



Safer Isolations - CP6 Southern Programme

Safer Isolation Programme

The Southern Region is making isolations safer and faster by rolling out Negative Short-Circuiting Devices (NSCDs) and a new isolation process called the B4.



NSCD Rollout

The NSCD rollout has commenced and are being used in a number of areas already across the Region. The first Phases are being used for Network Rail Delivery Unit Isolations with further areas being phased in across the next 4 years. **The use of B4 and NSCDs for isolations** will become available for all industry stakeholders and will be mandated across the Southern Region for all planned access requiring isolations where the NSCD are installed. The dates for this will be communicated to you so that you can implement the appropriate changes within your organisation such that your teams are trained and competent to use the new B4 process and NSCDs.



When **we go live** the industry must be ready by having their individuals trained and ready to use the equipment. Here you can find out:

- Why we are doing this
- Who needs to be trained
- What an NSCD does
- How to obtain the competency
- When we plan to go live

NSCD Overview



A key aspect of the safer isolations programme is to install **Negative Short-Circuiting Devices** (NSCD) across the dc network.



NSCD provide the following

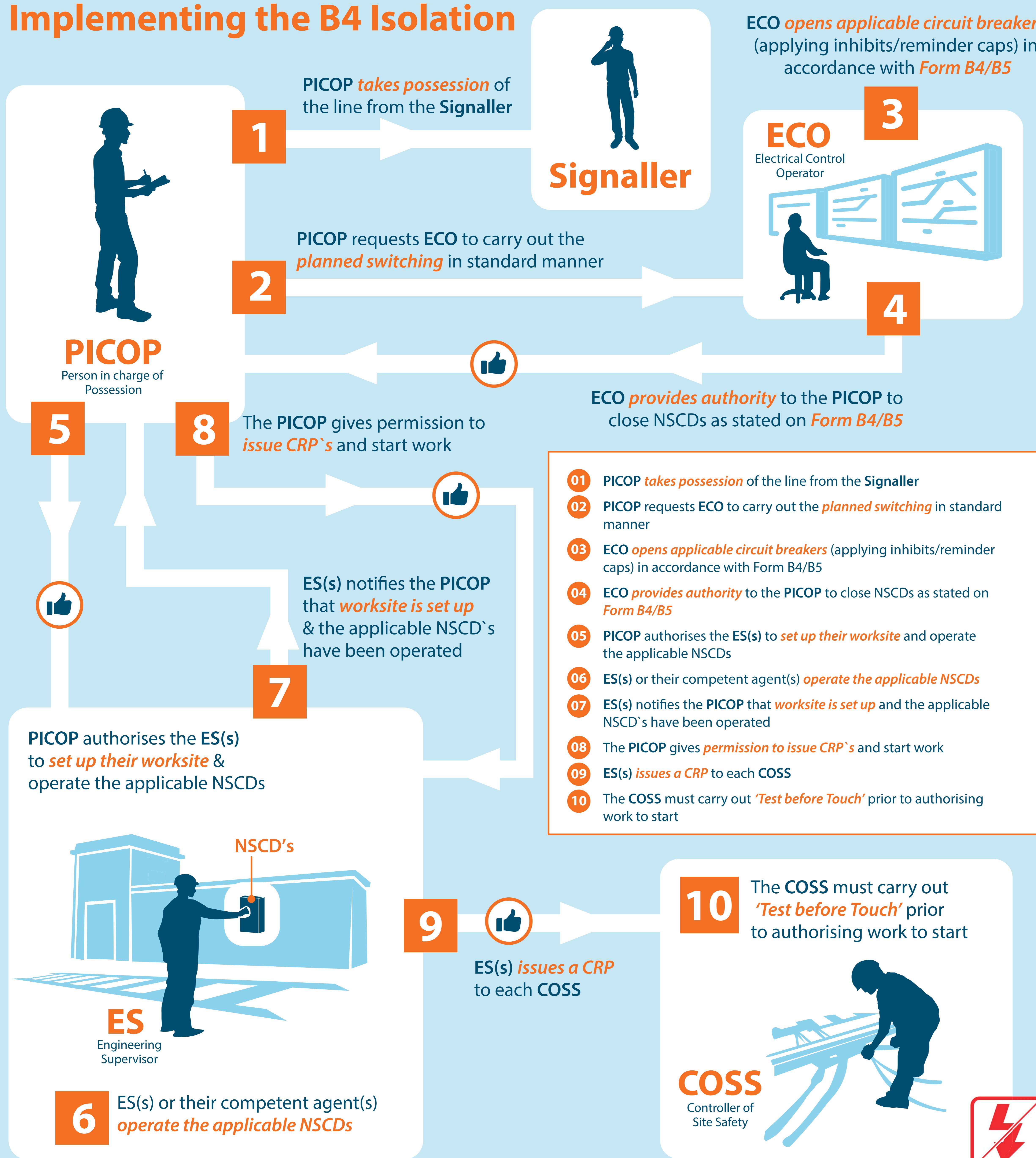
- A** Provide electrical protection against inadvertent energisation of an isolated section by an electric train bridging from an adjacent live section
- B** Prevent, via electrical interlocking, against an inadvertent closure of a circuit breaker
- C** Provide electrical protection, in the event of failed interlocking, from the inadvertent closure of a circuit breaker
- D** Provide a methodology of securing an isolation which is demonstrably compliant with the Electricity at Work Regulations





