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Guidance Notes for Access Network Quality Checks

About this document ...

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Content approval

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Version History

Version No.	Date	Author	Comments
Issue 35	01-Apr-2023	Quality Standards Network Performance	Section 16.1 G1001 updated with additional guidance. Section 11.12 A2145 updated with additional guidance. Section 8.3 updated to include new BC40. Section 5.6 A2141 updated to inclusive PCP and CWI11 use on paper insulated wires. Section 12.3 2 new BP's added to reflect changes to EPT/ANS/A010.
Issue 34	01-Apr-2022	Quality Standards Network Performance	Sections 10.15, guidance in this section regarding AGC's updated to reflect EPT/ANS/A011 Specification for Dropwire Work.
Issue 33	07-Mar-2022	Quality Standards Network Performance	Sec 14.3, Slack measurements amended to reflect PRD/MDF/B110. Sec 15.3, A1024 guidance removed and inserted in 15.7.
Issue 32	08-Feb-2022	Quality Standards Network Performance	Sec 6.13 BP1 amended to correct an inaccuracy.
Issue 31	12-Nov-2021	Quality Standards Network Performance	New bullet points added to I6205
Issue 30	28-Sep-2021	Quality Standards Network Performance	New bullet point added to sec 10.1 I6205. New bullet points added to sec 10.10 I6234. Wording amended in sec 5.6 A2141 and sec 11.12 A2145.
Issue 29	19-Aug-2021	Quality Standards Network Performance	Privacy changed from internal to none. All references CSS ID throughout document removed and replaced with UIN.
Issue 28	05-Aug-2021	Quality Standards Network Performance	Addition of G1012 environmental and hazardous to health waste in sec 11.23 and 16.3
Issue 27	18-Nov-2020	Quality Standards Network Performance	Document review. Links to external sources validated/updated where appropriate. Author/Approver/Publisher details amended. Section

			5.6 A2141, New BP6 inserted into guidance. Sections 5.1 I6014 & 5.5 I6015, definition of corrosion amended. Sections 6.3.2 & 6.4.2, BP ref referring to sealant 10B application to copper cables only removed.
Issue 26	03-Nov-2020	Quality Standards Network Performance	Amended Sec 10.18 in relation to maintenance loops.
Issue 25	06-May-2020	Quality Standards Network Performance	Document review. Links to external sources validated/updated where appropriate. Author/Approver/Publisher details amended. Section 6.9 Doc reference added. Section 7.1 Doc reference added. Section 10.13 & 10.14 Note updated to make clear that the revised policy applies to fibre only. Section 12.17 Note updated to make clear that the revised policy applies to fibre only. Section 12.25 New links added to HAUC & SROH.
Issue 24	20-Apr-2020	Quality Standards & Accreditation Network Performance	Change of approver, Addition of Note: to sec 10.13, 10.14, 12.17 ref to new AEI/AEC/B337 span length changes
Issue 23	21-Aug-2019	Sarah Hogan-Berrow	Amendmants to sec 8.4, 10.5, 10.14, 10.21, 12.1, I6902,I6906 moved to 10 pt defects. Guidance added 15.6 – I6020
Issue 22	15-May-2019	Sarah Hogan-Berrow	Document review. Links to external sources validated/updated where appropriate. Author/Approver/Publisher details amended. Change of author details. See section 18 for summary of changes.
Issue 21	09-Feb-2019	Ben Noakes	Document review. Links to external sources validated/updated where appropriate. Author/Approver/Publisher details amended. BT logo replaced with Openreach

			logo.
Issue 20	09-Feb-2018	Allan Lupton	Annual review updated after full review - see section 19 for full details of changes
Issue 19	08-Feb-2017	Allan Lupton	Updated after full review - see section 19 for full details of changes.
Issue 18	03-Feb-2016	Allan Lupton	Updated after full review - see section 19 for full details of changes.
Issue 17	04-Mar-2015	Document Manager T	Document migrated onto new platform with no content change
Issue 17	7-Aug-2014	Allan Lupton	Annual review and update - external urls updated and chanage of approver. See attachments in section 19 detailing the changes.
Issue Draft 16b	7-Aug-2014	Allan Lupton	Updated after review by QWP team
Issue Draft 16a	1-Aug-2014	Allan Lupton	document reviewed and circulated for comment
Issue 16	7-Aug-2013	Allan Lupton	Document reviewed and updated to reflect ISIS, AEC and other working practice and quality standard changes since last issue. See section 19 - Change History attachments for details of changes. Final version after review by QWP team.
Issue Draft 15b	7-Aug-2013	Allan Lupton	Documented reviewed and updated to reflect ISIS, AEC and other working practice and quality standard changes since last issue - see section 19 Change History attachments for details of changes. Final review by QWP team draft 15B used for briefings
Issue Draft 15a	29-Jul-2013	Allan Lupton	Document reviewed and updated to reflect AEC and other changes prior to QWP team final review
Issue 15	22-Oct-2012	Allan Lupton	Document updated to reflect AEC and other working practice & documentation changes , including updated 3 span rule, since previous issue.Full details of all changes made can be found in the 2 attachments in section 19

Issue Draft 14c	22-Oct-2012	Allan Lupton	Final draft updated after review by Network Assessor QWP reps - see section 19 for full summary of all changes to documnet from issue 14 to issue 15.
Issue Draft 14b	14-Aug-2012	Allan Lupton	item I6907 added and BT66B max DW added at end of I6264
Issue Draft 14a	8-Aug-2012	Allan Lupton	updated to reflect changes since previous issue including DW 11, new 3 span rule changes, FPQ/OQP alignment and other points of clarity added. Full details of changes from issue14 to issue 15 can be found in section 19 attachments
Issue 14	30-Dec-2011	Allan Lupton	Review and update of document to reflect changes communicated in AEC & ISIS and withdrawn EM & NRI since issue 13.Additional clarity and guidance added to aid consistency of check application. Further details of changes are contained in change history
Issue Draft 13d	30-Dec-2011	Allan Lupton	Updated as issue 13D to show final changes from Issue 13 to issue 14.Updated since previouis draft to reflect contents of additional AECs issued and inclusion of material from existing NRI & EM that have been withdrawn.
Issue Draft 13c	18-Oct-2011	Allan Lupton	updated after feedback on issue 13B e.g. I6512,I6262,I6216,A2212,I6264 & I6270
Issue Draft 13b	17-Aug-2011	Allan Lupton	after review by QWP team
Issue Draft 13a	12-Aug-2011	Allan Lupton	initial annual review of proposed changes / clarity requests and inclusion of ISIS / AEC issued since Aug 2010
Issue 13	18-Aug-2010	Allan Lupton	Major review and update of document to reflect changes communicated in EM,NRI & ISIS since issue 11.Additional clarity and guidance added to aid consistency of check appliication.Further details of changes contained in

			chnage history section
Issue 12	8-Dec-2009	Allan Lupton	section 5 updated to reflect major ongoing review.Section 6 now refers to AEI Technical Library
Issue 11	20-Nov-2007	Dave Bright	Guidance Change to Non ISIS format
Issue 10	31-Jan-2006	Dave Bright	Correction in section 9.2.1
Issue 9	14-Dec-2005	Dave Bright	Yearly review complete
Issue Draft 8a	8-Aug-2005	Dave Bright	Yearly review
Issue 8	12-Oct-2004	Dave Bright	Year review
Issue Draft 7a	25-Oct-2004	Dave Bright	Yearly review
Issue 7	10-Dec-2003	Dave Bright	Yearly review
Issue 6	2-Dec-2002	Dave Bright	Revised
Issue 5	25-Jan-2002	Dave Bright	Approver Changes
Issue 4	23-Jul-2001	Dave Bright	Changes
Issue Draft 3b	9-Jun-2000	Dave Bright	Additions
Issue Draft 3a	7-Apr-2000	Dave Bright	Yearly Iniital review
Issue 3	17-Aug-1999	Dave Bright	Revised Version
Issue 2	17-Aug-1999	Dave Bright	Revised Version
Issue 1	17-Aug-1999	Dave Bright	New Document

Table of Content

1 *Introduction*

This document is intended as a guide for those people carrying out Quality Checks in the access network, enabling the person doing the quality check to more clearly describe the quality of the finished task. The document layout is designed to give quick and easy referencing by product area e.g. Jointing, Block Terminals or Dropwire etc. Each section is broken down using the checks item number. ***Direct labour items identified by (DL) for FPQ and contract items by (C) for OQP systems.*** Each item will have a **Scope:** statement provided as required. All check items are described fully in script below the Item Code title with specific information where required in bullet point format.

2 *Status*

This instruction gives definitive Guidance for Quality Check item codes.

3 *Scope:*

The content of the document is derived from the Contract and Direct Labour checksheets, product information and other sources and covers non civils and generic items.

Users should refer to the current Access Engineering Communications (AEC) for changes to quality standards since the previous update

4 *Objectives*

The objective is to provide clear guidance on the elemental part of each Quality Check.

5 *Jointing*

5.1 I6014 (DL) N2125 (C) Score: 10 points

Item Description: Joint 100 pairs or less no water or corroded pairs present in joint (50 pairs or less for repair and provision activities).

Scope: All wires in every joint worked upon identified for check, which includes any jointing within Jointing posts, Block terminal 71A (for hollow pole

use), mechanical and/or shrinkdown closures & extended underground cable tail pairs in block terminals (however not in PCP/SCP's)

Points of product reference: EPT/ANS/A006

Specific guidance:

- Cable pairs and Connectors Wire Insulated (CWI) or Modular Splices dry and corrosion free.
- No pairs with faulty insulation wet or corroded conductors.
- No evidence of water ingress

Note: Clarification of Corrosion in a Joint containing enclosed/clear type connectors

1. Corrosion is defined as a white/green substance appearing inside the connector and/or at the entry point (open end) of a crimp/CWI.
2. Corrosion IS NOT when the blade of a connector is discoloured black or brown or rusty red. This can discolour dependant on the material ore content and the connection will still be clean.

5.2 I6015 (DL) N2126 (C) Score: 10 points

Item Description: Joint larger than 100 pairs no corroded pairs present in joint (larger than 50 pairs for repair and provision activities). A1024 issued if remake not authorised by Control as appropriate.

Scope: All wires in every joint worked upon identified for check, which includes any jointing within Jointing posts, Block terminal 71A (for hollow pole use), mechanical and/or shrinkdown closures & extended underground cable tail pairs in block terminals (however not in PCP/SCP's)

Points of product reference: EPT/ANS/A006

Specific guidance:

- Cable pairs and Connectors Wire Insulated (CWI) or Modular Splices dry and corrosion free.
- No pairs with faulty insulation wet or corroded conductors.

Note: Clarification of Corrosion in a Joint containing enclosed/clear type connectors

1. Corrosion is defined as a white/green substance appearing inside the connector and/or at the entry point (open end) of a crimp/CWI.
2. Corrosion IS NOT when the blade of a connector is discoloured black or brown or rusty red. This can discolour dependant on the material ore content and the connection will still be clean.

5.3 B6014 (DL) N2132 (C) Score: 10 points

Item Description: On job completion other jointed pairs in joint/BT/PCP or SCP bunch checked ensuring correct connectors fitted, BT41 series reported via A1024, (50 pairs or less for repair and provision activities)

Scope: All wires in every joint worked upon identified for check, which includes any jointing within Jointing posts, PCP/SCP's, Block terminal 71A (for hollow pole use), mechanical and/or shrinkdown closures & extended underground cable tail pairs in block terminals (however not BT 41/41A's these should be A1024 reported unless contractually required to change the BT41/41A).

Points of product reference: EPT/ANS/A006 & EPT/ANS/A007

Note: A joint is a physical connection between 2 wires (pairs in a closure/Jointing Post/Block terminal 41/41A etc.) it does NOT refer to a joint Closure (KJC2/4).

Specific guidance:

In Joint/joint closure, block terminal, box connection, block connector

- Only mark as checked in BT / BC if jointed pairs exist.
- No obsolete CWI No1 (White crimps) or CWI No1A (blue, black, red or other coloured types) in joint/joint closure, box connection, block connector or block terminal (except for BT41/41A see item code A2131).
- No paper or poly sleeved connectors left in an un desiccated joint
- During AA pole renewals BT 41/41A tails with blue beans must be replaced.

In PCP or SCP

- No obsolete CWI No1 (White crimps) or CWI No1A (blue, black, red or other coloured types) left on pairs within bunches on either end of the circuit worked upon. The bunch is defined as all the wires and jumpers designed to hang over the SCC No1 support slot (normally in a SCF No. 1) e.g. E & D1-10 and for SCC 2 check E & D 1-20. This includes any UG wires that have been extended or pieced out on that bunch - on either side of the SCC.
- Uplift/Construction/New Build Work - when replacing/providing a cable into a shelf/strip or replacing a shelf/strip - No obsolete CWI No1 (White crimps) or CWI No1A (blue, black, red or other coloured types) left on pairs within the defined worksite being that cable/strip/shelf as this is the totality of your worksite (not replacing the CWI's at the other end of all the jumpers affected unless the jumper worked on is damaged, faulty/incorrect and needed replacing in that case the CWI's on that jumper **alone** at the far end should be the correct current approved type).

5.4 I6012 (DL) N2124 (C) Score: 5 points

Item Description: Faulty pair(s) repaired using approved methods and materials.

Scope: End user/s circuit/pair/s worked upon only. Other circuits or pairs worked on checked under item A2141.

Points of product reference: EPT/ANS/A006 & EPT/ANS/A007

Specific guidance:

- The correct connectors/modular splice/jointing methods used on the pairs worked on
- Conductors jointed without twisting the pair together
- Pair twists maintained - No more than 100mm of untwisted wire should be left before the connector or termination module and both pairs of a connection must not be twisted together.
- Correct type of piecing wire used where appropriate
- Where CWI used - Insulation on the conductor enters crimp correctly (i.e. no bare wire showing)
- 3M CWI 8A (orange top) or CWI 8B (red top) not used on aluminium conductors
- CWI8A or CWI11A used

5.5 I6016 (DL) N2404 (C) Score: 10 points

Item Description: Inspection of other pairs carried out prior to closure. No visible damage to other circuits.

Scope: All wires in every joint worked upon excludes PCP/SCP's

Points of product reference: EPT/ANS/A008

Specific guidance:

- All other **connected** pairs in the joint free from visible damage to insulation, conductors or connections (this includes any stripping of insulation)

Note: This does NOT include unconnected spares

5.6 A2141 (DL) N2105 (C) Score: 5 points

Item Description: Pairs jointed as per work requirements using correct methods and materials.

Scope: All wires in every joint/PCP worked upon. Also includes Cable changeovers, joint remakes and other circuit or wires worked on. Specific end user/s circuit/pair/s worked upon checked under item I6012.

Points of product reference: EPT/ANS/A006 & EPT/ANS/A007

Specific guidance:

- Have the correct Connectors Wire Insulated or Modular Splices been used
- Has the CWI/Modular Splice been correctly fitted
- Only no break changeover CWI11A crimps used to replace obsolete connectors, damaged insulation or shiners unless cable was changed over or exceptional circumstances existed on joint remakes and recorded in job notes.
- 3M CWI 8A (orange top) or CWI 8B (red top) not used on aluminium conductor
- CWI 11A used on paper insulated wires (Connectors Wire Insulated 11 which will retain paper insulation in the closed slot)
- Conductor wires trimmed back to insulation butt on all spare/unconnected pairs
- Pair twists maintained - No more than 100mm of untwisted wire should be left before the connector or termination module and both pairs of a connection must not be twisted together.
- For paper insulated conductors, are the individual wires correctly twisted - Is a paper/poly sleeve in place over the individually twisted wires; alternatively have they been carefully & correctly modular jointed.
- Have where possible all spare pairs been jointed (pushed forward) through. This requirement applies to all cable joints worked upon, whether for construction or repair and maintenance reasons.
- Jointed pairs wrapped correctly internally in a clear plastic protective sheet where required for joint type. If not available bags static or any similar sized bag fitted correctly to contain/protect pairs/crimps/connections within the closure. The bag must be left open at the bottom (not taped up)

Note: Construction/build/asset type work

It is expected that all pair jointing is covered by the synthetics/planned requirements and therefore all spare pairs will be pushed forward unless the work originator has stated that they must be stumped at that point for future use.

