

**UNION OF
CONCERNED
SCIENTISTS**

May 28, 1999

Mr. James Dyer, Regional Administrator
United States Nuclear Regulatory Commission
801 Warrenville Road
Lisle, IL 60532-4351

SUBJECT: SAFETY CULTURE AND OVERTIME CONTROL AT BYRON

Dear Mr. Dyer:

I observed the May 27, 1999, NRC public meeting with Commonwealth Edison (ComEd) regarding safety culture and overtime control at the Byron nuclear plant from the videoconference location at NRC headquarters. The meeting did little to allay my concerns about these important safety issues.

In your opening remarks, you stated that while the NRC was concerned about the safety culture and overtime control at Byron, these matters were not in enforcement space. The subsequent discussions made it abundantly clear that the NRC is not in enforcement space because the agency has essentially exercised enforcement discretion regarding violations at the plant. For example, you stated that an audit in or around 1996 revealed that approximately 10 percent of the authorizations to exceed the overtime guidance in Byron's technical specifications were made afterwards instead of prior to the work as required by ComEd's procedures. You further stated that a more recent audit revealed that these overtime authorization procedure violations have been reduced to about 2.5 percent. The NRC could, in fact, cite ComEd for these repetitive procedure violations since Byron's operating license and federal regulations require procedures to be followed. Thus, the NRC is not in enforcement space because you have exercised enforcement discretion for these and other violations.

In your concluding remarks and in your statements to the press, you placed considerable weight on ComEd's alleged demonstration that worker fatigue has not played a role in event occurrence at Byron. I examined the company's submittals and listened to their presentation, but failed to see how you arrived at that position. It may very well be true that the events did not occur during a period of heavy overtime. Yet ComEd went to great length to explain that much of the overtime worked by licensed operators was not on the boards in the control room but performing tasks like training and surveillance test reviews. A fatigued worker can fail to absorb key safety information during training or fail to adequately review test results. The consequences from these performance impairments can contribute to events weeks or months later. In addition, Mr. Perry of ComEd stated that Nuclear Oversight found overtime levels by other departments at Byron to be comparable to that from the Operations department. In purportedly showing no link between overtime and events at Byron, ComEd only presented data on operator overtime. I know from personal experience as a reactor engineer at operating nuclear plants that the

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heavy overtime periods for many plant departments is not necessarily concurrent with outage times. Reactor engineers and others work long hours supporting the restart of a plant from an outage. Other workers put in long hours preparing for an upcoming outage. It is conceivable that fatigue on the part of a worker other than a licensed operator could have contributed to a Byron event. Thus, ComEd's superficial presentation on this subject was by no means conclusive and should not be used to excuse their overtime control practices.

Furthermore, your acceptance of ComEd's position on the link between overtime and safety contradicts the sound argument raised by Mr. Grobe of your staff regarding the "chilling effect" of ComEd's safety culture investigation technique. Mr. Grobe maintained that having ComEd's lawyers interview Byron workers under oath and with transcribed testimony may have prevented these workers from open and free responses to questions. Mr. Grobe pointed out that licensed operators are required by the terms of their licenses to raise safety concerns and their careers might be compromised by stating, under oath before the company's lawyers, a reluctance to do so. By the very same token, ComEd's license to operate Byron contains terms which require them to use workers who are free from impairment by drugs, alcohol, fatigue, and other causes. Thus, ComEd could not find a link between overtime and potential unsafe operation of the facility without providing *prima facie* evidence that it had violated the terms of Byron's operating license. It's not clear why the NRC is worried about workers being hesitant to speak freely but is not worried about ComEd being hesitant when both are faced with the same intimidating pressure.

It is also unclear why ComEd and the NRC placed such importance on the link between overtime and safety. The NRC's fitness-for-duty requirements contained in 10 CFR Part 26 must be followed by all workers and plant owners at all times - not just when workers are performing safety-related duties. To my knowledge, there has never been an attempt by any plant owner or the NRC to dismiss/downplay drug or alcohol abuse on the basis that it did not correlate to events at a plant. Yet, that approach was taken by ComEd regarding fatigue at Byron and is being entertained by NRC.

The approach taken by ComEd to address overtime at Byron was disappointing. The guidance on overtime provided in NRC Generic Letter 82-12 and essentially duplicated in Byron's technical specifications apply to individual workers, yet ComEd relied almost exclusively on average overtime worked. The strength of a chain is dictated by its average link but by its weakest link. It matters little if 99 out of 100 links are incredibly strong and durable if the remaining link is terribly weak. Likewise, the fitness-for-duty requirements would be worthless if applied on an average basis - the 0.04 blood-alcohol content limit would be turned into a joke if a company applied it on an average worker basis. That would permit four totally drunken workers to be balanced by ninety-six teetotalers. Of course, the NRC does not tolerate such shenanigans. But, the agency appears poised to allow ComEd to get away with mathematical magic when it comes to overtime at Byron.