Safer Isolations - CP6 Southern Programme

Implementing the B4 Isolation



Roles Impacted and Training requirements

For NSCD to be used a number of roles will be affected

Training Required – New competency NSCD Operator

Strapmen – Level B

Engineering Supervisors (ES)

Persons In Charge of Possessions (PICOP)

SWL2 with DC Level A Competency

Equipment Training

Distribution & Plant Maintenance Operatives

Electrification & Plant Maintenance Engineer (EPME)

General Briefing

Worksite requesters/Planning team

Isolation Planners

Electrical Control Room Operators (ECRO)

Controllers of Site Safety (COSS)



Signallers

Route Control / Integrated Control Centres

Operation Delivery Managers

Approved Contract suppliers

Where can I get the NSCD operator competency

- This is a competency that is logged on sentinel
- A number of training organisations have been given the ability to train impacted persons and award the competency
- NR can offer to Train your trainer so that you can deliver your own training courses
- NR can provide training rigs to your organisation if required

Applicable Standards



The B4 process is contained within

NR/L3/ELP/3091 DC Electrified Lines Working Instructions

The B4 Isolation planning process is contained within

NR/L3/ELP/27115 Arrangements for isolation of the conductor rail for pre-planned possessions of the line

The application of a NSCD is contained within

NR/L3/ELP/27140 Application of short circuits for conductor rail isolations

ECRI Module 8 has been amended to incorporate NSCD NSCD maintenance is specified in Distribution Work Instructions **NR/L3/ELP/27240**

The full NSCD specification is contained within

NR/L2/ELP/27730 Specification for 750 V dc Switchgear





Safer Isolations - CP6 Southern Programme

Safety

Reduction in the following areas related to the taking and handing back of isolations



Performance

Improved performance in the following areas

- Faster switching & short-circuiting gives more working time
- Additional working time provides opportunity to undertake more work or provide better contingency against overrun
- Removes several constraints around S&T testing as the running rails are not used for the short circuiting.
- Provides an opportunity for smarter planning of work



Compliance with Electricity at Work Regulations

Enhanced compliance in the following regulations

Regulation 4	Systems, work activities and protective equipment
Regulation 12	Means for cutting off the supply and for isolation
Regulation 13	Precautions for work on equipment made dead
Regulation 14	Work on or near live conductors
Regulation 15	Working space, access and lighting



Frequently asked questions

Can you use straps in a B4?