Note: Repair/provision type work

It is expected that any spare pairs within a straight through in line joint (up to 50 pair) will be pushed forward **(if possible to do so)**. In larger straight through joints we would expect that spare pairs up to 20 pairs max would be

pushed forward within the scope of the normal work activity unless the work originator/planner has stated that they must be stumped for future use.

- In distribution joints, all onward distribution cables should be checked and if capacity has been reached on all, bar one, then spares should be pushed through that one cable.
- In cases where there is capacity in all or some of the onward distribution cables, then a common sense decision should be made as to the most beneficial allocation of any spares from the main feed.
- However with radial/DP type joints (especially the 30 series) due to the difficulties involved it is **not** a requirement to push spare pairs forward.

Note: Do not joint spare pairs from one DP feed cable to another DP feed cable in a radial type joint.

5.7 B2223 (DL) N2123 (C) Score: 5 points

Item Description: Continuity wire terminated correctly and proved end to end (earth test)

Scope: All E side cable joints and terminations (not D side type closures in the E/O) provided/worked upon

Points of product reference: EPT/ANS/A006

Specific guidance:

- Retrospective checks include Exchange, PCP/SCP and customer end only
- Correct continuity wire connected correctly.

5.8 I6026 (DL) N2127 (C) Score: 5 points

Item Description: Has modular joint been repaired / made correctly?

Scope: All modular joint/s worked upon

Points of product reference: EPT/ANS/A006

Specific guidance:

- Only checked if engineers skills are known

Where engineer is equipped to carryout modular jointing as part of spec/contract the following applies:

- If the modular joint being worked is in need of a remake and is 10 pair or larger it must be modular jointed.
- If completing repair work within an existing modular joint it must be corrected using modular jointing methods (no crimps allowed).
- If completing repair work within an existing crimp (CWI) type joint and only a few pairs need re-crimping then current crimp (CWI) methods should be used.

***Where engineer not equipped for modular jointing the following applies*:**

- All current crimp (CWI) jointing methods must be used.
- If completing repair work within an existing modular joint it may be corrected using a crimp (CWI) on the faulty wire/s.

6 *Closures*

6.1 General statement

If a closure has been correctly fitted to the manufacturer's instructions, and is waterproof as detailed below then you must mark H, M, N, I6017/N2409, N2408, N2405, and N2407.

6.1.1 General Check Items for All Closures

- No dropwire, CAD55M/CDW15 or cable down lead (except for Kit Aerial Closure, the mechanical closures (clip type) when used as high pair count DP's in the overhead network and under eaves closures) to be incorporated in the joint closures
- No jumper wire to be incorporated in the joint closures
- No internal type cables to be incorporated in the joint closures in an external situation.
- Shrinkdown material must be free from bubbles, splits and cracks
- Shrinkdown material must be shrunk down to the correct profile for the relevant closure type in accordance with the closure instructions.
- Where branch clip(s) are required, they must be the correct type and size for the closure
- Do not mix branch clips from different kits
- Cable armouring wires must not enter the joint closure
- Only approved closures can be used
- No aerial cable webbing to be incorporated in sheath closure
- Closure is correct for the size / type of cable
- All aspects of closure have been fitted correctly - this will require inspection above and below the closure
- No evidence of sheath damage at work point including splits & heat damage
- No evidence of kinked cables being caused.
- No evidence of crushed cables from previous closures

- No evidence of trapped material (wire, cable etc.) in the closure seal

Note: Any damage clearly caused by bend radii not being maintained during the installation or termination of new cables, including joint re-makes is covered under A2562.

Note: Any kinked / crushed cable found during single pair repair/ provision activities e.g. 82.2R should be reported as an A1024.

- Closures and cables must not be used in unsuitable/unsafe locations e.g. Installation of Joints above ground supported by a spike or stake, or lying on the ground, are **not** permitted. Existing examples must either be remedied or reported via A1024.
- A.A.P Pole renewal work - Where pulling "slack" cable to enable existing block to reach top of pole has resulted in the joint being pulled tight against the duct mouth, mark this item "below standard". NOTE**:** For cable only pulled tight (no joint) see N4411.
- A.A.P Pole renewal work - Where Block Terminal requires replacement and Joint Box is within 20m of the Pole and linked by a clear duct (not blocked pole bend not included), the tail should be run in one continuous length to the feed joint. Duct blockage clearances at the pole bend are included in the template. Where clear duct exist but a joint behind the capping has been provided, mark as "below standard" (marked under A1013)
- If closure used in wrong/unsafe situation on pole/wall behind capping or at capping position (e.g. that would obstruct safe ladder placement and climbing) - award defect.
- On A.A.P. pole renewals if joints exist below 2 metres & is only reattached to the new pole it is not a defect if fitted below 2 metres and capping 8 cannot be fitted if there is insufficient slack to allow it to be fitted above 2 metres.
- If joints are entered to replace or add a cable the joint has to be brought up to the quality standard and the closure must be either above 2 metres, covered by a capping, buried or in a joint box.
- If joints lower than 2 metres are only entered to undertake a repair or pair diversion, and the closure is not defective, it can be left in situ if capping 8 cannot be fitted.
- Due to gas not being able to be used from Hoists - it is permissible to use two small inline UCJ's in one span. Any more damage would require a length renewal. Kit Aerial Closure 1, large in-line clip closure or Cap end mechanical clip closure must not be used for in situ repair.

Note: For UCJ closures fitted on a pole above 2m check the fixing method under I6019

Note: Small In line clip closure (UCJ) can be fitted at pole (not wall) changeover position providing the closure is behind capping steel 5/8 and the capping sits

firmly on the pole and is in contact on both sides along its entire length without undue damage/stress being applied to the capping and the joint is positioned centrally under the capping (marked under N6017)

Note: It is not permissible to fit Large in line closures under Capping Steel No 8

Note: If Capping Steel 8B is used it must cover the full length of the joint

Alternatively Kit Joint Closure 1 or 2 or Kit Repair 11 Closure kits **only** can be used at pole/wall capping changeover positions below 2 metres from ground level.

Note: It is permissible to use In-Line UCJ small and large closure as a cap ended joint.

6.2 H6017 (DL) N2407 (C) Score: 10 points

Item Description: *Heat shrink type closure provided correctly (visual check) Mark "Not Chk" if temp closure applied.*

Scope: All heat shrink joint closures fitted/worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A008

Specific guidance:

6.2.1 Kits joint closure 1 series

- Correct closure for cable size used
- Evidence of the glue flowing at each cable position
- Evidence of required heat being applied to all of the Shrinkdown
- Foils correctly fitted and visible
- Circumferential cable abrasions visible
- One cable entry per end (maximum cable diameters not exceeded)
- This closure type is suitable for direct burial

6.2.2 Kits Joint Closure 2 / 5a Series

- Evidence of the glue flowing at each cable position
- Evidence of required heat being applied to all of the Shrinkdown
- Foils correctly fitted and visible
- SCOPS correctly fitted and within diameter / cable size requirements
- Circumferential cable abrasions visible
- Cable branch clips present and branch clip glue has melted (different colour)

- Max. number of cables and maximum cable diameters not exceeded
- Rail positioned correctly and aligned alongside largest cable
- This closure type is suitable for direct burial

6.2.3 Kit Joint Closure Cap-Ended (pedcaps) 1a, 1b, 1c & 1d

- Evidence of the glue flowing at each cable position
- Foils correctly fitted and visible
- Pedcap 1A (KJC CE.1A) no more than two cables and maximum cable diameters not exceeded
- Pedcap 1B to 1D no more than 3 cables enter closure (maximum cable diameters not exceeded)
- SCOPS correctly fitted and within cable size requirements
- Circumferential cable abrasions visible
- Cable Branch Clips present
- Correct stores used for PEDCAP or re-entry kit
- If directly buried award defect.

6.2.4 Kit Joint Closure Cap-Ended (pedcap) 1g

- Maximum of 50 pairs (jointed) with up to three cables max only
- Supplied SCOP's fitted on all cables and extend from closure end
- Circumferential cable abrasions visible
- Cable protection foils must be fitted and visible
- No splits, cracks or bubbles present in shrunkdown material
- Must be evidence of glue flow at each cable
- Maximum cable diameters including SCOPs does not exceed joint diameter
- Evidence of required heat applied to all of shrinkdown closure material ensuring the closure shrinks to the correct profile shape
- If directly buried award defect.

6.2.5 Sleeve 43 A/B

- Spur cable provided and no bigger than 50 pair (maximum cable diameters not exceeded)
- Evidence of the glue flow

- Evidence of required heat being applied to all of the shrinkdown
- Foils correctly fitted and visible
- Circumferential cable abrasions visible
- This closure type is suitable for direct burial

6.2.6 Sleeve 44A

- Through cable size a max of 100 pair; spur cable size a max of 10 pair; joint to have a max of 10 pairs jointed only.
- At multiple cable ends supplied SCOPs fitted on both/all cables
- All cables must have supplied SCOP's fitted (on single and multiple cable ends).
- Foils must be fitted and visible
- Circumferential cable abrasions visible
- No splits, cracks or bubbles present
- Must be evidence of glue flow at each cable
- No Dropwire, jumper wire internal cable, cable down lead or cable armouring to be incorporated in to closure
- Evidence of required heat applied to all of closure
- This closure type is suitable for direct burial

6.2.7 Caps sealing

Note: To be fitted to cables/stumped cable ends that are connected to the network or intended to be re-used (NOT obviously out of use).

- Correct type of cap sealing used for cable type/situation (Cap Sealing 16 on non-pressurised D side and Cap Sealing 19 or 20 on pressurised E side).
- Stumped cables capped correctly
- Circumferential cable abrasions visible
- Evidence of the glue flow
- Sealant 10B can be used to fill and seal the caps sealing if gas equipment is not available. Sealant must be visible between the cable and walls of cap sealing and evidence of circumferential cable abrasions.
- This closure type is suitable for direct burial

6.2.8 Kit Joint Closure 2 & Kit Repair 11 re-entry

- Evidence of the glue flowing at each cable, or cable end block position
- Evidence of required heat being applied to all of the Shrinkdown
- Correct number of re-closures fitted to original closure.
- Re-entry Shrinkdown closure aligned and shrunk on to the original closure ends
- Additional / Multiple cables have Cable Branch clips fitted where required (maximum cable diameters not exceeded)
- SCOPS correctly fitted as required (if closure end shrunk directly onto existing/new cable) - within cable size requirements
- Foils correctly fitted to original and new cables
- Circumferential cable abrasions visible
- Sufficient length of rail used
- Bridging rail used to connect two rails if two rails used
- No splits, cracks or bubbles present
- This closure type is suitable for direct burial

6.2.9 Kit repair 11 closures

- Evidence of the glue flowing at each cable
- Evidence of required heat being applied to all of the Shrinkdown
- Additional / Multiple cables have Cable Branch clips fitted where required (maximum cable diameters not exceeded)
- SCOPS correctly fitted as required - within cable size requirements
- Foils correctly fitted to original and new cables
- Circumferential cable abrasions visible
- Sufficient length of rail used
- Bridging rail used to connect two rails if two rails used
- No splits, cracks or bubbles present
- This closure type is suitable for direct burial

6.2.10 Kit Joint Closure Cap-Ended (pedcap) Re-Closure r2, r4 and 1h

- No splits, cracks or bubbles present

- Sleeve covers repair with end of sleeve on or just over the top ring
- Evidence of required heat being applied to all of the Shrinkdown
- Correct re-entry closure stores used
- Correct number of re-closures fitted to original closure.
- SCOPS correctly fitted and within cable size requirements
- Circumferential cable abrasions visible
- If directly buried award defect.

6.3 R6017 (DL) N2408 (C) Score: 10 points

Item Description: *30 series resin type closure provided correctly (visual check) Mark "Not Chk" if temp closure applied.*

Scope: All 30 series resin joint closures fitted/worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A008

Specific guidance:

6.3.1 30 Series sleeves - general

- Clamp present
- Clamp in sound condition
- Faces of the clamp meet (Screw type)
- Ski boot type clamp closed correctly
- Stumped cables sealed, correct caps sealing used, cables abraded correctly
- "O" ring clean and free from resin, grease and dirt.
- Mating surfaces of the base, dome and clamp clean and free from resin, grease and dirt
- Fabric of closure not damaged
- Maximum cable diameters not exceeded
- Shrinkdown material free from splits and bubbles
- Correct number of cables per port
- No cable armouring wires entering the joint closure
- No dropwire, jumper wire, cable down-lead or internal type cables to be incorporated in the following 30 series joint closures
- If directly buried award defect

6.3.2 Sealant 10 B Usage

Note: This guidance contains details of all joint type applications – use the appropriate closure items.

- Correct sealant for closure type
- Correct amount of Sealant applied
- Sealant has not overflowed onto outer body mating surfaces or ‘O’ ring
- Visible gap present between all cables and closure side wall, with no visible voids.
- 30 series closures must have all open ports sealed
- Heat shrink 30 series closures with more than 1 cable in any port must be sealed with Sealant 10B (Red) to the top of the individual cable ports and level with the flat base section of the closure body.
- Heat shrink 30 series closures with ports with only 1 cable must be sealed if found to be defective.
- Heat shrink 30 series oval ports with 2 or more cables sealed.
- A minimum of 10mm of Closure Sealant 10B must be applied over the existing resin in resin closures to ensure an effective seal is made.
- Old type RADI 100 closures with nuts seals, bolt seals, gland seals or with shrink teats going down below the base sealed level with base section.
- Radi 100 closures centre compartment must be filled with sealant 10B to the top of the compartment, level with the base section
- Sleeve 31J & M all cables and foils (if not able to be removed) have a minimum 10mm covering of sealant 10B.
- Pedcap RA sealed with a minimum 10 mm above any SCOPs that protrude into closure.
- If any of the Sealant 10B requirements cannot be met the closure MUST be removed and put into a Modern Type closure
- It is not expected to apply sealant 10B if the joint cannot be positioned vertically or a modern closure cannot be fitted due to insufficient length – in these cases the engineer must submit A1024 for a Jointing/Cabling Solution.

6.3.3 31a Resin Closure Version

- Visible gap between individual cables and between cables and the base side wall - visual check - (either at the top of the resin or the base of the closure)

- Cables firm (no movement) when a *light pull* applied after removing cable ties/straps; Definition of a *Light Pull* is - putting a cable under full (pull) tension with only the finger and thumb; Use this method to firmly apply tension to each cable whilst holding the base
- Circumferential cable abrasions visible
- Resin set with no visible voids that would allow the ingress of moisture
- Depth of resin from top edge of base to be no more than 12 mm when new cable added (visual inspection)
- If directly buried award defect

6.4 A6017 (DL) N2412 (C) Score: 10 points

Item Description: *30 series heat shrink type closure provided correctly (visual check) Mark "Not Chk" if temp closure applied.*

Scope: All heat shrink 30 series joint closures fitted/worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A008

Specific guidance:

6.4.1 Series sleeves - general

- Clamp present
- Clamp in sound condition
- Faces of the clamp meet (Screw type)
- Ski boot type clamp closed correctly
- Stumped cables sealed, correct caps sealing used, cables abraded correctly
- "O" ring clean and free from resin, grease and dirt
- Mating surfaces of the base, dome and clamp clean and free from resin, grease and dirt
- Fabric of closure not damaged
- Maximum cable diameters not exceeded
- Shrinkdown material free from splits and bubbles
- Correct number of cables per port
- No cable armouring wires entering the joint closure
- No dropwire, jumper wire, cable down-lead or internal type cables to be incorporated in the following 30 series joint closures

6.4.2 Sealant 10 B Usage

Note: This guidance contains details of all joint type applications – use the appropriate closure items.

