

HIGH VOLTAGE

# HV DUMMY SWITCHES SAVE LIVES

Electrical trainer **Dale West** explains the importance and practicality of high voltage dummy switches and shares a case study worth reading.

**Y**ou might be asking yourself, 'what classifies as a dummy switch?'

A dummy switch can be a new spare switch in the store, an old redundant spare, or a faulty non-repairable switch in the scrap yard.

In Pete's case it was a new RMU in the store. The following is Pete's story, told in his own words.

I had been a high voltage switching operator for a few years at a couple of sites before I landed a great job at a mine site.

They had a switching job coming up that they wanted me to be on, so they took me through their procedures.

One of the units we were going to operate looked very different to anything I had seen before. As it was live, we could not operate it, but they took me through the process, and it seemed all very logical and simple enough.

I wanted to operate it though, just to see how it felt, but they did not have any spare units I could play with.

Just a few days later, I noticed a unit in the store and asked the high voltage (HV) crew if we could go and check it out. They said yes, but after several days of what seemed to be a case of ignoring my suggestions, I approached the electrical superintendent for permission to play with it. He thought it was a great idea, as long as I did not break anything as it was a new one that was going to be installed on the next shutdown.

So off I went to play with my new toy, but the rest of the crew just shook their head and left me to it.

I broke it.

I was happily checking it out; which seemed to take forever to work out how to operate, even though the instructions were stuck to the inside of the door.

When I got to playing with the CB, it did not go well. I opened the CB, and that allowed me to close the Earth easy enough, at which point, I was told during my 'training' with the crew, I would lock



LEFT: Peter being shown how to operate the equipment.



RIGHT: Learning how to operate the equipment safely.

the CB and Earth and then issue the access permit; no surprises there.

But in 'playing around' I accidentally closed the CB while the Earth was still on. When I realised what I had done, my life flashed before my eyes.

"I broke. I broke the interlocks," I said to myself.

Less than a month on the job and I was going to lose it. The superintendent will know it was me so it was not as if I could just close it up and walk away.

Then I noticed something.

The semaphore was not red like it was when it was closed before, and it was not green, like it is in the open state. It was yellow; the same colour as the Earth switch.

What just happened?

Looking at the shadow on the front panel I noticed that when you close the Earth, it only earths the internals of the RMU, but the open CB means the cable is not earthed. It looks like you have to close the CB while the Earth is still closed to

Earth the cable. Surely not, I thought.

I spoke to the crew about it and they said it was a stupid idea; no switchgear would ever work like that and the HV crew had worked on dozens of sites and operated hundreds of types. They brushed my concerns aside saying, 'if it was the case, the new RMU in the store is different to the ones they use on site because the ones they use are nowhere near as complicated as I was making out'.

I was positive the RMU in the store was exactly the same as the one they took me through out in the field but no amount of explaining could convince them.

I went to the superintendent who said the HV team had been doing a great job for years and knew what they were talking about; but, he would meet me at the store during his lunch break and he would have a look at it.

As soon as I operated the RMU he immediately saw what was happening.

You have to open the CB, close the Earth and then CLOSE the CB again while the Earth is still closed, to earth the cable.

They have been using these RMUs for years and they had never applied the earths.

The superintendent had me put the information together and put the rest of the HV team through training on how to correctly operate the RMU.

The next switching job went off without a hitch. As you can imagine, if we did not earth that cable, someone could have been killed or severely burnt and it was only pure chance that no one had been killed in the past.

Since then the superintendent rounded up some old switchgear from other sites that used identical gear to ours and put them in a shed so we could practice on and train new members of the HV team to bring them up to speed and be authorised faster and a whole lot safer.

That mine site had been operating for nearly 30 years. It is incredible to

think none of the jobs that involved that switchgear had been earthed.

How does selling equipment off for scrap help to train people, achieve authorisation, maintain their experience and practice switching before a live job?

How does selling equipment off for scrap save lives?

Don't sell faulty units for scrap, keep them for training and practice.

Don't sell redundant units for scrap.

Make sure you have at least one copy of all the different types of switchgear you have on site.

Ask your supplier to provide an extra unit or send you a faulty one strictly for training OR have your supplier build a Dummy Switch [To make it much cheaper] purely for training your HV team. It does not have to 'work', just as long as all the handles and interlocks operate.

Get in touch with other sites and see if they have more than enough equipment and ask them if they can send you some.

Get in touch with other sites that use the same equipment you do and offer your oversupply that you do not need.

This will greatly reduce the number near misses, potential incidents and, as you can imagine, saves lives. And it does not cost anything.

Give all your team members the same opportunity Peter had. ■

ABOUT DALE WEST



Dale West is a pioneer in electrical training since working in the HV field since the mid-eighties and opening a training school in 2013 that also trained electrical apprentices. The level of success was nothing short of extraordinary, prompting the expansion from local training of only 135 apprentices to nation-wide training and coaching for everyone from the largest city, to the farthest remote location via Zoom video sessions. He is a High Voltage Access Auditor and Trainer with customers in Australia and halfway around the world.

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