S/G". The other failure involved the initiation of "RCS Feed and Bleed" when FW had been isolated by operator action. This action was not communicated to the SRO.

The third failure associated with BY-04 was caused by operator performance deficiencies prior to the implementation of the emergency procedures.

The failure associated with BY-05 was based on not closing all of the AF isolation valves for the Faulted S/G.

The failure associated with BY-10 was based on incorrect actions taken by the crew during performance of Abnormal Operating Procedure BOA ROD-3 in response to the Dropped Rod.

The failure associated with BY-29 was based on lack of communications regarding the actions taken for FW flow to the Faulted S/G.

Communication problems were noted in two of the six failures. These incidents involved failure to exchange information. They were not associated with the communications standard enhancement made in August, 1994 which involved three-legged communications. This standard was first formally trained on in the fourth quarter of 1994 requalification training, continually re-enforced in simulator training, and trained on in the classroom in the second quarter of 1995 using a video tape produced by the Station. Communications training material and overall performance was reviewed and found to be appropriate.

This investigation determined that only one failure should have been tied to a Simulator Scenario "Critical Task". The evaluation process considers successful completion of all Critical Tasks in addition to several "Competencies". The remaining five failures were based on station standards (Competencies). These five failures were not tied to unsafe operations.

Results of Investigation: (cont.)

A review of the simulator exam failures was performed to ensure validity of the listed critical tasks and to see if any new critical tasks were identified. This review identified that the critical tasks listed were valid. However, successful completion criteria was more restrictive than required to mitigate the casualty. Originally two crews were failed based on critical tasks. A review of these two failures indicated that these crews had successfully completed the goal of the critical task, although they did not meet station standards. The crews would still have failed based on not meeting management's expectations. However, their actions were sufficient to prevent significant plant degradation.

In scenario BY-05, the critical task was to isolate all Feedwater to the faulted Steam Generator with the intent to stop the RCS cooldown. While the actions of the crew in throttling Auxiliary Feedwater flow met the intent of the critical task, the failure to close the Aux Feed 13s was a violation of the procedure which resulted in the crew failure. The crew had throttled AF flow to a value low enough to stop an RCS cooldown which alleviated the safety significance of the event, therefore the failure should not have been documented as tied to a critical task.

In scenario BY-29, the critical task was to throttle flow to all S/G's to 25 gpm. This is to reduce RCS cooldown and maintain S/G tubes wetted for subsequent cooldown once S/G isolation can be completed. The crew throttled all S/G's to 25 gpm except the faulted S/G which was throttled to 0 gpm. This is acceptable since the faulted S/G would never be used in subsequent cooldown once isolation was completed. The SRO was not informed that flow was throttled to 0 gpm on the faulted steam generator, resulting in crew failure based on lack of communications. The crew throttled flow as required to the remaining intact steam generators, stopping the RCS cooldown which alleviated the safety significance of the event. Therefore, the failure should not have been tied to a critical task.

In scenario BY-04, one "new" critical task was identified based on the actions taken by one of the crews. A crew member failed to inform the SRO that Feedwater had been manually isolated. The crew proceeded to initiate "RCS Feed and Bleed" without the benefit of this knowledge. The new critical task was to reestablish FW flow prior to initiating "Feed and Bleed". The initiation of "Feed and Bleed" led to a reduction in the margin of safety other than that introduced by the original scenario.

Based upon these critical tasks discrepancies, it is recommended that training adopt a formal method of evaluating critical tasks before and after exams. (Recommendation 5)

Procedure usage was impacted by two areas of change: classroom training time and methodology. The ability to meet management expectations was impacted by two areas of change: standards (enforcement of standards) and the self assessment process.



### Results of Investigation: (cont.)

The change analysis identified six changes to the training program, confirmed through interviews and data review, as having potential impact on the simulator demonstration results. These changes were:

- Amount of Training Time
- Training Methodology/Content
- Changing Standards (enforcement of standards)
- Training Scenario Level of Difficulty
- Simulator Post Scenario Self Assessments.
- Instructor Personnel Turnover

The procedure training process was changed from formal classroom lectures to a self study method in 1992 due to operator feedback. Based on interviews this current method of procedure review was determined to be less effective than other training methods (such as formal lectures). Operators do not routinely use background documents or other references to assist in their review of procedures. Also, there is a disconnect between Operations Management expectations and the shift personnel in regards to performing procedure reviews on shift. (Recommendations 1 and 2b)

The following is a breakdown of the training hours for the operating requalification program.

