Safety Advice 04-2011 (May)(NZ)

This Advice concerns behaviour trends in Live Line Glove and Barrier methods and it also briefly summarises court findings from a Live Line incident that was the subject of an earlier Safety Advice.

All Live Line practitioners and employers should reinforce the messages in this Advice to all levels involved in planning, supervising and doing Live Line work.

Readers should be aware that the EEA has had to respond to repeated challenges to the justification for the continuation of Live Line G&B work as a permitted activity over the past 6 years, mainly because of perceived and actual non-conforming practices in this work. Additional to the safety implications, all practitioners should be reminded that continuance of Live Line work practice as a permitted activity under work-place safety law can be threatened where incidents and accidents are caused by wide-spread non-conformance with the basic requirements for doing this work safely. Discontinuance would significantly disadvantage the whole industry, including a significant threat to power supply services, loss of industry skill and capability, and a threat to the careers, livelihoods and to the wellbeing of the employees and their families.

Reminder Concerning Live Line G&B Practices

The following advice derived from investigations into a series of tripping's including non-injury flashover incidents in the course of live line G&B work, serves as a reminder to the industry about basic practices in this work

Specifically investigations into these incidents concluded that in all cases procedural steps were being missed out as the G&B activity was carried out. Some of the contributory factors are listed below:

- **Contributing Factor –** the G&B work was discussed by staff on the ground before the arrival of the supervisor (acting as safety observer). Subsequently steps in the written procedure were ignored in favour of an 'ad hoc' process.
- **Contributing Factor** – the procedure was read, discussed and agreed on the ground prior to work commencing. It was then put away and not referred to again - this requires all three staff to complete 15 steps in sequence from memory without error.
- **Contributing Factor** – Communication of steps was between the staff in the bucket, not with the safety observer on the ground. It was confirmed that the safety observer was only asked to give assurance that the bucket could be moved to a new position or that the bucket was clear of hazards.

A common theme has emerged that it is considered 'industry custom and practice' for G&B teams to operate by memory, rather than conferring with the safety observer to follow the approved procedure as mandated by Electricity (Safety) Regulations 2010 regulations 100 and 102, and ECP 46 Section 1.3.6.

ELECTRICITY (SAFETY) REGULATIONS 2010:
Regulation 100: Safety responsibilities of person who carries out work
"A person who carries out any prescribed electrical work, or any work referred to in clause (2) (e) to (h) of Schedule 1, must take all practicable steps,—
(b) To follow the procedures approved by the employer (if any) for the work to be carried out."

Regulation102: Work on live high voltage overhead electric lines
"Work on live high voltage overhead electric lines must be carried out in accordance with ECP 46."

ECP46: NEW ZEALAND ELECTRICAL CODE OF PRACTICE For HIGH VOLTAGE LIVE LINE WORK
1.3.6 Safety Observer
During all live line work, one member of the work team shall be designated as the Safety Observer. The Safety Observer's role is to alert the work team to any potentially unsafe actions or lack of compliance with an approved work procedure or technique.
The Safety Observer shall:
(a) Be certificated and competent to carry out the particular work being observed;
(b) Be positioned at a suitable location to observe the work being performed;
(c) Have the authority to temporarily suspend the work at any time;
(d) Maintain effective and immediate communication with the work team at all times;
(e) Not perform any other task whilst live line work is in progress; and
(f) Suspend all work in the event of having to leave the site or significantly change position until he/she has returned/reached a new location or has been replaced.

The Safety Observer's role may be rotated among members of the work team, for example to reduce fatigue. When this occurs it shall be formally handled such that all members of the work party are aware at all times who is performing the role of the Safety Observer.

Feedback from a number of employees indicate that the practice of operating from memory and the themes identified as 'contributing factors' outlined above may have become widespread throughout the industry including for experienced teams who are doing repetitive G&B work. This concern was also confirmed by a well regarded industry trainer who has observed and

corrected this 'custom and practice' while undertaking refresher training and/or live line assessments.

The Advice given internally concluded with a statement by the investigator to the effect: "I was astounded when I discovered this and I firmly believe that it is past time for this 'custom and practice' to cease. We as the industry need to step up and proactively change this 'custom and practice' not only to ensure compliance with the regulations, but to show our people that we really walk the talk when it comes to ensuring our people go home unharmed". EEA strongly endorses this advice, which is passed to all members for reinforcing proper G&B practice.

Recent court case conclusion

A District Court sentencing decision recently resulted in a fine of an ESI company $50,000 for an incident in which a live line employee received electric shock while working at the base of a replacement concrete pole being positioned between live 11kV and 415V conductors. The employee received an electric shock when the earth pin livened, as it was bonded to the EWP and situated near the base of the pole that was being installed. The livening occurred when the EWP metal boom contacted a live conductor. The safety observer (who was also the supervisor) was engaged in helping the work procedure at the time, not focussing solely on the safety observer duty.

The sentencing notes highlighted three non-conforming actions that contributed to the shock incident:

- Failure to cover secondary points of contact (the metal boom)
- Safety observer doing other work activities simultaneously to the safety observer role;
- Employee close proximity to hazardous EPR areas at ground level while live line procedures were under way aloft.

The sentencing Judge also noted that the means to avoid all of these issues were readily at hand at the work site.

This event could have been fatal or could have resulted in serious burns, in which case fine levels would have reflected the more severe consequences. However it is also noteworthy that the economic impact on any company of a $50,000 fine could require company revenue in the range of $400,000 to recoup such losses, and potentially much more than this if indirect costs are able to be accounted.

The messages in this Advice underscore the dire importance of closely conforming to the standards for live line work, and the EEA strongly supports these messages being well known and understood by all involved in these work procedures in this industry.

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