- Correct sealant for closure type
- Correct amount of Sealant applied
- Sealant has not overflowed onto outer body mating surfaces or ‘O’ ring
- Visible gap present between each cable and closure side wall, with no visible voids.
- 30 series closures must have all open ports sealed
- Heat shrink 30 series closures with more than 1 cable in any port must be sealed with Sealant 10B (Red) to the top of the individual cable ports and level with the flat base section of the closure body.
- Heat shrink 30 series closures with ports with only 1 cable must be sealed if found to be defective.
- Heat shrink 30 series oval ports with 2 or more cables sealed.
- A minimum of 10mm of Closure Sealant 10B must be applied over the existing resin in resin closures to ensure an effective seal is made.
- Old type RADI 100 closures with nuts seals, bolt seals, gland seals or with shrink teats going down below the base sealed level with base section.
- Radi 100 closures centre compartment must be filled with sealant 10B to the top of the compartment, level with the base section
- Sleeve 31J & M all cables and foils (if not able to be removed) have a minimum 10mm covering of sealant 10B.
- Pedcap RA sealed with a minimum 10 mm above any SCOPs that protrude into closure.
- If any of the Sealant 10B requirements cannot be met the closure MUST be removed and put into a Modern Type closure
- It is not expected to apply sealant 10B if the joint cannot be positioned vertically or a modern closure cannot be fitted due to insufficient length – in these cases the engineer must submit A1024 for a Jointing/Cabling Solution.

6.4.3 30 Series closures heatshrink version

- Foils correctly fitted where required
- Circumferential cable abrasions visible

- Correct branch cable clips fitted where required or evidence that they were fitted correctly when closure originally fitted.
- Evidence of the glue flowing at each cable position?
- Clear evidence that the port is correctly shrunk down?
- If directly buried award defect

6.4.4 Sleeves 31X/M/J

- Foil correctly wrapped around cables
- Circumferential cable abrasions visible
- Shrunkdown on block correctly
- Evidence of the glue flowing at the block position?
- Heat has caused white spots to discolour from the newly shrunk section, but not from the factory pre-shrunk area around the base
- Overshrink soundly shrunk on block
- (31M) Closure used on **no** more than 8 cables.
- (31J) Closure used on 9 cables or more, in a radial DP situation with no more than 2 large cables present
- If directly buried award defect

6.5 I6017 (DL) N2405 (C) Score: 10 points

Item Description: *Permanent approved closure provided correctly (visual check) Mark "Not Chk" if temp closure applied.*

Scope: All other (not heat shrink, 30 series resin or heat shrink, or new mechanical (clip) type) joint closures fitted/worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A008

Specific guidance:

6.5.1 Sleeve 34 series & 100 pair / 0.9mm

Note: Internal cable can be used in this closure when fitted internally (e.g. cellar, riser etc.)

- External Inspection prior to opening **:-**
- All bolts, nuts & washers in place and tight
- posts on base are flush with surface of closure top

- Faces meet at all bolt positions (no visible gaps between the two halves) - Base may have a few small gaps due to high cable numbers
- Axial/grip tapes are visible and fitted correctly (external visual inspection)
- All clips (snap fits) are locked in position (100 / 0.9m)
- No movement of cables in closure when a *light pull* applied after removing cable ties/straps; Definition of a *Light Pull* is - putting a cable under full (pull) tension with only the finger and thumb; Use this method to firmly apply tension to each cable whilst holding the closure
- Max number of cables/size not exceeded for ports used
- Cable PET Aerial has been prepared correctly (webbing removed) prior to fitting into closure.
- Spare ports sealed with correct plug/sealant
- Ports with multiple cables entering, gel blocks fitted between all cable surfaces in sealing position (visual inspection) fitted as per instructions.

Internal inspection after opening closure:

- Axial/grip tapes visible fitted correctly on both sides of gel sealing block (includes correct trimming of external hard plastic spacer and installing correct amount of grip tape.
- Rubber gel/spacer bag, bags static or any similar sized bag fitted correctly to contain/protect pairs/crimps/connections within the closure. The bag must be left open at the bottom (not taped up) and the desiccant pack/s can be either in or out of the bag. All gaskets and mating surfaces clean, in good condition and fitted correctly
- Closure correctly built for joint type
- If directly buried without being in a protective poly bag award defect

6.5.2 2 – 5 pair Universal Closure (applies to original and gel filled type)

- No conductors or crimps in sealing area
- Lid and base are correctly closed
- Maximum cable sizes not exceeded.
- Blanking plug fitted where required
- Armouring/annular protection removed from cables prior to fitting into closure.
- This closure type is suitable for direct burial

6.5.3 Kit aerial cable closure no 1

- Closure fitted with drain holes lowermost or additional drain holes fitted to bottom of closure
- Correct CWI's or dropwire connectors for conductor sizes used
- Closure clipped together and fitted to Aerial Cable as per product instructions
- Maximum number of dropwires not exceeded for the product
- Maximum cable sizes and cable numbers not exceeded for the product
- Mastic sealant on cable entries used/sealing correctly
- Cone shaped grommet used for spur cables
- Cable sheath removed correctly so that visible pairs are inside closure with cable sheath sealed at sealant positions
- If directly buried award defect

6.5.4 Under eaves closure

- Only to be fitted under customer's eaves or in blocks of flats on landings/hallways/walkways (not allowed in any underground situation or on poles).
- Correct closure for joint size used.
- Maximum cable sizes not exceeded.
- Maximum number of cable/dropwire/downlead entries not exceeded.
- Closure closed properly with supplied strap types fitted correctly, tensioned and cropped using a tensioner.
- Closure fitted correctly to the eaves of the customer's premises using screws fitted through the base into brick or timber.
- Aerial cable suspension steel & webbing removed prior to fitting aerial cable into closure.
- Armouring/annular protection removed from cables prior to fitting into closure.
- INTERNAL CHECK - Correct type of connectors used for the conductor type.
- If directly buried award defect

6.6 N6017 (DL) N2409 (C) Score: 10 points

Item Description: Mechanical type closure provided correctly (visual check) Mark "Not Chk" if temp closure applied.

Scope: Mechanical (clip/ski-boot) type joint closures fitted/worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A008 EPT/OHP/B012

Specific guidance:

6.6.1 Small/Large/ Extra Large In-line/Cap-ended Mechanical Closure

External Checks

- Large cap end closure only - Arrow MUST point towards base of joint and packaging must be removed.
- Appropriate number of latches fitted and correctly closed.
- Correct latches used for UCJ joint type
- Correct branching plug used for the cable.
- All ports correctly sealed (correct filler rods used where appropriate).
- Integrity of closure not compromised.
- Stumped cables sealed, correct caps sealing used, cables abraded correctly
- No evidence of trapped material (wire, cable etc.) along closure length.
- Closure lashed with Wire Lashing 1B if fitted in A/C span

Note: With this product a slight movement may occur if a *light pull* is applied after removing cable ties/straps; Definition of a *Light Pull* is - putting a cable under full (pull) tension with only the finger and thumb; However this does not necessarily mean there is a defect with the closure and further investigation to identify cable sizes and or plugs are correct is needed.

Note: When a D port is used on a cable measuring to a B port on the tape then a light pull must be applied during installation and if the cable moves freely then a B port should have been provided and if not done this is a defect.

Internal checks

- No evidence of trapped material (wire, cable etc.) along closure length.
- All seals/Gel tape correctly fitted and in place.
- Branching plugs correctly mounted/fitted.
- Branching plugs/cable clips correctly closed.
- Branching plugs/seals fitted on undamaged clean cable sheath only.
- Correct port reducers & branching plug used i.e. black for copper and grey for fibre
- Adhesive tape must not be provided or exist over port reducer
- No evidence of internal fabrication damage

- If the bar between the 2 clamps is removed on extra large copper joints this is not a defect.
- Maximum cable sizes not exceeded.
- Maximum number of jointed pairs not exceeded.
- Ensure that seals and grooves are clean.

6.7 A1013 (DL) N2238 (C) Score: 5 points

Item Description: *No additional un-necessary joint created.*

Scope: All new joints provided in association with the work site identified for checking.

Applies to newly provided or renewed cable lengths, BT & Tail and pole renewals.

- For pole and BT & Tail renewal – excludes cables from manholes and carriageway boxes

Points of product reference: EPT/ANS/A008

Specific guidance:

- Joint made on pole/wall behind capping when the pole is fed by un-blocked duct from a surface box within 20metres - award defect.
- Additional joint provided in joint box to avoid running renewed cable into existing joint - award defect
- No additional un-necessary joint created in accordance with planned job pack/template requirements.

Note: Fitting/providing a new joint to remove aluminium cable from a working joint (e.g. fit in a copper tail to prevent faults) does not constitute a defect

6.8 A1014 (DL) N4108 (C) Score: 10 points

Item Description: No cable pairs exposed below Block Terminal/out of closure on completion of work.

Scope: All block terminals fitted, replaced or moved in association with the work site identified for checking

Applies to provided, renewed or moved block terminals only.

If block terminal is only worked on then A2131 applies if no A1024 submitted

Points of product reference: EPT/ANS/A008 & EPT/ANS/A006

Specific guidance:

- Cable butt secured in the block terminal (not pulled below block to gain length).

- Cable feed joint in jointing chamber not pulled up restrictively close to duct mouth.

6.9 A1015 (DL) N2411(C) Score: 5 points

Item Description: Pole capping protecting joint.

Scope: All joints provided/worked upon on poles/walls in relevant position below 2.0 metres from ground level requiring capping to be fitted as part of work undertaken.

See N6017 for Small UCJ that can be fitted on poles only

Points of product reference: EPT/ANS/A006

Specific guidance:

- Applies to joints worked on only
- Correct size capping used, as required, to protect joint for relevant position on pole/wall.
- Capping 8 or 2 x 1200mm lengths of capping 8B, with the top section slightly overlapping the bottom section
- If joints lower than 2 metres are only entered to undertake a repair or pair diversion, and the closure is not defective, it can be left in situ if capping 8 cannot be fitted.

6.10 A2007 (DL) N2401 (C) Score: 10 points

Item Description: *Permanent approved closure for E Side cable provided correctly (visual check).*

Scope: All E side network in association with the work site identified for checking

Points of product reference: EPT/ANS/A008

Airblocks and air take-offs are covered under A2013/2312, N2301/N2310.

Specific guidance:

- A Permanent closure has been fitted where required. (If a Temp closure has been fitted when a permanent should/could have been fitted mark as below standard)
- Closure is correct for the size / type of cable/s
- Closure has been fitted in accordance with the manufacturer's instructions

6.10.1 Kit joint closure 4 series

Note: KJC4 closure material is fabric and some glue seepage through the material may occur, this is not classed as a defect (e.g. split sleeve).

- Has the glue exuded at each cable position
- Evidence of required heat being applied to all shrinkdown
- Foils fitted and visible
- Circumferential cable abrasions visible
- Does the completed closure display along the entire rail area either, continuous parallel white lines, or, combinations of parallel white lines and protrusions of sleeve material through the channel grooves, or, combinations of singular & parallel white lines and protrusions of sleeve material through the channel grooves.
- If there are 2 or more cables fitted per end, correct cable branch clips used and branch clip glue has melted
- If cables of different sizes used is largest cable against the rail
- Max of 3 cables at each end and max cable diameter sizing not exceeded
- Does the rail follow the transition of the sleeve
- Has the pressure valve been fitted correctly with valve core and cap fitted
- Is the retention clip fitted centrally between the rail and positioned opposite the pressure fitting
- Closure has no air pressure leaks
- Have heat protectors (SCOPs) of the right type been fitted correctly to any cable PEUT 50 pair 0.5 fitted into the joint closure.
- If directly buried award a defect.

6.10.2 Caps sealing

Note: To be fitted to cables/stumped cable ends that are connected to the network or intended to be re-used (NOT obviously out of use).

- Correct type of cap sealing used for cable type/situation (Cap Sealing 16 on non-pressurised D side and Cap Sealing 19 or 20 on pressurised E side).
- Stumped cables capped correctly
- Circumferential cable abrasions visible
- Is there evidence of the glue flow

6.11 I6021 (DL) N2406 (C) Score: 10 points

Item Description: Temporary closures applied correctly (visual check) using Sheet Rubber Adhesive.

Scope: All temporary closures fitted or replaced on any joints worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A008

Specific guidance:

- Correct stores item used (Sheet Rubber Adhesive)
- Cables abraded circumferentially
- Tape Temporary Closure on all cables, with 50% overlap and a double layer on cables up to and including 10 pair.
- Suitable straps cable fixing fitted correctly with appropriate tensioner to each cable
- Correct gaps between cables - minimum 40 mm
- A1024/correct reporting process followed for permanent repair
- Check the closure is air tight by squeezing the bag by hand - Air should not be expelled
- Temporary closure should not be used where standard closure can be applied
- No dropwire, jumper wire, cable down-lead, armouring or internal type cables to be incorporated in the closure

6.11.1 For Pressurised Cables (extra check)

- Sheet Rubber Adhesive must be deflated and wrapped tightly to joint with tape reinforcing fully encasing the closure.
- Air valve present and correctly fitted

6.12 I6019 (DL) N4411 (C) Score: 5 points

Item Description: Joint/Cables correctly supported and restrained

Scope: All joints & cables in association with the work site identified for checking.

Applies to all cables worked on including any moved during cabling and jointing activities (copper and fibre).

Points of product reference: EPT/ANS/A003

Specific guidance:

- Joint and cables supported on brackets where possible and fastened with Strap Cable Fixing 1A, or tape plastic as appropriate
- SCF1A cut flush with no sharp ends or if a reusable SCF folded within strap

- UCJ fixed to pole (if above capping) at 2 fixing points top and bottom using either SCF14A (or aluminium strip) through rear strap slots or wood screws.
- In joint boxes: JB21, JB22, JB23, JB26, JRC2, JBC2, JUF2 and JBF2, without pre-installed mounting bolts, it is not necessary to support joints or cables and should be marked as not checked.
- Cables in JBF4 / JUF4 and above need to be supported and restrained if achievable e.g. if bolts and nuts exist.
- Joint Support Kit 1A used where bolts and nuts do not exist
- In PCP cables feeding modular assemblies must be supported and restrained. Where possible cables feeding SCC should be supported and restrained.
- In PCP where cable enters a duct not directly below the allocated termination point has cable sheath been removed before the first bend, protective sleeving provided and supported and restrained. The cable routing should not interfere with any future PCP activities e.g. cabling, duct sealing or Jumpering.
- In PCPs provided with tool-less connectors:
  - Velcro straps fitted (3 per column side)
  - Cables secured with SCF to new easy access tags
  - Wires formed around T shaped strain relief points
- Where the contract or work content requires the fitting of bolts, brackets, bearers etc. the submission of an A1024 is not appropriate
- A.A.P Pole renewal work - Where pulling "slack" cable to enable existing block to reach top of pole has resulted in the cable being pulled tight across the box, mark this item "below standard".
- On PCP Re-shell Jointer Assist activities this includes all cables moved in the associated joint box and on PCP assemblies

6.13 A2151 (DL) N4212 (C) Score: 5 points

Item Description: Joint/cable/cabinet marked or labelled correctly

Scope: All cabinets replaced or joints & cables worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A003

Specific guidance:

Joint closures:

- Closure body legibly marked in a durable, indelible marker (e.g. Pen Marker No2) with:
  - UIN, date, job/estimate number, contractor company ID

Cables:

- Cable Label Marker (white label) fitted at all workpoints and all fields legibly completed in Pen Marker No1
- Where E or D side aerial cables are fed from the underground network rather than from an overhead DP, has the aerial cable been labelled correctly at the underground location.