The B4 isolation process will primarily utilise NSCDs for short-circuiting purposes but retain the option of utilising straps under certain restricted circumstances. Therefore, a combination of NSCDs and short-circuiting straps may be specified on the Form B4.



How would I know that I'm working in a B4 isolation?

If you are a COSS or someone working under a COSS then it may not be obvious that you are working in a B4. The ECO/PICOP/ES will know that the isolation is a B4 as they will have a copy of the B4 isolation docket.



How do I find the LCP?

The location of the LCP will be stated on the safe work pack. The LCP will normally be located close to the associated substation or track paralleling hut. If this is not the case the specific location can be found on the Comprehensive Track Diagrams. Signage will be applied to the appropriate access gate to help you locate the LCP

Does this mean I don't need a strapping ticket (level B) at all now?

No, you will probably still need to maintain this competency as it is normal during an isolation to have both NSCD and Short Circuit Straps specified on the B Form.

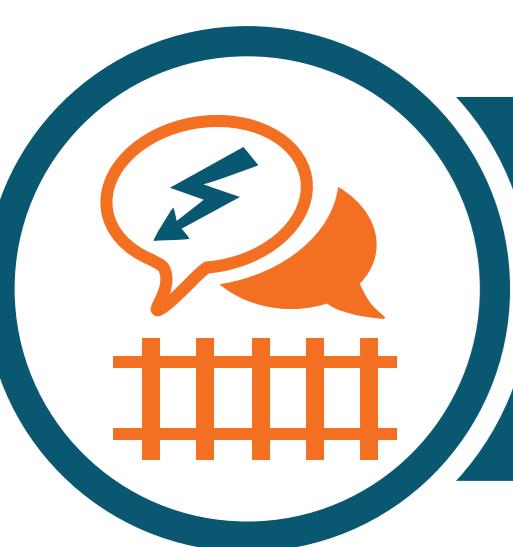


Do I need a safe work pack to operate an LCP?

Yes, though this could be risk assessed in the future at some sites which are fully fenced and not on or near the line.

Does a NSCD switch off the power?

No. The ECO along with the PICOP open the remotely controllable switches that switch off the affected electrical sections as stated on the B Form. The NSCD is the short circuit protection for an isolation, similar to short circuiting straps.




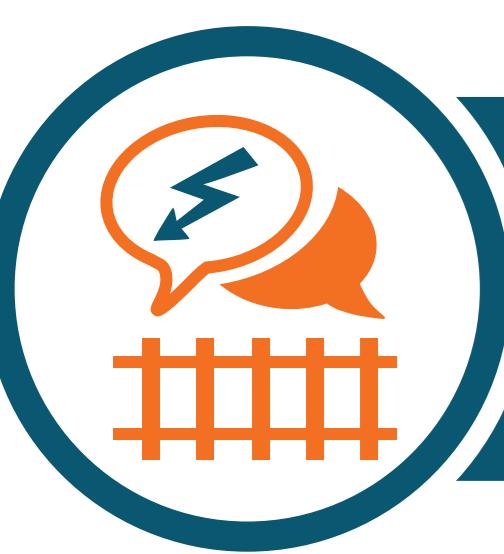
Safer Isolations - CP6 Wessex Programme

Works Overview

CP6 Phases - Go Live Dates

- Phase 1 & 2 - 27/04/20 - Is your organisation ready? Are your staff trained and competent?
- Phase 3 Sep 2020
- Phase 4 Dec 2021
- Phase 5 Dec 2022
- Phase B5 Dec 2020





Safer Isolations - CP6 Sussex and Kent Programme

Works Overview

CP6 - Phases

● **Phase 1 & 2** - 27/04/20 - Is your organisation ready? Are your staff trained and competent?

● **Phase 3** - Tranche 1 July 2020

● **Phase 3** Tranche 2 Mar 2022

● **Phase 4** Dec 2021

● **Integrated Devices** - Feb 2021