Setting/Year	1993	1994	1995 (projected)
Classroom hours	114	122	104
Simulator hours	60	60	70
Self Study hours	130	82	66
Annual Exams hours	16	16	16
TOTAL HOURS	320	280	256

The total training time has been reduced over the last three years in an effort to improve training and operations efficiency. It was noted in 1993 that classroom self study time was not fully utilized. Therefore, self study time and total training hours were reduced from 1993 to 1994. The slight reduction in hours from 1994 to 1995 was made to accommodate the operating department 12 hour schedule. Annual NGET and Leadership III training attended by all operators was not included as part of the training time summarized in the preceding table. Although the licensed material contact time has not substantially changed, the classroom self study time provided during the continuing training program has decreased. (Recommendation 2a)



Results of Investigation: (cont.)

Operator perception is that training time is reduced by the presentation of non-technical training that does not directly prepare them to pass their exam. Crew feedback identified that the topics presented which helped them to pass their annual exam were the best use of allotted training time. Interviews with management indicated that the purpose of the Licensed Operator Requalification Program is to develop a well rounded fully qualified operator. This resulted in a recommendation that the goals of the licensed operator training program be reiterated to the operators. (Recommendation 2c)

The current process of *post scenario self assessment* in the simulator needs improvement. This process for simulator critiques was established in the fall of 1994 and involves the crew (lead by the SRO) evaluating their own performance on the simulator under the facilitation of an instructor. The operator feedback and management observation of the process indicated that the process can be more effective in assessing all operator skills. This is due to the crew members' difficulty in observing performance and in being self critical, and the instructors' hesitancy to intervene in the self assessment process. (Recommendation 4)

The perception is that *standards* are applied differently from 'training sets' to 'evaluation sets'. Training critiques have changed over the past few years. Previously instructors had critiqued the crew on every area that needed improvement. More recently, the instructors concentrate on a few major improvement areas to increase overall critique effectiveness (i.e., operator retention of lessons learned). Evaluation critiques have always concentrated on all areas needing improvement. (Recommendation 3). In 1994 and 1995, the evaluation standards were more critically applied. Previously, the operators would fail if their performance led to a missed critical task. Most recently, a higher emphasis is being placed on satisfactory performance of crew and individual competencies.

The two areas that were evaluated and found to have no impact on the failures experienced were *training turnover* (personnel) and *training scenario level of difficulty*. Training staff turnover was generally viewed as a positive change. The difficulty of training scenarios has not appreciably changed as evidenced by the review of materials and through interviews.

### Recommendations:

- 1). The operations and training departments should evaluate methods to improve procedure training. Formal procedure training should be given more frequently.
- 2). The operations and training departments should evaluate methods to improve the efficiency of training time.
  - a). Increase the effectiveness of classroom self study time.
  - b). License holders should take advantage of opportunities for Self Study.
  - c). The operations and training departments should communicate to the operators that the purpose of the Licensed Operator Regualification Program is to develop a well rounded, fully qualified operator.
- 3). The purpose and goals of simulator Training set critiques versus Evaluation set critiques should be communicated to operators.
- 4). The simulator post scenario Self Assessment process should be evaluated to increase its effectiveness.
  - a). The crews, with the instructor's facilitative assistance, need to ensure that performance is critically assessed as it relates to operating standards.
  - b). To allow the SRO to function in an oversight capacity and evaluate the performance of the crew more effectively, evaluate the implementation of 5 person crews for simulator training. This will allow human performance standards (procedure usage, communications, self checking, independent verification, questioning attitude) to be further evaluated and re-enforced by on-shift personnel.
- 5). Training should adopt a method to perform a formal review of Simulator Critical Tasks before and after the exams to ensure the validity of the existing tasks and whether any new critical tasks were created based upon scenario outcome.

### Previous Trends and Industry Events:

A computer search using the "STAIRS" program database revealed no events of the same nature or corresponding data. The database search was performed using the key words: operator and failures, licensed and simulator and licensed operator failures to establish applicable previous documents.

Based on the above, no documents were determined to be applicable to this trend.