Note: It is not necessary to label a DP tail cable at the block terminal (pole top) end. It is not necessary to label aerial cables unless the number of cables of similar size and type, erected in line of route, makes identification of individual cables difficult.

- PCP shells & All in One cabinets must be numbered in the correct positions and size using stencil and acrylic white paint in accordance with CN 15576 (PCP numbering is the responsibility of the jointer assist activity on a reshell or the installer of the first cable on a new PCP)
- PCP Tool-less connectors labelled as follows:
  - 10 and 100 pair markers fitted
  - Yellow marking caps provided for NGA tie cables – provided on minimum of 1st and last pair on each block of 10
  - A4 label provided on inside of PCP door
- DP number annotated if BT/BC is wall mounted

6.13.1 Joint closures

- Information must be printed on the body of the closure (Not the dome 30 series)
- Where a new cable has been provided into an existing joint, the Port must carry the relevant information or if the port is too small to accommodate the details then attach a white label and mark the label accordingly.
- On an existing joint, where no work, other than reconnecting wires has taken place, joint marking is not required.
- If the joint is an underground radial DP then add the DP number.
- E side cable repair using Alpha tape: repair labelled as ‘Compression tape repair’ using white label

7 *Pressurisation*

7.1 A2013 (DL) N2301 (C) Score: 10 points

Item Description: Airblock fitted correctly.

Scope: All air blocks fitted or replaced in association with the work site identified for checking

Points of product reference: EPT/ANS/A006 & EPT/ANS/A021 EPT/CJT/C031

Specific guidance:

- Checked on E side construction & Repair / Pressure jobs when newly fitted
- On all other work mark as not checked
- The Air block provided is correct type for the size / type of cable.
- Air block has been fitted correctly to the manufacturer's instructions.

7.1.1 Horizontal

- Fitted as per manufacturers instructions

7.1.2 Vertical

- Cone correctly filled with resin and tubing flexible fitted
- Lapping tapes on cable pair units removed (IP check only)
- Continuity wire correctly fitted
- Tape applied to the base of the cone and around the cable
- Cone seated in correct clamp

7.1.3 Kit Airblock Wrap-Around 1a/1b

- Has the glue extruded at each cable position
- Evidence of heat being applied to all of the shrinkdown
- Foils fitted and visible
- Have heat protectors (SCOPs) of the right type been fitted correctly to any cable PEUT 50 pair 0.5 fitted into the airblock.
- Are the two white lines visible underneath the rail, the full length of the closure
- No air pressure leaks
- Correct closure size/type used for cable
- Both sleeves have been shrunkdown, one over the other, with rails diametrically opposed - No cooling time between sleeve shrinkdowns (IP check only)

7.2 A2034 (DL) N2314 (C) Score : 10 points

Item Description: Alpha tape provided correctly when repairing pressurised cable

Scope: All repairs made using alpha tape on the job being checked

Points of product reference: EPT/ANS/A008

Specific guidance:

- Tape to be used on E-Side network only
- Leak detection solution must be fully removed from area covered by tape
- Tape to be prepared in angled strips (In progress)
- Evidence of primary layer of tape being stretched (in progress)
- Evidence of ‘tape-overlapping’ along white line
- Tape provided to a minimum of 25mm either side of damaged areas
- A secondary fusion layer of tape has been provided

7.3 A2312 (DL) N2310 (C) Score: 5 points

Item Description: Pressure fittings associated with joint worked upon replaced/fitted correctly

Scope: All Pressure fittings associated with jointing work in association with the work site identified for checking

Points of product reference: EPT/ANS/A006 & EPT/ANS/A021

Specific guidance:

7.3.1 Air take off

- Is there evidence of the glue exuding at all positions
- Is there evidence of heat being applied to all the shrinkdown
- Foils fitted and visible
- Have heat protectors (SCOPs) of the right type been fitted correctly to any cable PEUT 50 pair 0.5 fitted into the closure.
- The area within the silver circle around the pressure fitting should not have any sign of heat having been applied
- Correct pressure tubing used
- Rail aligned correctly

- No pressure leaks

7.3.2 Tubing runs external

- Tubing polyethylene 0.25 inch fitted correctly
- Inserts fitted to tubing at connection points
- No pressure leaks on tubing/connections

7.3.3 Tubing runs internal

- Tubing Aluminium ¼" fitted correctly
- No pressure leaks on tubing/connections

7.3.4 Other pressure fittings external

- Tubing polyethylene 0.25 inch fitted to pressure gauge / contactor / alarm / transducer correctly
- Pressure alarm fitted correctly
- Correct pressure fittings used at pressure alarm and air take-off
- Alarm wired correctly to E side pair

7.4 A2310 (DL) N2309 (C) Score: 5 points

Item Description: Alarms and Gauges set to correct level and pressure level maintained

Scope: All Pressure work undertaken in association with the work site identified for checking

Points of product reference: EPT/ANS/A006 & EPT/ANS/A021

Specific guidance:

- This check item is not applicable to a Network Assessor retrospective Check

7.5 A2015 (DL) N2302 (C) Score: 5 points

Item Description: Flow rate and pressure correct for cable worked on.

Scope: All Pressure work undertaken in association with the work site identified for checking

Points of product reference: EPT/ANS/A021

Specific guidance:

- This check item is not applicable to a Network Assessor retrospective Check

7.6 A2028 (DL) N2304 (C) Score: 5 points

Item Description: Pressure monitoring group advised of intervention.

Scope: All Pressure work undertaken in association with the work site identified for checking

Points of product reference: EPT/ANS/A021

Specific guidance:

- This check item is not applicable to a Network Assessor retrospective Check

8 *Block terminals*

8.1 Clarification of Corrosion in a Block Terminal / Box Connection

8.1.1 Obsolete Block Terminals 13, 15, 16, 17, 18 & 42 - Non-replaceable Terminal Type etc.

- Corrosion is defined as any terminal with white powder deposits.

Note: Corrective action is**:**

1. Brush the top facing and side surface of the terminal/s clean of deposits (any deposit bridging across the connectors will require removing first) without disturbing any existing customer circuits or other wires (unless they need re-terminating because they were incorrectly terminated).
2. Brush the inside of the block to remove as much of the cobwebs, dirt and other debris as possible (without disturbing any of the existing circuit's etc.).
3. Wipe the top facing and side surface of the terminals with rags synthetic to ensure they are as clean and dry as possible.
4. Upon completion of all work on the block terminal spray the block, as per ISIS, with spray De- Watering 1A and replace the lid correctly.
5. Finally report the block terminals 17 & 42 (if corroded and requiring replacement) via the current A1024/PAT fault (as appropriate) procedure if unskilled or working on a singleton basis. If any BT 13 or 18 connections are corroded and require replacing, the complete block should be replaced on site with a BT66B.

8.1.2 Obsolescent/Obsolete Block Terminals 66A, 41 & 41A - Replaceable Terminal Type etc.

- Corrosion is defined as any block insert with white powder deposits.

Note: Corrective action is**:**

1. Any insert contaminated with the white powder corrosion MUST be removed.
2. Any working pair/pre-connected pair's insert contaminated by the white powder corrosion MUST be replaced.
3. If terminals are discoloured or have any deposits other than white this does NOT indicate an insert failure, the terminals must be brushed, cleaned and sprayed but should not be changed out as a matter of course.

- Definition of "brushed" is - Brush the top facing and side surface of the terminal/s clean of deposits (any deposit bridging across the connectors will require removing first) and dirt without disturbing any existing customer circuits or other wires (unless they need re-terminating because they were incorrectly terminated). Also brush the terminal connection area within the block body to remove as much of the dirt and other debris as possible (without disturbing any of the existing circuits etc.).

Note: Some small deposits may be impossible to remove from the screw-heads, face or inside the barrels of the inserts, but providing they have been sprayed correctly this will become inert.

- Definition of "cleaned" is - Wipe the top facing and side surface of the terminals/inserts with rags synthetic to ensure the dirt and debris that can be removed has been. And they are as clean and dry as possible (without disturbing any of the existing circuits etc.).
- Definition of "sprayed" is - On completion of all work on external block terminals, spray the block (using the extension tube in accordance with instructions with Spray De-watering/AC-90

8.1.3 Obsolescent Block Terminals 76/86 - Non-replaceable Terminal Type etc.

- Corrosion is defined as a white/green substance appearing inside the connector and/or at the entry point (open end) of a crimp/CWI, not when the wire only has signs of corrosion (this can be re-terminated).

Note: Corrective action is**:**

- Report the block terminal as corroded and requiring replacement via the current A1024/ PAT fault (as appropriate) procedure if unskilled or working on a singleton basis.

8.1.4 Box Connection 18, 19, XNTE - Replaceable Terminal Type etc.

- Corrosion is defined as white powdery substance appearing at the opening of the module.

Note: Corrective action is**:**

- Using correct standard working practices for the block type replace the module and re-terminate all wires correctly.

8.1.5 FVR Block and Tail activities

- The new IDC BT inserts can be provided in serviceable BT 41s
- Obsolete dropwires are not compatible with the new IDC BT inserts
- Any obsolete dropwire on the removed screw inserts does not need to be renewed (unless found defective between the ring head and BT/BC termination check) – connect the UG pair to the IDC insert and connect the obsolete DW to the IDC insert with a 0.5mm copper tail using CDW2A**.**
- All obsolete CWI e.g. blue beans must be removed – normally this requires the aluminium cable tail to be replaced
- Cable tails must be provided to the existing joint in a joint box within 20 metres, unless there is a blockage, where a new pole joint can be provided.
- If a new pole joint has been provided use rods to check the duct is blocked if not blocked, and within 20 metres, this is an A1013 defect.
- New tails must be provided directly into the existing or replacement joint - connecting the new tail to the old tail by an additional new joint is not allowed and is an A1013 defect
- Only a small in line UCJ is allowed under the capping
- Capping 5 or 2 x 1200mm sections of capping 8B can be used to cover the joint and cable
- Only the dropwire condition from the ring head/ dropwire clamp to the BT/BC termination is included in the task / check.
- For SD FVR engineers only, obsolete dropwires should be renewed where it is possible to do so. If not possible, e.g. minimum wire height cannot be achieved or skilling, then the obsolete wire should be connected to the BC 20 using an AGC/BT66B and 0.5mm dropwire tail
- Any defective dropwires found in the above check must be replaced

- Any short dropwires can be fed into the back of the BC – otherwise they must be replaced. Extending short dropwires within a BT66B is not allowed.
- All dropwires, including spare pairs, must be routed and restrained correctly to, and within, the BT/BC.
- All wires within the BT/BC must be correctly terminated

8.2 I6240 (DL) N4104 (C) Score: 10 points

Item Description: Non-IDC blocks cleaned. External non-IDC blocks cleaned and sprayed with spray de-watering/AC90. All connections dry & free from corrosion, any corroded inserts/modules renewed.

Scope: All blocks worked upon in association with the work site identified for checking.

This includes the replacement of BT 41 screw inserts with IDC inserts.

Points of product reference: EPT/ANS/A006

Specific guidance:

- Checked for all types of block terminals and box connections.
- For Asset Assurance work any damaged, cracked or broken block terminals must be replaced. Also any obsolete block terminals e.g. BT 17 & 42 with non replaceable corroded terminals must be replaced
- For Asset Assurance work, and other pole / BT tail renewal and replacement, modules must be provided for all existing overhead dropwires. .
- For new work modules must be provided for all working customers.
- If dropwire worked upon taken into any external Block Terminal (except for BT 66B & BT71A hollow pole) and crimped directly to the U/G pair then mark I6240/N4104 as Bel Std (because no module/insert fitted/used).

Note: Other pairs (not customers worked upon) terminated in block should be marked under item I6230/N4103.

Note: Where a block and tail **only** is being renewed as part of an uplift/asset assurance remedy a check must be made on the dropwires up to and including the pole ringhead/dropwire clamps to ensure they are defect free.

8.2.1 BT 17

- External BT sprayed with Spray De-Watering/AC90
- Reterminate all block terminal connections which are displaying signs of corrosion
- Reterminate all dropwire connections that are incorrectly terminated

8.2.2 BT 13 &18

- External BT sprayed with Spray De-Watering/AC90
- Reterminate all block terminal connections which are displaying signs of corrosion
- Reterminate all dropwire connections that are incorrectly terminated
- If any BT 13 or 18 connections are corroded and requiring replacement the complete block should be replaced on site with a BT66B where copper feeds exist.

8.2.3 BT 41/41A

- External BT sprayed with Spray De-Watering/AC90
- All corroded Block Inserts have been replaced or if not connected to any feed or dropwire circuits removed
- BT 41 IDC inserts used to replace all corroded screw inserts
  - If IDC inserts provided / used arrow on cradle points outwards
  - IDC inserts replaced if 0.9mm (e.g. dropwire 12) was previously used and a smaller gauge dropwire e.g. 0.5mm is subsequently used.
  - If 0.9mm dropwire is to be provided in IDC inserts then only the IDC inserts with the transparent ridge on the flappers should be used
  - Obsolete dropwire not to be used on IDC inserts
  - Any obsolete dropwire on the circuit worked on must be renewed with modern dropwire within the three-span rule. (Checked under I6205)

Note: If BT41 IDC inserts are provided on provision and repair activities and obsolete dropwire exists, on circuits other than the circuit being worked on, the obsolete DW does not need to be renewed – connect the UG pair to the IDC insert and connect the obsolete DW to the IDC insert with a 0.5mm copper tail using CDW2A.

- Reterminate all block terminal connections which are displaying signs of corrosion
- Reterminate all dropwire connections that are incorrectly terminated

8.2.4 BT 42

- External BT sprayed with Spray De-Watering/AC90
- Reterminate all block terminal connections which are displaying signs of corrosion
- Lightning protection carbons/modules fitted correctly on required circuits

- Reterminate all dropwire connections that are incorrectly terminated

8.2.5 BT 66A (Old Type used as pole type DP)

Note: If used in position other that pole type DP it must be converted to BT66B type.

- External BT sprayed with Spray De-Watering/AC90
- All Block Inserts 1& 2 are free from corrosion
- Reterminate all block terminal connections which are displaying signs of corrosion
- Reterminate all dropwire connections that are incorrectly terminated

8.2.6 BT 66B (New Type all locations)

- Drop Wire Connectors or CWI series used

8.2.7 BT76 & 86 series

- Reterminate all block terminal connections which are displaying signs of corrosion
- Reterminate all dropwire connections that are incorrectly terminated

8.2.8 Box Connection 18A, 19A & XNTE

- Wires/pairs correctly connected to external connection modules
- Modules replaced if modern dropwire is used where dropwire, 4 or 8 previously existed.
- Reterminate all block terminal connections which are displaying signs of corrosion
- Reterminate all dropwire connections that are incorrectly terminated
- Faulty XNTE - wiring removed from module and incoming cable and NTE5A cable correctly crimped in XNTE. If applicable extension cable from NTE5A correctly crimped to extension socket cable in XNTE.
- Faulty XNTE – cables not subjected to damage under red line side cover (bottom half of cover should be removed)

8.2.9 Internal BT/BC/NTE/NTP

- All Corroded Block Inserts replaced
- If cable conductor has been reterminated is it corrosion free
- Reterminate all dropwire connections that are incorrectly terminated

8.3 Box Connection 20/40 (BC 20/40)

8.3.1 I6030 (DL) Score: 10 points

Item Description: BC20/40 provided in top pole envelope with single feed cable in centre aperture or additional single UG or A/C cable in earth cable aperture, with no grommet, and green (BC20) or green blue (BC40) connector strips mounted correctly with wire management loop on LHS.