It is equally baffling why ComEd places so much emphasis on the amount of overtime worked during outages compared to that worked when the plant is operating. The safety concern associated with overtime is worker fatigue. The need for overtime increases when a nuclear plant shuts down because there so much maintenance, tests, and inspections is performed on safety equipment then because it cannot be conducted when the plant is running. It is just as important that safety-related work be performed by workers free from fatigue-impairment during outages as during operation. Virtually all aircraft maintenance is performed when the plane is on the ground. The fact that the plane is not in the air at the time does not allow the FAA or airline companies to condone drunken or fatigued maintenance crews. Nor does the fact that a nuclear plant is shut down obviate the need for maintenance, tests, and

inspections of safety equipment to be performed by capable workers free from the effects of fatigue.

The lessening of overtime controls during nuclear plant outages also contradicts other established NRC requirements. For example, the fitness-for-duty requirements contained in 10 CFR Part 26 apply uniformly at all times - not more so when the plant is running. The NRC would not tolerate any licensee bringing a beer truck up to the front gate and passing six-packs out to workers entering the facility during an outage. Yet, the agency appears ready to allow ComEd to set aside overtime controls during outages. These actions have virtually the same effect. Numerous safety studies have consistently demonstrated that fatigue impairs human performance very much like alcohol.

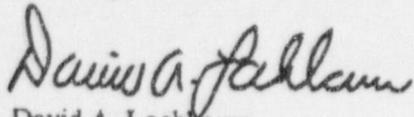
ComEd's presentation on the safety culture was equally disturbing. I wholeheartedly agree with many of the concerns expressed by numerous NRC staffers during the meeting about the survey conducted by ComEd's "independent" team. That safety culture survey was a travesty. The team's conduct reflected a very clear bias against finding a safety culture problem at the plant. For example, the team leader stated that approximately 20 percent of the persons interviewed voiced some level of reluctance to write a Problem Identification Form (PIF). He stated further that the team followed up on this observation by reviewing the PIF database and determining that these 'reluctant' workers were indeed writing PIFs. He summarily discounted the importance of this survey result based on the team's followup work. Yet, it is not apparent that the team performed comparable followup work relative to the 80 percent of the people who expressed no reluctance to write PIFs. Does the PIF database confirm that these people are in fact writing PIFs? Mr. Stanley semi-addressed this question when he stated that some workers never write PIFs because their supervisors write them instead. That statement appears unsupported by the data gathered by the survey, although it may very well be true. In any case, it is apparent that the "independent" team started with the premise that a good safety culture existed at Byron. The team apparently accepted data which supported this position on faith and selectively chose to refute only that data which challenged this position.

Finally, in your closing remarks you gave ComEd credit for corrective actions taken or planned to 'enhance' the safety culture at Byron. You specifically cited ComEd's changes to the PIF procedure which provides better feedback to the PIF initiators. I respectfully request that you consider comparable changes to your own policies and procedures for treating nuclear workers who bring sincere safety concerns to the NRC. By overlooking ComEd's violations and allowing the company to 'enhance' its safety culture and overtime controls at Byron, you may be improving safety levels at the facility but it comes at a very high price. By emphasizing future compliance rather than past non-compliance, you are de-valuing the role of dedicated nuclear professionals who bring issues like these to your agency. But for the actions of these nuclear workers - who have risked their careers - it is highly unlikely that ComEd would be now taking these corrective measures. These issues were first raised to ComEd long ago, but the company handled them improperly. These issues were then raised to NRC. The NRC's interest is only now inducing the company to fix the problems. It is just as important for the NRC to provide complete and accurate feedback to people making allegations as it is for ComEd to provide that feedback to workers initiating PIFs. The consequence of failing to do so is identical - workers stop writing PIFs and people stop submitting allegations to the NRC. The NRC's extreme reluctance to cite nuclear plant owners for violations identified via the allegation process is a "chilling effect" that dissuades future allegations. I can attest to this from my own personal experience before and since joining UCS.

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To be fair, the encouraging aspect of the meeting was the many probing questions asked of ComEd's representatives by you, members of your staff, and members of the NRC headquarters staff in Rockville. It appeared that the NRC did not simply rely on ComEd's assurances of better future performance, but expects to see tangible evidence of improvement. I hope that you will ensure the NRC takes aggressive actions to ensure that ComEd meets these expectations.

Sincerely,



David A. Lochbaum
Nuclear Safety Engineer