ComEd Company  
Trend Investigation Report

Report Number: Trend 95-0016 (PIF 454-230-95-0016)

Evaluator: Bill Pirnat (Root Cause Analysis Process Expert)  
Ray Franklin (Shift Engineer in Training Department)  
Jeff Hamilton (Operations Training Instructor)  
Paul Digiovanna (PWR Operations Training Supervisor (PTC))  
Steve Pettinger (Byron Operations Training Supervisor)  
Tim McDougal (Licensed NSO)  
Nick Crawford (licensed EO)

Item Date: 06/22/95

Rev Number: 00

Title: Increasing rate of License Operator failures during  
simulator demonstrations

On-Site Review:

OSR Disciplines Required:

ABG

SG Skutumpah 8/7/95  
SED DATE

	REVIEWER	DISCIPLINES	DATE
RA	<u>D. Smith</u>	<u>ABG</u>	<u>8/7/95</u>
SED	<u>SG Skutumpah</u>	<u>ABFG</u>	<u>8/7/95</u>
OP	<u>R. Wagner</u>	<u>ABG</u>	<u>8/8/95</u>
Other	<u>SG Skutumpah</u>		<u>8-7-95</u>
	<u>SG Skutumpah</u>		<u>8-7-95</u>
	<u>SG Skutumpah</u>		<u>8-7-95</u>
Station Manager:	<u>K.C. Kofun</u>	<u>ABG</u>	<u>8/10/95</u>

## SUPERVISORY/MANAGEMENT QUESTIONS

What do you feel the licensed training program's biggest asset/strength is?

liability/weakness?

Give an example of the 1 or 2 things in the license training program that you would change!

Do you feel that the instructor turnover has affected the quality of licensed operator training?

How much time do you spend in training sets observing crew and instructor performance?

Do you feel simulator instructors during training sets apply the standards to your expectations?

Do you feel the operators understand the purpose/benefits of "soft skills" training?

What information do you feel should be available for license training procedure self reviews?

What do you feel are the benefits and drawbacks of the Self Assessment (Sim Demo) process?

Do you feel the written exams go beyond the scope of the operators job?

Specifically in what areas (if any)?

How effective is self study time now?

How effective was self study time in the past?

How would you rate the difficulty of training sets now versus the last 2 or 3 years?

How would you rate the difficulty of evaluation sets now versus the last 2 or 3 years?

## INSTRUCTOR QUESTIONS

What do you feel the licensed training program's biggest asset/strength is?

liability/weakness?

Give an example of the 1 or 2 things in the license training program that you would change!

Do you feel that the instructor turnover has affected the quality of licensed operator training?

Do you feel the procedure self review is effective?

If not why not?

Of the license operator training that you present what do you feel does not enhance operator knowledge?

If any. Why?

Do you feel the operators understand the purpose/benefits of "soft skills" training?

Do you feel the expectations (B Ws) during evaluation sets differ from your expectations during training sets?

In the course of normal (everyday) simulator training do you see a degradation in the background knowledge or general application of emergency procedures?

Do you feel the license operator training program is meeting Bob Wegners expectations and the expectations/needs of the licensees?

What do you as an instructor perceive your role to be in the simulator self assessment process?



Do you feel that the self assessment process is successful in identifying and correcting concerns/problems?

Do you feel the written exams go beyond the scope of the operators job?

Specifically in what areas (if any)?

How effective is self study time now?

How effective was self study time in the past?

How would you rate the difficulty of training sets now versus the last 2 or 3 years?

How would you rate the difficulty of evaluation sets now versus the last 2 or 3 years?

## NSO/SRO QUESTIONS

What do you feel the licensed training program's biggest asset/strength is?

liability/weakness?

Give an example of the 1 or 2 things in the license training program that you would change!

What information do you use when you do your procedure reviews?

Is the information readily available?

Do you feel the standards are applied differently from training scenarios to formal evaluation scenarios?

Specifically what standards do you feel are different?

(show interviewee standards and get examples)

Do you feel training which enhances human performance traits/abilities is applicable to license training?

What do you feel are the benefits and drawbacks of the Self Assessment (Sim Demo) process?

Do you feel that the written exams go beyond your job scope?

If so; Specifically in what areas?

How effective is self study time now?

How effective was self study time in the past?

How would you rate the difficulty of training sets now versus the last 2 or 3 years?

How would you rate the difficulty of evaluation sets now versus the last 2 or 3 years?

! Of the training that you get, what do you feel does not enhance operator knowledge?

Why?

Do you feel that the instructor turnover has affected the quality of licensed operator training?