Scope: All block terminals provided in association with the work site identified for checking.

Points of product reference: AEI/BPG/G008

Specific guidance:

- Located in top pole envelope.
- Single UG or A/C cable feed provided in Centre cable aperture with grommet or additional feed cable provided in earth cable aperture with grommet removed
- For BC40, Network cables are to be restrained on the bottom lugs with cable ties, fitted using a cable tie gun so as not to leave sharp edges on the cable tie
- For BC20, Connector strips mounted with wire management loop on LHS (adjacent to pair 1)
- For BC40, Green tool less connectors (i/c 083035) are used for the first two positions due to the positioning of the jumper management loops Blue tool less connectors (i/c 082606) are used for the upper two positions for the same reason

Note: For 15 Way Split Ring (Crown Type) or non-standard poles where the ring has been fitted excessively low it is permissible to fit BC20/40 above the ring if space exists. Each pole must be individually assessed to ensure the fixing is in sound timber and the BC can be safely accessed

8.3.2 I6031 (DL) Score: 10 points

Item Description: BC20/40 cables, wires and approved dropwires only correctly terminated in IDC connectors.

Scope: All block terminals worked on in association with the work site identified for checking.

Points of product reference: AEI/BPG/G008

Specific guidance:

- Aluminium wires not wrapped around restraints or provided with 360 degree twists
- Wires terminated correctly Only 0.4mm to 0.63mm conductor terminated in connectors
- Obsolete DW must not be terminated in connectors
- Dropwire 12 must not be terminated in connectors

8.3.3 I6032 (DL) Score: 5 points

Item Description: BC20/40 cables, wires and approved dropwires correctly prepared, routed and restrained.

Scope: All block terminals worked on in association with the work site identified for checking.

Points of product reference: AEI/BPG/G008

Specific guidance:

- Obsolete DW (if not possible to be renewed on FVR) and cable DW 12 DWs fed to an AGC or BT66B and terminated to 0.5mm dropwire tail using CDW2A for obsolete DW or CWI8A for DW12.
- Cable(s) butted level with bottom of back plate and secured with SCF1A
- Cable to be stripped back 150mm to provide fresh conductor, especially on aluminium on existing cables (IP check)
- All UG wires terminated on connectors
- Wires terminated correctly with A legs on LHS of connector pair
- Copper wires wrapped around restraints and provided with 360 degree twist
- 50mm of maintenance spare left on terminated pairs
- For BC20, Pairs 1-5 & 11-15 provided in LH grommet using rear and front rows of entry holes respectively
- For BC20, Pairs 6-10 & 16-20 provided in RH grommet using rear and front rows of entry holes respectively
- For BC40, Drop wires 1 – 20 should be installed though the bottom left grommet and drop wires 21 – 40 through the bottom right grommet
- For BC40, Existing short drop wires can be installed through the side grommet
- Sleeve DW2A provided over cable butt and level with grommet
- SCF12A provided on restraints above grommets

8.4 I6243 (DL) N4106 (C) Score: 10 points

Item Description: External Block critical items

Scope: All block terminals, XNTE and jointing posts worked upon in association with the work site identified for checking.

Points of product reference: EPT/ANS/A006 & EPT/ANS/A021

Specific guidance:

- BT / BC / XNTE lid securely fastened to the Block Terminal to provide protection from weather
- BT securely fixed with correct fixings within top pole envelope of space
- Wall mounted BT/BC securely fixed with appropriate fixings at a height to meet above ground distribution requirmements.
- Hollow pole door cover missing and not replaced or covered with Duct 58A
- Jointing post lid replaced with plastic type lid if missing or defective. If faulty due to a broken bolt this can be repaired or an A1024 submitted as long as the existing cover can be refitted as interim protection (if no A1024 submitted for broken bolt mark as below standard)
- Jointing brick lid not fulfilling its original specification replace with plastic type lid
- Jointing kerb not fulling its original specification, A55/A1024 submited to provide a new joint box?

Note: Observeved defects on Block terminals not worked on should be marked under A2131.

Note: AGC lid / cover is checked under item I6205

Note: Fitting of BT66B in lieu of Cover 101 on a UG lead in is checked under I6205

8.5 I6264 (DL) N4107 (C) Score: 5 points

Item Description: External Block non-critical items

Scope: All block terminals, box connections and AGC worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A006 & EPT/ANS/A010

Specific guidance:

- BT/BC fixed in correct engineering position (e.g. sufficient space between BT/BC and ringhead to allow easy block lid removal).
- BT/BC Mounting (if used) securely fixed to surface (pole/wall etc.).

- AGC securely fixed to pole, buildings / structures at both ends of the closure – any existing AGC already strapped to clamps that are worked on or replaced, without a DW being provided or renewed mark as Chk OK'.
- AGC fixed to dropwire clamps only at carrier poles only including hollow poles
- AGC fixed to buildings / structures only at end users premises
- AGC provided at End Users fix position unless there is no access to the fix or an existing in situ AGC, BT66. Any BC16A worked on must be replaced
- Any lead in replaced should be renewed to an AGC/ BT66B at the EU fix position unless there is no access to the fix position.
- Within hollow pole BT 71A in correct position and covered with breathable bag (any BT66 in hollow pole must be replaced if worked on)
- Hollow pole cover present but defective or insecure
- Maximum number of cables in BT66 not exceeded
- All BT 41A series snap on covers replaced with slide or new clip-on type.
- Ensure BT/BC lids other than the one worked upon at the Worksite are in good condition and securely fixed to the respective BT

Note: Observeved defects on Block Terminals not worked on should be marked under A2131.

9 *Cabling*

9.1 A2714 (DL) N1104 (C) Score: 5 points

Item Description: Cable/BFT entries to end user premises correctly provided.

Scope: All entries to premises provided by cabler in association with the work site identified for checking

Points of product reference: EPT/ANS/A011

Specific guidance:

- If entry to premises provided by cabler it is correct (not applicable if entry provided by third party)

9.2 A2716 (DL) N1105 (C) Score: 5 points

Item Description: Cable/BFT protected at entry to properties

Scope: All entries to premises in association with the work site identified for checking

Points of product reference:

Specific guidance:

- Cable/BFT protected up to and including entry to property

9.3 A2922 (DL) N1115 (C) Score: 5 points

Item Description: Sufficient cable left for jointing.

Scope: All cable/s installed for the Job/Estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A003 & EPT/ANS/A004

Specific guidance:

- Cable loops left in appropriate position for jointing as per planned job
- Sufficient Cable left at all identified Jointing Positions to allow for opening of cables, jointing of pairs and application of closure.
- UG cable in UG structures a minimum of 1 metre beyond the end of planned jointing position.
- UG cable on poles a minimum of 1 metre beyond block position.
- Aerial cable a minimum of 4 metres beyond A/C termination

9.4 A2920 (DL) N1114 (C) Score: 5 points

Item Description: Cable/sub duct/BFT installed in correct bore.

Scope: All cable/s/sub-duct/BFT installed for the Job/Estimate Number in association with the work site identified for checking.

Checked on planned estimates only

Points of product reference:

Specific guidance:

- Cable/sub duct/BFT in bore designated in WI or supported by records change

9.5 A2948 (DL) N1118 (C) Score: 1 points

Item Description: Excess lubricant removed after cabling/sub duct/BFT installation.

Scope: All cable/s/sub-duct/BFT installed for the Job/Estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A003

Specific guidance:

- Excess lubricant cleaned from cable(s) /sub duct/BFT and duct mouth(s)
- Above ground spillages cleaned up.

9.6 A2950 (DL) N1119 (C) Score: 5 points

Item Description: Anti creepage devices replaced correctly after cabling.

Scope: All cable/s installed for the Job/Estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A003

Specific guidance:

- Have anti creepage devices been replaced correctly after cabling
- Cable theft deterrent device fitted correctly where required

9.7 A2630 (DL) N1102 (C) Score: 10 points

Item Description: Ducts sealed to correct standard.

Scope: All ducts worked on (cabled or rodded & roped) have been sealed correctly using correct techniques and products in association with the work site identified for checking.

Points of product reference: EPT/ANS/A003 & EPT/UGP/B033

Specific guidance:

- Check item applies to Cabling activities only (Civils and PCP/SCP erection covered under C1019)
- Correct sealing products used
- No inflatable air bags used in PCP/SCP or EU premises
- All cabled ducts entering a Cabinet sealed using Resin 14 and correct spacing maintained
- Top hat duct seal – PCP & RDSLAM incremental build
  - Split duct firmly embedded in FILA sealant
  - White H section connectors provided
  - FILA sealant provided to top of duct and all blue sleeves covered
  - Good contact between sealant, cables and duct walls
  - Sealant smoothed off with no indentations to allow pooling of water
  - Blue sleeves provided to fill duct, and 20mm depth of FILA sealant provided in duct (in progress)
- No draw ropes provided through duct seal
- Correct spacing between cables and duct wall
- All un-cabled ducts sealed using Plug Pressure 1 or Resin Pack 14/or compound 16A in old existing PCP/SCP’s.

- Duct Sealing Collar 1A used correctly for overcabled ducts
- Smaller conduits and pipes sealed using a clean rag and facing with Compound 16A.
- Neither cable or seal moves in duct
- Duct entries into customers premises, PCP's, SCP's, cable chambers sealed correctly

Note: A light pull on cables, between finger and thumb, can be used to check that cables do not move in the duct.

9.8 N1103 (DL) N1103 (C) Score: 10 points

Item Description: On newly installed cable/sub duct/BFT. All ends sealed correctly.

Scope: All cable/s/sub duct/BFT installed for the Job/Estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A003

Specific guidance:

- All newly installed cable/sub duct/BFT ends properly sealed.
- Includes Copper and fibre cable

9.9 A2562 (DL) N1150 (C) Score: 10 points

Item Description: Minimum bending diameter of copper cable not compromised.

Scope: All copper cable installed or terminated for the Job / Estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A003

Specific guidance:

- Includes any copper cable provided or terminated in MDFs , cable chambers / joint boxes, PCPs/SCPs and End user premises
- Includes damage to copper cables caused by minimum bending radii not being maintained during installation or termination of cable, including joint remakes.
- No evidence of sheath damage at work point
- No evidence of kinked cables being caused.
- No evidence of crushed cables from previous closures
- The external (PE sheathed) copper cable minimum bending radius is 7 times the outside sheath diameter

- The minimum Bending Radius for pulling during installation is 8 times the outside diameter.
- Cables provided from PCP duct to another assembly position do not encroach into other spare assembly positions.

10 *Dropwire*

10.1 I6205 (DL) N3311 (C) Score: 10 points

Item Description: DW worked upon and / or lead- in checked and replaced with correct DW / cable type if faulty or defective.

Scope: All dropwires and/or lead-ins worked upon/affected by the job/estimate Number in association with the work site identified for checking.

For FVR block and tail activities refer to section 8.1 for additional guidance

This includes the copper element of any FTTP overhead hybrid cable or dual drop hybrid cable provision or repair.

Points of product reference: EPT/ANS/A011

Specific guidance:

Note: Obsolete Dropwire - within the 3 span and lead In rule:

- Up to 3 spans of obsolete dropwire and lead in must be replaced when any span or lead in is worked on
- This applies to all dropwire worked, including all clears up to and including the NTE, and provision in situ jobs – subject to agreed exceptions
- Approved joints cannot be provided in obsolete DW unless exceptional circumstances apply e.g. no access

- Where a defect free dropwire 10/10B/12/15 or cable downlead exists between a wall mounted Distribution Point (block terminal) and the customers NTP, a maximum of one approved joint may be provided. This only refers to customers/cables fed directly from wall mounted DP’s and continuous DPs running along buildings, cables fed from any other types of block terminals on the customers premises are excluded, these should be fed by one continuous cable from the external BT to the NTP.
- When uplifting block terminals to BC 20 on FVR activities with obsolete DW and dropwire 12 an additional joint (AGC/BT66B) can be provided on the pole.
- Re-erected Dropwire / CAD55 run avoiding fixed structures (lamp posts, gable ends etc.) this does not include trees. (if cable/wire deviating its route due to contact with tree/branch then mark G9001 appropriately – applicable to

Contract only) if not possible to avoid structure then has a PAT fault been submitted - If yes mark CHK OK

- No unapproved joint(s) within 3 span rule Dropwire is classed as defective (definition being un-approved open joints or damaged insulation) therefore mark I6205/N3311 Bel Std.

Note: If an engineer cannot upgrade an existing joint due to dropwire being too short into a housing, then the dropwire must be replaced.

- If dropwire 10 and only one circuit fed by this dropwire, is circuit working on Orange/White pair - Swapping pairs/wires within dropwire 10 to use the green/black is not an option
- Are dropwire spans and lead-ins within the 3 span rule free from obsolete dropwire - Except for exceptional circumstances detailed in ISIS

Note: Remember the 3 span rule covers feeds to customers up to 3 spans & lead-in

- If CAD55M/CDW15 exists (and only one or 2 customers fed by this cable) are customers working on the correct sequential pairs - swapping pairs/wires within CAD55M/CDW15 instead of replacing a faulty length is not an option
- Has the appropriate dropwire been used for the situation/site conditions (e.g. Dropwire 12 for long distance routes to improve poor signal etc.)
- Has obsolete/non-approved dropwire/cable been retensioned (if so award defect).
- An open joint (not housed) is classed as a defective dropwire
- For pole renewal work only the re-hanging of obsolete type Dropwires is now permitted, provided that the insulation is not *damaged / defective
- For pole renewal work only where a wire is found to be *damaged or defective, or is made so by unwinding / re-winding the Dropwire onto the clamp, then renewal of the Dropwire span is required. The exception would be where the Customer has refused permission to attach Tetra equipment at their house, or where it is not physically possible to access the house end fix.
- For pole renewal work only the obsolete wire must not be run directly into a Box Conn 20. It must be extended (pieced out) to the tool-less modules within the block, using a 0.5mm tail and Connector Dropwire 2A.
- Where a dropwire is NOT being replaced / provided and is only being re-tensioned / re-erected as part of a pole replacement or low wire remedy, the work executioner is responsible for the workmanship on the single span (including lead in if working on the span to fixing) being re-tensioned / re-erected from the work point to the fixing or pole. They are not responsible for the following existing defects beyond the fix, AGC fixing position, cleating, drip loop and entry sealing.

- If work is executed as part of an external wall insulation (EWI) scheme then all obsolete or defective dropwire must be replaced
- Recovered DACs customers' dropwire/s run directly into the block terminal & terminated correctly (no un-approved joints).
- Has new approved cable been used from external (wall mounted) block terminal on a provide/repair job (monopoly wiring check only).
- If unapproved or obsolete dropwire joint closure used (e.g. BC16 or BC15A) at site worked upon (award defect) – if entered as part of job.
- Cover 101 is not an approved closure and if any crimps behind a cover 101 are entered as part of job an approved BT66B closure must be provided.

Note: *Exception to above BP*: Where the customer is not present or refuses permission, and fitting a BT66 would be detrimental to the condition/fabric of the property it is permissible to leave the existing capping in situ.

- An existing BC16A, correctly closed, on a pole only needs to be changed if entered as part of job.
- If Correct dropwire joint closure used at end user/customer premises (e.g. Above Ground Dropwire Closure) has it been fitted correctly (if not award defect)
- AGC must NOT have a sleeve 2A fitted that encroaches into the gel/ sealant area.
- Sleeve 2A must be fully encapsulated in the AGC. (if not award defect)
- Cable sheath MUST protrude past the gel into the closure cavity
- Cable must be straight in the gel without any deformation as a result of being previously wrapped on a dropwire clamp and free from any paint and debris.
- Closure has been folded over and snapped shut correctly ensuring it is correctly aligned and all posts/guides are in place.
- AGC must not be used to extend a short dropwire or CAD55M/CDW15 at DP or carrier pole mark as below standard
- On carrier poles and hollow poles AGC can be used to joint a modern dropwire in line of route in accordance with the 3 span rule – does not apply to DPs.

