TRAINING WARNING FLAGS

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Abstract

Problems in accredited training programmes at US nuclear stations have resulted in several programmes having their accreditation status designated as probationary. A limited probationary period allows time for problem resolution before the programmes are again reviewed by the National Nuclear Accrediting Board. A careful study of these problems has resulted in the identification of several "Training Warning Flags" that singularly, or in concert, may indicate or predict degraded training programme effectiveness. These training warning flags have been used by several US nuclear stations as a framework for self-assessments, as a reference in making changes to training programmes, and as a tool in considering student and management feedback on training activities. Further analysis and consideration of the training warning flags has developed precursors for each of the training warning flags. Although more subjective than the training warning flags, the precursors may represent early indicators of factors that may lead to or contribute to degraded training programme effectiveness. Used as evaluative tools, the training warning flags and the precursors may help identify areas for improvements in training programmes and help prioritize training programme improvement efforts.

1. INTRODUCTION

In 1996, problems in accredited training programmes were resulting in several programmes being placed in a probationary status. Careful analysis of probation cases from the previous five years and other problems in training programmes were analyzed to identify common problems that resulted in probation or other degradation of training programme effectiveness. Problems were identified and grouped in seven common categories. These categories were designated as training warning flags.

Periodically, problems that lead to or contribute to probation in accredited training programmes are reviewed to determine if adjustments to the training warning flags are needed.

The training warning flags are:

1. **LACK OF OWNERSHIP**
2. **WEAK SELF-ASSESSMENTS**
3. **STUDENT DISSATISFACTION**
4. **ISOLATIONISM**
5. **WEAK USE OF A SYSTEMATIC APPROACH**
6. **INSUFFICIENT TRAINING EXPERTISE**
7. **DISTRACTIONS**

Each training warning flag is discussed in the following sections.

2. TRAINING WARNING FLAGS

2.1. Lack Of Ownership

Strong involvement and participation of training and line managers are vital components of robust training programmes. Conversely, weak ownership of training programmes has contributed to degraded training effectiveness at some stations. An indicator of weak ownership of the training programme may be infrequent monitoring and observation of training activities. Direct observation of training activities is a necessary input to the manager on the health of the training programme.

Often, line managers will be the instructors for particular topics practicing ownership and participation in the training programme. Some stations have established procedural requirements for managers to observe training activities.

Managers need performance indicators that relate to the quality of the training programme. In the absence of such indicators, managers may assume that their training programme is satisfactory if human performance and station performance is acceptable. However, degraded training performance is often a leading indicator of performance at the station. For example, it may take several months plant performance to suffer from inappropriate work practices or incorrect methods included in a training session.

Just as line managers should be responsible for the performance of the training programmes, the training manager and the training organization should have a high level of ownership for station performance. Several stations have adopted training performance indicators that relate, in part, to the performance of the station.

2.2. Weak Self-Assessments

Most stations perform self-assessments to identify weaknesses and areas for improvement in their training programmes. However, problems have resulted from these self-assessments being less aggressive or less critical than necessary to identify problems. Contributing to these problems may be that training or line managers do not participate or properly direct the self-assessment. As a result, problems not identified tend to grow and amplify themselves until they are self-evident and have caused significant degradation in the training programmes.

In some cases, self-assessments properly identified training programme weaknesses; however, corrective actions taken to address the weaknesses were ineffective. The corrective actions may have been inappropriate or they may have failed because of weak implementation or lack of follow-up by managers.

Often, self-assessments will identify weaknesses in one training programme that is reasonable to assume exists in other training programmes or in other training areas. Limiting the self-assessment to one small area or restricting corrective actions may allow the problem to continue in the other areas.

2.3. Student Dissatisfaction

Student dissatisfaction with the training they receive has been seen in several areas. Often attendance is low for scheduled training with minor work assignments taking priority over the scheduled training activities. Also, the training staff may be overly engaged in providing make-up sessions for missed training.

Students may provide feedback after training that the material presented was not applicable to them or to their jobs. These comments indicate a weakness in providing training to address actual job performance.

Often, student dissatisfaction with training results in students not participating in the training, not asking questions, or not providing comments. Instructors should be aware of this sort of passive feedback. Also, managers observing training can identify these behaviors.

To improve student satisfaction with the training provided, some utilities include incumbents in the curriculum development process for initial and continuing training. Also, some utilities conduct surveys with students some time after the training to gather information on the effectiveness of the training when applied on the job.

2.4. Isolationism

Learning from others is a necessary component of a robust training programme. Stations without benchmarking or other methods of learning from other stations often do not recognize when degradation begins in training content, methods, or other programme attributes. One method used to learn from other stations is to participate on evaluations or peer reviews through INPO or WANO.