Additional Audit Guidance on 3 span rule

- **Scope**
  - The 3 span rule applies to traditional overhead repair and provision activities e.g. when the end user has reported a fault or service needs to be provided.

- Repair - any faults cleared that involved working on the Openreach overhead network, e.g. line 7 or line 60 with an overhead dropwire or lead in. It does not include an 82.7 pair change fault
- Provision - any new overhead provide including provision in situ e.g. completion codes 11-13 and 21- 23.

- **Exceptions**

  The following activities are CP requested tasks, where Openreach has tested the line and confirmed it as working OK but the CP has requested an engineering visit, or the EU has requested a managed install on a working line.

  - Broadband Boost
  - Managed Install
  - SF12
  - CDTA

  The 3 span rule, including the mandatory renewal of any obsolete dropwire or lead in won't apply to these activities unless:

  - The overhead network was found to be defective
  - Enhancements were carried out on it to improve service
  - Network uplift needed
  - To meet requirements e.g. converting 'star wiring' to monopoly wiring

- **No EU access**
  - If there is no access to the EU premises then any obsolete dropwire spans should be renewed up to the AGC / BT 66B at the EU fixing position.
  - There is no need to arrange a subsequent visit.

- **No Pole Access**
  - If the pole is a D pole, the pole cannot be climbed or wire cannot be renewed due a low dropwire situation then renew any obsolete dropwire spans as far as possible.
  - There is no need to arrange a subsequent visit.

10.2 I6212 (DL) N3312 (C) Score: 10 points

Item Description: New / replacement dropwire provided in accordance with the dropwire 3 span rule DP to NTP unless exceptional circumstances exist as defined in ISIS.

Scope: All new/replacement dropwires and/or lead-ins provided as part of the job/estimate Number completion in association with the work site identified for checking.

Points of product reference: EPT/ANS/A011

Specific guidance:

- Dropwire must not be provided in the UG duct network or direct in ground
- Dropwire run avoiding fixed structures (lamp posts, gable ends etc.) this does not include trees. (if cable/wire deviating its route due to contact with tree/branch then mark G9001 appropriately)
- If CDW15 has been erected (and only one or 2 customers fed by this cable) are customers working on the correct sequential pairs - swapping pairs/wires within CDW15 instead of replacing a faulty length is not an option.
- CDW15 is ONLY allowed on the "D" side of the DP
- A dropwire does not need to be run in a continuous length if an AGC or BT 66B is used on approved dropwire, or lead in at the EU premises or at a carrier pole.
- Dropwire blocking / joint checks are checked under cat code I6205 / N3311
- If approved housing fitted at customer premises due to exceptional circumstances apply as per ISIS EPT/ANS/A011 - Check with customer to confirm, either no access or permission refused to run new lead in - If unable to contact customer to confirm above, mark item as checked OK
- Customer premises wiring not back fed through Openreach network wiring on the exchange side of NTE
- Asset stripping (wire removal/non-replacement) only allowed according to schedule 5 if required by property owner/instructed by AAPO.
- On job completion no coils of dropwire should be present on EU premises, (excluding the EU fixing maintenance loop).
- On New Sites has the lead in been provided in a continuous length to the internal NTE or has a BT66B been fitted in lieu of Cover 101.
- If work is executed as part of an external wall insulation (EWI) scheme then all modern dropwire provided or re-used must be in a continuous length into the customer’s premises. If no access then only 1 joint, in an AGC, can be left at the cable entry point to the customer’s premises.

Note: Where widespread blocking is encountered, the blocking log should be checked for concurrence with site circumstances.

10.3 P6253 (DL) N3325 (C) Score: 10 points

Item Description: Overhead carriageway heights correct for the newly erected/replaced cable/dropwire on the circuit/site worked on.

Scope: All Wires or Cables, Provided, Renewed, including those covered by the 3 span rule that are included on the Job / Order No identified for check in association with the work site identified for checking. This item is to be checked against ISIS EPT/ANS/A013 “Minimum heights and carriageway definitions” - crossing types 1 & 7

Note: Openreach no longer have a high load standard and labels do not need to be renewed after pole renewal. Existing labels will be recovered by pole testers.

Points of product reference: EPT/ANS/A013, EPT/ANS/A014

Specific guidance:

- If new dropwire/cable has been provided and erected to the minimum height requirements - mark Check OK
- If 5.9m (wires) or 5.6m (cables) was achievable but not achieved e.g. by re-fixing mark below standard.
- If 5.9m (wires) or 5.6m (cables) could not be achieved but wire was erected as high as possible above 5.5m (where permissible) – mark as checked OK and complete A2131 for A1024 submitted.
- Unstayed construction for single spans of aerial cable compliant with policy see EPT/ANS/A014

Note: When retrospectively checking overhead wires/cables a tolerance of 100mm is permitted against the specified construction height of 5.9m/5.6m (and 5.5m where permissible). The check must ascertain that all wires/cables on the estimate being checked against min construction height have not settled below 5.8m /5.5m (and 5.4m where permissible). **This tolerance is specific to the 5.9m/5.6m (and 5.5m where permissible) wire/cable height rule and does not apply to any other wire clearances i.e. power separation and flying wires etc. - Minimum clearances and any likelihood of settlement should be factored in at the design & construction stage ensuring said minimum clearances are never compromised thereafter.**

10.4 E6253 (DL) N3328 (C) Score: 10 points

Item Description: Overhead carriageway heights correct for the existing cable/dropwire on the circuit/site worked on.

Scope: All existing Wires or Cables, worked upon, including those covered by the 3 span rule that are included on the Job / Order No identified for check in association with the work site identified for checking. This item is to be checked against ISIS EPT/ANS/A013 “Minimum heights and carriageway definitions” - crossing types 1 & 7

Note: Openreach no longer have a high load standard and labels do not need to be renewed after pole renewal. Existing labels will be recovered by pole testers.

Points of product reference: EPT/ANS/A013

Specific guidance:

- If an existing dropwire/cable within the 3 span rule (on the circuit being worked on) is low, but could obviously have been re-tensioned, raised or renewed to meet the correct clearance - mark as below standard
- If an existing low dropwire/cable within the 3 span rule (on the circuit being worked upon) could not be raised - mark as not checked and complete item I6904 for wires less than 5.2m

Note: An A1024 is not required for wires between 5.2m – 5.5m that cannot be raised above 5.5m

- Re-tensioned dropwire/cable avoids fixed structure (e.g. lamp posts, gable ends etc.)
- Unstayed construction for single spans of aerial cable compliant with policy see EPT/ANS/A014

  On LWR work only when retrospectively checking wires, cables retensioned or re-erected to 5.2m (where permissible) a tolerance of 100mm is permitted

Note: When retrospectively checking overhead wires/cables a tolerance of 100mm is permitted against the specified minimum re-tension height of 5.5m (The check must ascertain that all wires/cables on the estimate being checked against min re-tension height have not settled below 5.4m. **This tolerance is specific to the 5.5m** wire/cable **height rule and does not apply to any other wire clearances i.e. power separation and flying wires etc. -Minimum clearances and any likelihood of settlement should be factored in at the design & construction stage ensuring said minimum clearances are never compromised thereafter.**

10.5 I6270 (DL) N3327 (C) Score: 10 points

Item Description: Overhead power separation correct for cable/dropwire.

Scope: All Wires or Cables, Provided, Renewed or worked upon, including those covered by the 3 span rule and lead-in that are included on the Job/Order No identified for check including Asset Assurance work. All pole fittings and stays provided, renewed or worked on

For Openreach & Contractor teams on Volume work this applies to wires / cables provided or renewed and existing flying wires in contact with power

For AA work this includes Overhead and pole end work only if wires were not renewed

Points of product reference: EPT/PPS/B037 & EPT/PPS/B038 & EPT/PPS/B046

Specific guidance:

- Applies to overhead flying wires, joint user poles and end users premises only
- Applies on Underground checklists only for BT & tail provision and renewals on a joint user pole or a BT pole where an electric attachment has been fitted.
- Minimum separation distance (50mm) on newly provided cables between parallel cables on customer premises
- Minimum bridging distance (25mm) on newly provided cables.
- All above ground power separation maintained in accordance with current Openreach requirements. See Overhead Power Glovebox guide
- Separation must also be maintained from pole fittings and stays
- No attachmnets or cables to High Voltage poles,
- New attchments compliant with DNO policy
- An A1024 (Low wire defect code) must be raised for existing flying wires in contact with power
- An A1024 defect code 540 must be raised for BT plant connected to an HV DNO pole

10.6 I6272 (DL) N3326 (C) Score: 10 points

Item Description: Non-carriageway heights and clearances correct for cable/dropwire on the circuit/site worked upon in association with the work site identified for checking.

Scope: All Wires or Cables, Provided, Renewed, worked upon, including those covered by the 3 span rule and lead-in that are included on the Job/Order No identified for check.

Points of product reference: EPT/ANS/A013

Specific guidance:

- To apply to the currently defined crossing types 2 - 6 & 8 - 15 in the product reference.

10.7 I6218 (DL) N3314 (C) Score: 5 points

Item Description: Correct Dropwire clamp used, correctly fitted and secured to approved fittings or fixings.

Scope: All Wires, Provided, Renewed, worked upon, that are included on the Job/Order No in association with the work site identified for checking.

Points of product reference: EPT/ANS/A011

Specific guidance:

- Is the dropwire tensioned correctly

- Has the correct dropwire clamp been used for the dropwire and fitting type, Clamp 10A for use only with Dropwire, Clamp 6A for use in hollow poles
- Is the clamp correctly fitted to the dropwire
- Has the clamp been correctly secured to an approved fitting/fixing
- Only one dropwire/clamp per fixing, unless ringhead, pole stand off or UPB. (Dropwire worked on)
- Bolt 25, nyloc nut, hook clamp dropwire and galvanised washers used on pole head ring type split 15 way.
- Not permissible to attach cables to welded eyes on a steel hollow pole top. UPB or Collar Hollow pole must be fitted.

10.8 I6222 (DL) N3317 (C) Score: 5 points

Item Description: At pole top, dropwire routed correctly and secured with Straps Cable Fixing 12A pinned to pole or through Screws Spiral Eye.

Scope: All Wires or CAD, Provided, Renewed, worked upon, that are included on the Job/Order No in association with the work site identified for checking.

Points of product reference: EPT/ANS/A006

Specific guidance:

- Applies to all wires worked on
- Applies to dropwires connected to AGC on dropwire clamp at carrier pole
- SCF12A & Pins Steel used to route and secure dropwires to pole
- Correct number of straps cable fixing and/or Screw Spiral Eye in a minimum of 3 positions being top, middle and bottom
- Dropwire worked on correctly routed for the BT/BC type

10.9 I6230 (DL) N4103 (C) Score: 5 points

Item Description: Dropwire enters BT correctly and all cables terminated using correct method for block.

Scope: All Wires, Provided, Renewed, worked upon, that are included on the Job/Order No in association with the work site identified for checking.

Points of product reference: EPT/ANS/A006

Specific guidance:

- Does the DW worked on enter the BT/BC/XNTE using the approved method for that block

- All DW's/cable pairs correctly terminated using correct method for that block. Dropwire insulation damage within block must be re-terminated to remove damaged area (short route etc. may be used to accomplish this)
- Bare conductors should not be visible on IDC connectors

10.10 I6234 (DL) N3104 (C) Score: 5 points

Item Description: Dropwire/CAD has Sleeve 2A correctly fitted where required.

Scope: All Wires, Provided, Renewed, worked upon, that are included on the Job/Order No in association with the work site identified for checking.

Points of product reference: EPT/ANS/A006

Note: D/W replaced - For dropwire 10 worked upon at Block Terminal and/or customer end will always be marked either Chk OK or Bel Std.

Note: D/W re-terminated D/W re-crimped - If only 1 pair in use sleeve to be fitted and will always be marked either Chk OK or Bel Std. If second pair in dropwire is not re-terminated/connected and is a worker then mark as not checked.

Specific guidance:

- Applies to all wires worked on
- If dropwire requires a sleeve 2A has it been correctly fitted to the ends worked on
- Strength members correctly formed and restrained within sleeve 2A
- In a round (older version) AGC has strength members been terminated in a CWI 8A/8B
- For the flat (new version) Dexgreen AGC either has strength members been terminated in a CWI 8A/8B or sleeve 2A fitted and fully encapsulated in the closure.

Note: Sleeve 2A should not be used in the round (older version) AGC.

10.11 I6248 (DL) N3321 (C) Score: 5 points

Item Description: Dropwire entry to premises sealed with approved sealant. External drip loop provided.

Scope: All Wires, Provided, Renewed that are included on the Job/Order No in association with the work site identified for checking.

Points of product reference: EPT/ANS/A011

Specific guidance:

- Applies to all wires and cables except aerial cable (see I6246)
- Check position was agreed if customer is available during check.

- Dropwire not entering customer premises through UPVC door or window frame
- Where the cable enters the premises a suitable external drip loop is provided at the premises entry point
- The premises entry hole has been be sealed with an approved sealant

10.12 A2240 (DL) N3329 (C) Score: 5 points

Item Description: Ring pole head stand-off and associated wires fitted and loaded correctly

Scope: All ring pole head standoffs and the associated wires fitted or worked that are included on the Job/Order No in association with the work site identified for checking.

Points of product reference: EPT/ANS/A011

Specific guidance:

- Maximum of five dropwires per ring pole head stand-off 1A in accordance with electricity board agreement.
- Ring pole head stand-off 1A fitted to pole correctly, maximum of 2 per pole in accordance with electricity board agreement.

10.13 I6210 (DL) N3330 (C) Score: 5 points

Item Description: Newly provided dropwire in line of route provided in accordance with working practices and pole loading restrictions.

Scope: All ***additional*** **drop*wires*** or cables provided in line of route that are included on the Job/Order No in association with the work site identified for checking.

Points of product reference: EPT/ANS/A011

Specific guidance:

- Newly provided dropwires in line of route do not exceed the maximum for the pole gauge, pole depth and crossing type. (This would not be defected if a wire was renewed or replaced and the number of wires already exceeded the DILOR limit)
- Newly provided bracket 22s do not exceed maximum for pole (1 either side of pole in line of route with the dropwires)
- DP's formally listed on network records NOT fed by a dropwires in lieu of aerial cable

Note: The revised policy below applies to Fibre cables feeding CBTs **only**. In circumstances where span length is more than 68m pole to pole see AEI/AEC/B337. This refers to non road crossing wires spans up to 85m are now permitted, for wires

crossing carriageway spans up to 75m are permitted so long as 6.5m height is achieved.

10.14 I6216 (DL) N3313 (C) Score: 5 points

Item Description: Customer's fixing provided/renewed if faulty or defective and maximum span length not exceeded.

Scope: All Dropwires, provided, renewed, re-erected, retensioned or worked on at fixing that are included on the Job/Order No in association with the work site identified for checking.

Points of product reference: EPT/ANS/A011

Specific guidance:

- Only one DW per fixing of closed loop type at customer's premises
- Portacabin lifting eye fixing position used only on short term situations in accordance with spec.
- Wall fixings - If fixed into brick has Eyebolt 1A been securely fastened into the centre of a single brick (not mortar) positioned 3 bricks down and 2 bricks in Or in exceptional circumstances in solid wall with a rendered/harled finish (less than 13mm of render) where it does not cross the carriageway and the span length is less than 40mtr. If rendered wall that does not meet the exceptional circumstance above then the Eyebolt 2A must be used. If bracket 32, has it been fixed into separate bricks (2 or more bricks not mortar) using all 4 fixing points, with 2 Stud expanding No 1 in diagonally opposite holes plus 2 zinc plated screws in the other 2 holes.
- Wall fixings - has bracket 44 or 51 been fixed at least 250mm below roof line and at least 250mm in from edge/corner of wall /window/opening and has it been secured to the wall using 2 bolts expanding 2A or eyebolts expanding 2A fixed correctly?
- Wall fixings – if fixed into stone then eyebolt should be fixed at least 250mm below roof line and 250mm from wall edge or window and in the middle of the stone, where dropwire height allows.
- If External Wall Insulation is fitted has eyebolt 2A to 2C been used? Eyebolt 2C must be used for insulation over 75mm deep
- If fixed into wood has a closed loop bracket 22/32 been securely fixed into substantial timber or has existing suitable fixing been provided in accordance with current craft practice. Is maximum span length 68 metres (for bracket 22/eyebolt 2B) or 40 metres (for bracket 32).
- If fixed through PVC into substantial/sound timber (wood fascia) has bracket 22 or 32 only been used?
- If fixed through PVC into substantial/sound timber (wood fascia) has bracket back been sealed correctly?

- If fixed through PVC into substantial/sound timber (wood fascia) have correct screws for fixing situation been used?
- If fixed through PVC into substantial/sound timber (wood fascia) is sound timber in evidence behind the bracket (visual check)?
- If fixed through PVC into rafter end only (no sound timber found) has bracket 22 only been used?
- If fixed through PVC into rafter end only (no sound timber found) has bracket back been sealed correctly?
- If fixed through PVC into rafter end only (no sound timber found) have correct screws for fixing situation been used?
- If fixed through PVC into rafter end only (no sound timber found) are rafter ends in evidence behind the bracket?
- If bracket fixed into PVC only is it a non-road crossing situation (standard road crossing definition used for low wires)?
- If bracket fixed into PVC only has bracket 22 only, been used?
- If bracket fixed into PVC only maximum span length of 50metres must not be exceeded?
- If bracket 22 is fixed into PVC only, for fascia boards 20mm or more in thickness, then road crossing drop wires with a maximum span length of 68m are allowed.
- If bracket fixed into PVC only has bracket back been sealed correctly?
- If bracket fixed into PVC only have correct screws for fixing situation been used?
- No wires to be attached to the eyebolt 2A fixings in a bracket 44, 1 wire only to be attached to the closed loop of the bracket 44 and 51.
- No more than 68 metre span to be used with bracket 44 and 51.
- Bracket 22 fitted correctly on BISF houses and Metal clad buildings using sound flat surfaces, silicone sealant and multi grip pop rivets.
- If dropwire has been provided, renewed, re-erected, or retensioned from the pole to the customer's premises (not applicable to pole tester work), is the dropwire fixing the current approved type? Is the dropwire fixing free from faults and defects?
- If dropwire has been worked on at EU fixing, and no Overhead span work was undertaken (provide, renew or re-tension), is any unapproved dropwire fixing securely fixed?
- Chimney not used to provide a new drop wire.
- Revised Rules for Chimney Fixings followed correctly.

- Chimney bracket not used to renew or re-tension a drop wire if chimney is in a poor state of repair or leaning, wire is under trees or it crosses a carriageway and 5.9m cannot be achieved.
- If CAD55M - Has 55m maximum span length been exceeded to customers fix (maximum span length is 55 metre using eyebolt or bracket 22/44 and 40 metre max using Bracket 32 at customer fix) or between poles? - if yes award defect accordingly.(68 metre maximum for non-carriageway situations)
- DW 15 has a maximum 68 metre span length for all situations
- Is the span length within limits for wire / cable type and location e.g. road crossing / non-road crossing
- If span length is greater than the maximum quoted for cable/dropwire type defect under G9001.
- If work is undertaken as part of an external wall insulation (EWI) scheme the following must be provided:
  - Eyebolt 2B provided for depths of up to 75mm (65mm EWI + 10mm finish)
  - Eyebolt 2C provided for depths greater than 75mm (100mm EWI + 10mm finish)
  - 25mm of clear silicone provided on eyebolt sleeve below washer
  - Eyebolt protrudes above EWI finish
  - Fascia fixing can only be used / provided where the wire height cannot be achieved by providing eyebolt 2B or 2C in brickwork.

Note: The revised policy below applies to Fibre cables feeding CBTs **only**. In circumstances where span length is more than 68m pole to pole see AEI/AEC/B337. This refers to non road crossing wires spans up to 85m are now permitted, for wires crossing carriageway spans up to 75m are permitted so long as 6.5m height is achieved.

10.15 I6214 (DL) N3101 (C) Score: 5 points

Item Description: Joint made using correct connectors housed correctly on customer's premises or in a correct housing on intermediate pole.

Scope: All Wires or CAD, Provided, Renewed worked upon that are included on the Job/Order No in association with the work site identified for checking.

Points of product reference: EPT/ANS/A011

Specific guidance:

- If Above Ground Closure (AGC) has been used or not used when applicable - use I6205.
- If an approved joint has been made, has the correct type of connector been used and has the joint been housed in the appropriate BT.

- The primary approved dropwire housing for use on customers premises is the Above Ground Dropwire Closure however if a BT66 has been used this is NOT a defect, however it must be fitted correctly.
- Housing (of an approved joint) in an old type insulator is NOT allowed
- Above Ground Dropwire Closures (AGC) used on End user fixing/carrier poles must be secured to the dropwire clamp using 2 x SCF.
- A BT66B can also be used on carrier poles where required
- In a BT66B up to a 10 pair cable can be provided but only 5 pairs can be connected / crimped within the BT66B
- In an AGC up to 4 pairs can be connected / crimped – plus the crimp(s) for the strength members

10.16 I6250 (DL) N3106 (C) Score: 5 points

Item Description: Dropwire and / or lead in connected/ terminated correctly on NTP. New NTP mounted vertically in damp free position.

Scope: All Wires or CAD, Provided, Renewed worked upon that are included on the Job/Order No in association with the work site identified for checking.

Points of product reference: EPT/ANS/A016

Specific guidance:

- Dropwire and/or lead-in terminated correctly
- Dropwire stripped correctly when terminated on non-IDC Block
- Newly Provided NTP sited in damp free position
- Dropwire enters NTP using correct method for Block\NTE
- Customers' cables correctly terminated in the NTE For NTEs with IDC line connectors the maximum conductor/insulation size and number of wires terminated in the connector should not be exceeded
- Obsolete NTE replaced with current version

10.17 I6231 (DL) N3102 (C) Score: 1 point

Item Description: Spare pair in Dropwire/Cable Aerial Dropwire formed correctly

Scope: All Wires or CAD, Provided, Renewed worked upon that are included on the Job/Order No in association with the work site identified for checking.

Points of product reference: EPT/ANS/A011

Note: D/W provided/replaced/re-erected - Dropwire 10 worked upon at Block Terminal will always be marked either Chk OK or Bel Std.

Note: D/W re-terminated - if there is correct amount of spare wire and it is laid out correctly (e.g. no coils) for block type then mark as CHK OK. If the spare has been cut short but has still been formed out correctly (e.g. no coils) for block type then mark as CHK OK. If there is no spare wire to check then mark as NOT CHK. If second pair is in use (another line) then mark as NOT CHK.

Specific guidance:

- Applies to all wires worked on
- Spare wire not coiled, formed using the approved method for that block
- BC20 spares routed to top and across to opposite side

10.18 I6244 (DL) N3319 (C) Score: 5 point

Item Description: Customer lead-in correctly routed and cleated neatly.

Scope: All dropwires that are included on the Job/Order No in association with the work site identified for checking.

Points of product reference: EPT/ANS/A011

Specific guidance:

- Includes loose existing lead in's not worked on if customer visited.
- Customer lead-in correctly routed and cleated neatly
- Where possible install a future maintenance loop (250mm) at customer fixing or **in exceptional circumstances** at ground level if it can be discretely positioned in an accessible position and with the customer's agreement. A maintenance loop may be installed in all new lead-in replacements on provision and repair activity.

Note: Maintenance loops should not be provided on hybrid cables.

- Capping 25 provided and correctly fitted on new site activities and securely replaced if removed during any provision / repair activity
- Correct fastenings used
- SCF12A used to secure dropwire / CAD to bracket 44 or 51
- If work is undertaken as part of an external wall insulation (EWI) scheme the following must be provided:
  - Push in cable Tie mounts (CH8) only used to attach lead in to EWI finish
  - Clear silicone provided in tie mount hole
  - SCF1A used to secure lead in to tie bolt & excess length removed with no sharp SCF1A ends left.
- Correct cleats used with masonary nails where required

10.19 I6902 (DL) N3212 (C) Score: 10 point

Item Description: Wire/cable across carriageway above 5.2m minimum climb height

Scope: All Wires, and or aerial cables, Provided, Renewed, re-erected, worked upon, including provision in situ jobs, that are included on the Job/Order No in association with the work site identified for checking.

Points of product reference: EPT/ANS/A013

Specific guidance:

- Worksite refers to any pole climbed and poles / end users premises covered by the HOLD check and 3 span rule.
- All wires/cables worked on , including provision in situ jobs, must be checked even if the wire from the last pole to the end user worked on does not cross the carriageway
- Worksite has a wire or cable across the carriageway below the minimum climb height of 5.2m - Mark as below standard

10.20 I6904 (DL) G0011 (C) Score: 10 point

Item Description: Engineer has reported wire/cable across carriageway less than 5.2m via A1024

Scope: All Wires or Cables that cross the carriageway on the worksite/pole worked upon, including provision in situ jobs, on the Job/Order No. in association with the work site identified for checking.

Points of product reference: EPT/ANS/A013

Specific guidance:

- Applies to all work checked under the scope of I6902 worksite definition
- OR engineer – A1024 data recorded on system correct for wire/cable height found for wires or cables across the carriageway that is less than the minimum climb height of 5.2m. Note: any defects found within details supplied on label are to be checked against item code A2131 (5 point item) – If not recorded on ARTISAN mark as below standard.
- Contractor – working on non-asset programme work must raise A1024.

10.21 I6906 (DL) N3241 (C) Score: 10 point

Item Description: Pre-climb or pre work check assessment undertaken by engineer as per latest plant safety laminate. Mark Bel Std if climbed contrary to the laminate or if no pole was worked on mark NC

Scope: All poles worked on in association with the work site identified for checking.

Points of product reference: EPT/OHP/C022

Specific guidance:

- Mark below standard if a pole accessed in contravation to any elements of the pre work assessment
- The following may need to be checked by the Assessor if a hoist was used
  - Pre-climb label attributable to hoist operative
  - Checking job notes for evidence a hoist was used
  - Contacting the Work/Hoist control hoist usage.
  - Pre-work check – This refers to when using access equipment such as a hoist or scaffolding
  - This is a not checked item for engineers NOT working at height such as the removal of pole capping

10.22 I6907 (DL) N 3243 (C) Score: 5 point

Item Description: Pre climb check label fixed to the pole correctly

Scope: All poles worked on in association with the work site identified for checking where pole climbing activity takes place – this includes the use of MEWP (platform), scaffolding, working from ladders and existing D poles.

Points of product reference: EPT/OHP/C022

Specific guidance:

- Old label removed
- Correct Label used
- Correct pins used to attach label to pole
- Label in correct position 75mm – 150mm from ground level

10.23 I6909 (DL) N 3244 (C) Score: 10 point

Item Description: Pre Climb Check Label provided, label details correct and traceable to engineer / job

Scope: All poles worked on in association with the work site identified for checking where pole climbing activity takes place – this includes the use of MEWP (platform), scaffolding, working from ladders and existing D poles.

Points of product reference: EPT/OHP/C022

Specific guidance:

- Label provided on pole
- Correct details added to label UIN & date (Openreach) or UIN & date (Contract) – if Contractors have BT UINS that is acceptable to use.

Note: A pre climb label is not required for newly installed poles, or if the cabling/jointing work is being carried out on the same day, as the pole integrity is checked as part of the new pole install.

11 *PCP & SCP*

11.1 A2174 (DL) N4406 (C) Score: 5 point

Item Description: Engineer checked PCP/SCP shell. A1024 raised if defective.

Scope: All PCP/SCP's worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A006

Specific guidance:

- External damage to shell reported (note: doors and hinges checked under A2172)

11.2 A2178 (DL) N4407 (C) Score: 5 point

Item Description: PCP/SCP closed and left secure. No trapped conductors during closure.

Scope: All PCP/SCP's worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A006

Specific guidance:

- No trapped conductors
- PCP/SCP secured correctly
- High security lock working correctly – if fitted
- Any existing security devices missing or damaged must be replaced or reported via A1024
- Missing SCP bolts reported via A1024

11.3 A2172 (DL) N4405 (C) Score: 5 point

Item Description: Engineer checked doors/hinges/assemblies for corrosion and sheared door bolts. If defective, A1024 raised.

Scope: All PCP/SCP's worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A006

Specific guidance:

- No broken or corroded doors or door hinges
- No loose or sheared door centre bar bolts
- No loose, corroded or broken assemblies and jumper rings

11.4 A2170 (DL) N4404 (C) Score: 5 point

Item Description: Check and replace, if defective, door seals, bolts and stays as necessary.

Scope: All PCP/SCP's worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A006

Specific guidance:

- No broken or defective door stays e.g. cracked or corroded
- No loose or sheared stay bolts
- Door seal replaced on CCC 6 & 7 if defective e.g. missing or perished
- Fibre glass door defective seals reported via A1024.
- FTTC earth bonding correctly replaced if door stay renewed.

11.5 A2165 (DL) N4402 (C) Score: 5 point

Item Description: Duct entries checked for effective seal, provided if kitted with Resin Pack 14 if faulty, if not kitted A1024 raised.

Scope: All PCP/SCP's worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A006

Specific guidance:

- Applies to observed ducts not worked on only(for ducts worked on mark under A2630)
- Ducts sealed with approved compound or sealant

- PCP Re-shell specific guidance
  - Applies to ducts not worked on only (cables not pulled up)
  - Ducts sealed with approved compound or sealant
  - Duct seal is effective
  - No visible gas/water path
  - Neither cables or seal moves in duct
  - A1024 is not applicable as jointer is skilled and kitted

Note: After a re-shell a light pull on cables, between finger and thumb, can be used to check that cables do not move in the duct.

11.6 A2166 (DL) N4403 (C) Score: 5 point

Item Description: If engineer skilled and kitted cabinet vented in accordance with instructions/rules.

Scope: All PCP/SCP's worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A006

Specific guidance:

- Checked for new / replacement shells only or if it is known the engineer carried out the venting in an existing PCP/ SCP
- Correct label provided
- PCP/SCP vented with correct method for PCP/SCP type

11.7 A2156 (DL) N2307 (C) Score: 5 point

Item Description: Pressure gauges, fittings and transducers checked. If defective, labelled/reported following procedures.

Scope: All PCP/SCP's worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A021 & EPT/ANS/A006

Specific guidance:

- Checked on E side construction & repair / Pressure jobs and shell replacement only when fitted
- On all other work mark as not checked

11.8 A2159 (DL) N2308 (C) Score: 5 point

Item Description: Pressure fittings repaired within engineer skill/van stock.