As stations reduce staff and budgets, sharing ideas or benchmarking activities may be decreased or stopped totally being viewed as an unnecessary expense or as requiring too much time. To offset these arguments, stations develop specific objectives and expectations for each benchmarking visit such that the personnel involved extract the maximum benefit possible from the activity.

2.5. Weak Use of A Systematic Approach

At some stations, new positions were formed as a result of organizational changes. These new positions required new skills and knowledge of the persons assigned. However, training to support the new skills and knowledge was not considered in the change process.

Also, problems existed at some stations where significant procedure or equipment changes are made without considering training needs.

Often, training is not part of the strategy for improving plant performance. In these cases, there is a poor link between known human performance problems and training being provided. It is often the case that the training staff does not proactively seek solutions to plant problems, either by being aware of human performance issues or analyzing plant event/incident results for training needs.

2.6. Insufficient Training Expertise

A working, practical knowledge of training processes and content by the responsible managers is necessary to maintain a robust training programme. When plant line managers do not fully understand their responsibilities for their training programmes, they rely on the training manager to identify and address training related weaknesses. The training manager is often not able to provide this level of support for all the training programmes.

Rotational assignments are valuable in developing and maintaining the technical skills and knowledge of training personnel. However, when the training staff is assigned to responsibilities outside of their training role for extended periods, the training organization loses the benefit of their training expertise.

Management changes at some stations have led to new training managers being assigned to the position prior to obtaining training experience. This situation is not desirable but can be managed if the personnel supporting the training manager have sufficient training experience to compensate for the manager's lower level of expertise. However, some stations have totally reorganized their training organizations in such a manner that the training manager and several senior training personnel were new to their positions. These cases can be much more difficult to manage and can lead to degraded training performance.

2.7. Distractions

The complete text for this warning flag is "Distracting activities that focus management attention away from training." Every station has many varied concerns and activities, in addition to training, that must be managed in accordance with appropriate priorities. However, significant degradation in training programmes has resulted when a major station problem or regulatory issue caused management attention to be focused exclusively on that issue.

Indicators that this warning flag exists may be that continuing training programmes are suspended during extended outage periods. During these periods, familiarity with the training content may degrade and maintenance of training materials stops.

Distractions such as major regulatory challenges or significant plant performance issues result in decreased emphasis on training. Training activities may be assigned a low priority in comparison to other plant activities. Training personnel may be assigned other duties that detract from their training and development responsibilities. Also, training requests for assistance from the other station organizations or personnel may not be considered.

2.8. Document Availability

The training warning flags are available on the Internet at the INPO web site by going to the National Academy for Nuclear Training home page. The training warning flags are maintained under the "Hot Topics" section. For those stations outside the US, the training warning flags can be requested through the WANO Atlanta Center.

2.9. Precursors

In general, the problematic aspects of the training warning flags do not appear instantly, but rather develop over time. Several diverse factors influence their development. These factors were examined to identify the early signs that weaknesses were developing and to what degree. The handout provided lists the precursors relative to each of the training warning flags. The precursors are more subjective than the warning flags and should be used with that understanding.
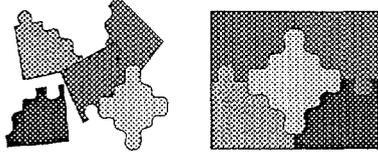
Because of time limitations, neither this paper nor the talk provided will cover the precursors in detail. The list is provided for the information and use of the participants.

3. CONCLUSIONS

When used appropriately, the training warning flags can provide an effective framework for self-assessments of training programmes. The precursors provided for each training warning flag may be used a subjective means in identifying early indicators of developing problems in training programmes.

Considering the training warning flags when making changes to training programmes and processes may help maintain the effectiveness of the training provided.

TRAINING WARNING FLAGS AND PRECURSORS

Training Warning Flags And Precursors To Degraded Training Effectiveness	
TRAINING WARNING FLAGS	**PRECURSORS**
1. LACK OF OWNERSHIP · Satisfactory plant personnel performance is given as the primary basis for confidence that training is being done well. · Line managers infrequently observe training and seldom provide meaningful comments or verify that expectations are met. · The training staff assumes little responsibility for plant performance. · The line staff assumes the training organization has sole responsibility for training performance. · Training managers do not effectively communicate training deficiencies to appropriate levels of line management	· First line supervisors infrequently attend continuing training with their employees. · Instructor development is assigned a low priority. · Other duties assigned or expected of instructors impedes development efforts. · Communication between the line and training organizations is limited or ineffective. · Management observations of training do not offer improvements or constructive criticism. · Weak training management does not communicate training needs or weaknesses to line or utility management. · Strong training management carries most training responsibilities relieving line to do other activities. · Morale in the training organization is low. · Housekeeping is degraded in classrooms, labs, and shops. · Training performance indicators are inadequate or are not used. · Training management has not reviewed performance indicators for applicability to current training needs. · Continuing improvement in training effectiveness is not pursued because indicators show satisfactory performance.
2. WEAK SELF-ASSESSMENTS · Self-assessments seldom identify weaknesses because reviews are not self-critical. · Line management does not actively participate in self-assessment activities. · Follow-up is not done to evaluate the effectiveness of corrective actions. · Problems identified in one program are not considered in other programs. · Self-assessments seldom include observations of training activities. · Self-assessments do not consider industry training and qualification lessons learned. · Self-assessments do not identify training recurring weakness trends previously identified from internal assessments and external evaluations. · Ongoing evaluations of training miss weaknesses that are subsequently identified during comprehensive self-assessments.	· Personnel assigned to conduct self-assessments are not knowledgeable of training processes, programs or requirements. · An environment conducive to the open identification and discussion of weaknesses does not exist. · Self-assessments are assigned a low priority. · Weaknesses identified in self-assessments are not resolved or used for program improvements. · Expectations for self-assessments are not defined. · Process for conducting self-assessments is not well defined.

3. STUDENT DISSATISFACTION	
· Student attendance at scheduled training is frequently low. Makeup training is not completed or is conducted at a lower standard than the originally scheduled training. · Students complain that training provided does not apply to their jobs. · Students do not actively participate in class activities or discussions. · Student feedback is generally negative, not provided, or contains little useful information.	· Instructors do not follow lesson plans and do not initiate revisions for recognized problems. · Instructor skills and knowledge are poor. · Instructor development is assigned a low priority compared to other instructor duties. · The quality of training materials is poor. · The process for revising training materials is cumbersome, slow, and difficult. · Review process for training materials requires several signatures such that responsibility for training material quality is diluted. · The exam failure rate is very high or very low. · Very old lesson plans are used. · Expectations for exam use and difficulty are not defined.
4. ISOLATIONISM	
· Training staff rarely interacts with staffs at other plants, and lessons learned from other plants are rarely factored into training. · The utility seldom provides peer evaluators to support accreditation and evaluation team visits. · Utility staff interface with the Academy training coordinator is minimal.	· Information from past evaluations or assistance visits is not used. · Industry experience is not effectively used in training programs. · Recognition of industry practices or available information is lacking. · Difficulty in making contact or spending quality time with training or line personnel.
5. WEAK USE OF A SYSTEMATIC APPROACH	
· Training is not considered in the strategy for improving plant performance. Training provided does not correlate with known human performance problems. · The training staff does not actively seek solutions to plant problems, either through awareness of human performance issues or analysis of plant events for training needs. · Training impacts are not considered following significant procedure or equipment changes. · New positions are developed or existing positions significantly modified without consideration of training needs.	· Corrective actions for human performance problems are narrow and concentrate on individuals rather than processes. · Line managers do not view training as a resource for addressing human performance weaknesses or improving performance. · Station personnel and trainers are unfamiliar with industry operating experience relative to their work. · New training programs do not use a systematic approach in their development. · Training is not appropriately used as a corrective action in addressing human performance or plant performance problems. · Supervisor or worker input is not used in determining the content of continuing training. · Human performance problems are occurring especially in newly hired workers. · Organizational changes are made without consideration of training needs

6. INSUFFICIENT TRAINING EXPERTISE	
· Cumulative knowledge, skill, and experience of the training staff have declined, including understanding of accreditation standards. · Training managers are assigned with little training experience and do not receive timely training. · Line managers lack sufficient understanding of how to apply a systematic approach to training to improve plant and worker performance.	· Management and leadership development activities are weak, ineffective, or are given a low priority. · Contractors are used in supervisor or management positions. · The qualifications or traits needed for training management positions are not recognized or defined. · Senior management expects that training management alone is responsible for solving training problems. · Management personnel are rotated to various positions without training and development in areas to be managed. · Turnover in management positions is high.
7. DISTRACTIONS	
· Continuing training is suspended during prolonged outage periods. · Major regulatory challenges, significant plant performance issues, and extensive support of plant activities take the focus off of training. · The training staff is assigned to responsibilities outside of training for extended periods.	· Training is assigned a low priority in comparison other plant activities. · Training personnel are assigned collateral duties that detract from their training and development responsibilities. · Training requests for line assistance or personnel are not considered. · The quality of training materials is poor. · The backlog of training material revision requests is high and/or is growing.