Scope: All PCP/SCP's worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A021 & EPT/ANS/A006

Specific guidance:

- Checked on E side construction & repair / Pressure jobs and shell replacement only when fitted
- On all other work mark as not checked

11.9 A2108 (DL) N2305 (C) Score: 5 point

Item Description: Pressure tubing and fittings installed and tested

Scope: All E side pressurised network worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A021 & EPT/ANS/A006

Specific guidance:

- Checked on E side construction & repair / Pressure jobs and shell replacement only when fitted
- On all other work mark as not checked
- Tubing Poly 0.25 inch fitted correctly
- Inserts fitted to tubing at connection points
- No pressure leaks on tubing/connections
- Tubing fitted to pressure gauge/contactor/alarm/transducer correctly
- Correct pressure fittings used at alarm and air take off
- Gauge/transducer wired correctly to correct cable pair

11.10 A2153 (DL) N2502 (C) Score: 5 point

Item Description: Jumper wire run correctly and old jumper wire recovered when jumper wire renewed

Scope: All PCP/SCP's worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A006

Specific guidance:

- Jumper wire run through correct jumper rings , connector guides or Velcro straps (tool-less connectors)
- Tool-less connectors jumpers provided as follows:
  - Jumpers between adjacent mounting columns run behind existing vertical jumpers and Velcro straps if running top to bottom

  - Jumpers to other column positions fed through Velcro straps and top jumper guides
  - Jumpers must not double back or wrap around Velcro straps
- On SCC1 Jumper connectors provided on right hand side of jumper support slots only
- SCC1 Jumpers must pass through the correct jumper guides and the large hole on the left of the strip. Jumpers to other pairs on the same strip can be run down the back of the strip.
- Jumpers not provided through guide holes of SCC strips
- Jumper wires not overlapping over assemblies or modules due to incorrect routing around jumper rings
- Jumper wire not run through the UG wires of other SCC terminated pairs
- Sufficient slack left for retermination and tracing
- Replaced jumper wire (s) recovered

11.11 A2152 (DL) N2208 (C) Score: 1 point

Item Description: Bunches/units worked on tidied using Straps Cable Fixing number 1 (bobble type) and carefully repositioned

Scope: All PCP/SCP's worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A006

Specific guidance:

- Applies to both ends of jumpers worked on
- On SCC1 jumpers and wires hung over jumper support slots
- Correct type of SCF used

11.12 A2145 (DL) N2106 (C) Score: 10 point

Item Description: All termination's and changed pairs effected correctly using correct wire

Scope: All PCP/SCP's worked upon in association with the work site identified for checking

Points of product reference: EPT/ANS/A006

Specific guidance:

- E or D side short pairs pieced out to correct length using UG type wires only and crimped at the back of the guide hole strip

- Conductor wires trimmed back to insulation butt on all spare/unconnected pairs
- Pair twists maintained - No more than 100mm of untwisted wire should be left before the connector or termination module and both pairs of a connection must not be twisted together.
- Correct CWI's used - In a PCP /SCP only connectors with a test facility should be used on SCC terminations: i.e. CWI 11A, CWI 8B & CWI 8A (from Dexgreen - with wide ports and test probe supplied)
- Only no break changeover CWI11A crimps used to replace obsolete connectors or damaged insulation, shiners and cable changed overs or exceptional circumstances existed on joint remakes and recorded in job notes. (Photographic evidence provided if not achievable).
- Only CWI11A used for Jointing Cables with Paper Insulated Conductors
- CWI11A Flap closed after pair/s jointed
- CWI8B with red tops must not be used on aluminium in PCP/SCP and no other non - Dexgreen CWI8A should be used in PCP/SCP
- PC 100 termination correct for wire type

11.13 A2155 (DL) N2512 (C) Score: 10 point

Item Description: Renewed/re-used/provided jumper not defective or fault prone

Scope: All PCP jumpers provided/moved/shifted/replaced/worked upon that are included in the job/estimate in association with the work site identified for check

Points of product reference: EPT/ANS/A006

Specific guidance:

- Cabinet jumper has no joints, additional crimps or evident defects
- Jumper not routed in a manner that would cause a potential fault liability e.g. run through SCC E / D side UG cable pair holes or across faces of modules (e.g. from E side to D side).
- MDF Jumper wire not used instead of PCP Wire Connector.Blue / Red PCP jumper must not be used on modular connectors.

11.14 A2137 (DL) N2206 (C) Score: 10 point

Item Description: No nipping of insulation or signs of damage on bunches worked on.

Scope: All Bunches/Units at both ends of the Jumper/s worked on as part of the job/estimate Number in association with the work site identified for checking

Also applies to bunches in BT71A in hollow poles

Points of product reference: EPT/ANS/A006

Specific guidance:

- No obsolete CWI No1 (White crimps) or CWI No1A (blue, black, red or other coloured types) left on pairs within bunches on either end of the circuit worked upon.The bunch is defined as all the wires and jumpers designed to hang over the SCC No1 support slot (normally in a SCF No. 1) e.g. E & D1-10 and for SCC 2 check E & D 1-20. This includes any UG wires that have been extended or pieced out on that bunch - on either side of the SCC.
- No nipping of insulation, stripped insulation or signs of damage on connected pairs within all bunches at both ends of jumper worked upon.
- All other **connected** pairs in the joint free from visible damage to insulation, conductors or connections (this includes any stripping of insulation)

Note: This does NOT include unconnected spares

11.15 A2110 (DL) N2101 (C) Score: 10 point

Item Description: Modular cross connect system installed/maintained correctly at PCP/SCP

Scope: All modular units fitted as part of the job/estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A006

Specific guidance:

- Correct tools & test leads used correctly to provide/fit/work on modular units.
- Jumper terminated correctly with no bare wires or damage evident
- All pairs provided/re-connected fitted correctly within the modular connector.
- Modular units fitted correctly into mountings (for positions at both ends of jumpers worked on).
- No incorrect connection practices used on or across the modular units at both ends of jumper worked on (e.g. crimping of jumper direct to cable pair etc.).
- Tool-less connectors - sliders fully closed after jumpering and replaced if missing / defective – no bypassing allowed

Note: If a module IDC connector is faulty the pair should be changed or a service affecting fault raised. If existing defective IDC modules are observed they should be reported as an A1024 (checked under A2131)

Note: Tool-less modular connectors must be replaced if defective – no bypassing allowed

- Modular units fitted correctly into appropriate mountings and correctly attached to the new PCP/SCP shell.
- Correct number and type of jacking bolts used if modules provided in existing cabinets with assemblies mounted on bars.
- Tool-less Connectors provided as follows:
  - Jacking brackets, and spacer screws if necessary, securely fitted to PCP and mounting columns (4 per column)
  - Hanging rail fixing kits securely fitted to mounting columns on top and bottom rails
  - Tool-less adaptor plates provided and correctly fitted if provided on Quante back mounts.
  - Connectors securely fitted
  - Top jumper guides fitted
  - Copper cable and fresh aluminium conductor can be terminated on connectors

11.16 A2116 (DL) N2103 (C) Score: 5 point

Item Description: Cable termination as per work requirements. Correct tools and methods used.

Scope: This check is to identify that all cables terminated by the working party in PCP/SCP's are correct in association with the work site identified for checking.

Points of product reference: EPT/ANS/A006

Specific guidance:

- The cable is provided and routed as specified by the Work Originator.
- RDSLAM - 125 to 150 mm of maintenance loop left between module and sleeving & Pairs bunched and tied tape 11A
- PCP - Sufficient spare wire left - SCC 1&2 200 to 240 mm - modular 100 to 140 mm.
- Tool-less connectors cabled as follows:
  - Minimum 150m of sheathing left on above bottom of column on lowest cable

11.17 A2190 (DL) N2133 (C) Score: 10 point

Item Description: Non-modular cross connect system installed/maintained correctly at PCP/SCP.

Scope: All non-modular units fitted as part of the job/estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A006

Specific guidance:

- Cable terminated correctly with no bare wires or damage evident
- Shelves/strips/P100/PC100's etc. fitted correctly into mountings (for positions at both ends of jumpers worked on).
- Shelves/strips/P100/PC100's etc. fitted correctly into appropriate mountings and correctly attached to the new PCP/SCP shell.

11.18 I6677 (DL) N2138 (C) Score: 5 point

Item Description: Shell Replacement - Pressure gauges, fittings & transducers checked/re-fitted correctly in shell.

Scope: All PCP/SCP shell replacements worked upon as part of the job/estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A006 & EPT/ANS/A021

Specific guidance:

- All gauges, fittings, transducers etc. re-fitted correctly.

11.19 A2306 (DL) N4418 (C) Score: 5 point

Item Description: FTTC Earth Bonding cables & connections checked and repaired or reported via A1024 if defective

Scope: All FTTC enabled PCP/SCP with earth bonding worked upon as part of the job/estimate Number in association with the work site identified for checking.

Points of product reference: EPT/PPS/B062

Specific guidance:

- Applies to door & shell earth bonding cables and main Earth bonding cable termination point
- Loose connections tightened correctly as appropriate
- Cut or damaged earthing cables and connections reported via A1024 using defect code 503 and remedy code 527 and details recorded on A1024 label

11.20 F1004 (DL) N2154 (C) Score: 10 point

Item Description: Bonding earth supplied where applicable

Scope: All FTTC/GFast enabled PCP/SCP with earth bonding provided as part of the job/estimate Number in association with the work site identified for checking.

Points of product reference: EPT/PPS/B062

Specific guidance:

Note: Only check if RDSLAM and PCP are less than 3 metres apart (with doors open but includes the full range of door opening positions through to 180 degrees to ensure that no distance is less than 3m)

Note: If the distance between any other Openreach metal cabinet or equipment and the RDSLAM or associated PCP is less than 3m (with doors open) they all have to be bonded together.

Note: If applicable both FTTC RDSLAM and existing PCP and any other Openreach metal cabinet are checked under this item (only the 10mm earth cable termination is checked in the RDSLAM)

- If less than 3 metres from PCP (doors open) PCP bonded to DSLAM
- Correct earth cable used (PCP - FTTC RDSLAM earth link and bonding) - min 10mm2
- PCP bonded correctly - see EPT/PPS/B062
- Minimum 6mm2 earth bonds used within existing PCP for doors and shell
- Earth cable routed and dressed so as not to interfere with door closure and other fixtures that would cause potential damage
- Paint penetrating washers used
- No drilling of cabinet panels or doors
- Correct eyelet connectors, screws ,nuts and washers used
- Bonding cable is continuous between RDSLAM and PCP

Note: See A2151 for checking of safety labels on earth cables

11.21 A2113 (DL) N1159 (C) Score: 5 point

Item Description: Cabling routed and protected correctly in PCP / SCP.

Scope: This check is to identify that all cables provided by the working party in PCP/SCP's are routed and protected correctly in association with the work site identified for checking.

Points of product reference: EPT/ANS/A006

Specific guidance:

Note: Copper cables can be provided in any duct in the PCP

- If the cable enters the PCP via a duct that is not adjacent to the vertical required, sheathing removed above duct and cable pairs oversleeved with suitable sized cream sleeving secured to cable butt with tape
- Cable routing does not interfere with any future cabinet activities e.g. cabling, duct sealing or Jumpering

11.22 A2111 (DL) N2155 (C) Score: 5 point

Item Description: PCP tool-less connector modules provided in accordance with network policy.

Scope: All modular units fitted as part of the job/estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A006

Specific guidance:

- Tool-less modunes must be provided for all new cabinet termiations where achievable.
- It is acceptable to provide Quante modules as in fill on existing Quante / Krone mountings
- Tool-less connectors only fitted to existing quante back mounts with tool-less adaptor plates – this is checked under item A2110

11.23 G1012 (DL) Score 10

Item Description: Waste left inside and/or outside PCP/SCP/DSLAM that can cause damage to health and/or the environment

Scope: All PCP/SCP/DSLAM's

Points of Reference: EPT/ANS/A024

Specific Guidance:

- Due to the health risk to engineers/partners and the environmental impact rubbish bags, face masks, gloves, food scraps, food wrappers, drink cans/cups, cardboard, batteries etc. must be removed from PCP/SCP/DSLAM
- It is not permissible to leave bags with the intention of them being used to deposit rubbish of any kind in PCP/SCP/DSLAM

Note: Non health/environmental waste is covered by G1003 "worksite left tidy rubbish removed & redundant equipment recovered"

12 *Aerial cabling & poling*

12.1 A2212 (DL) N3304 (C) Score: 10 point

Item Description: Aerial *c*ables secured and terminated correctly

Scope: Both of the ends & all intermediate positions of any Aerial Cables provided/transferred/re-tensioned as part of the job/estimate Number

Points of product reference: EPT/ANS/A012 & EPT/PPS/B046

Specific guidance:

12.1.1 General items

- No Cable installed other than those approved for the Overhead Network.
- Cable installed avoiding fixed structures (lamp posts, gable ends etc.) this does not include trees. (if cable/wire deviating its route due to contact with tree/branch then mark G9001 appropriately – applicable to Contract only) if not possible to avoid structure then has PAT fault been submitted - If yes mark CHK OK
- Cables must not rub on any Dropwire Clamps, CAC, bail wire steels of clamp or any part of the ring or pole, including stay wires, suspension wires and pole furniture.
- Cables not provided on a pole with degradation i.e. excessive leaning or bending (existing pole - pole stayed if lean is between 5 and 15 degrees, when measured using an angle finding device at the 3 metre mark, and the pole loading is significantly one sided), voids around the pole base, PIDOC D Pole or a pole less than 1.2m in the ground.

Note: Scope of leaning & bending check

- AA - 1 pole either side of new / replaced pole
- ACR - All of section replaced
- New cable route or additional cable on existing route - All of section provided

Note: For new pole any lean is to be within existing guidance in section 4.16 of EPT/ANS/A010 – see A2402

- Only 1 lightweight aerial cable attached to a hollow pole (stainless or GRP only).
- Heavyweight cables must not be used on Hollow Poles (stainless or GRP only) - if found then defect.

- The suspension wire must not interfere with the BT/BC Lid.
- Termination span being tensioned against is terminated correctly for the situation encountered.
- Has the correct method of attachment been used
- Where required, have insulators been used and fitted correctly
- Where an insulator is used to avoid renewing a length of cable the distance from the pole to the insulator is not critical

12.1.2 Telenco products

Note: Grips Wire Suspension 1 & 2 used to extend the catenary wire of an aerial cable (Telenco ILC 25 & ILC 47 must not be used)

12.1.2.1 UNIVERSAL POLE BRACKET (UPB) (for attaching dropwires, stay wires & aerial cables to poles).

- Aluminium Alloy not damaged (no cracks or splits).
- Washers and Bolts fitted correctly (no washers on face or rear of bracket UPB)
- UPB height from pole top correct (no closer than 200mm)
- Correct amount of drop wires attached to holes 'A, B or C' on UPB (only one aerial cable or three dropwires in a hole position, NOT both aerial cable and dropwire together)
- Correct amount of aerial cables fitted to holes 'B & C ONLY '
- Steel Banding fitted correctly (UPB can be fitted to DNO Joint User poles)
- Restrictions in UPB usage for BT Steel Hollow poles, BT Wooden poles & Joint User Steel & Wooden poles followed
- UPB can be fitted with "C" hole at the top only in situations when it is advantageous to get extra height across carriageway using a GALLOW STAY, Dropwire or Aerial Cable.

Note: UPB and AC10 can be used in lieu of CAC7 to support heavyweight aerial cable at intermediate poles

12.1.2.2 AERIAL CABLE RELIEF CLAMP Number 1 (ARC 1) for use in Hook Aerial Cable 1 ("J" hook) situations. Used for Cable Aerial Self Supporting Combined work only (thermoplastic product).

- Bolts and Washers tight and fitted correctly.
- Jaws of Clamp fitted tightly and correctly onto polyethylene covered suspension steel of aerial cable using bolts.

- Aerial cable suspended above 'J' Hook (not touching [J hook retained for emergency/safety support]).
- 'J' Bracket fitted correctly using coach bolt, washers and locking nuts.

12.1.2.3 TERMINATION CLAMP AERIAL CABLE LIGHT WEIGHT OR HEAVYWEIGHT AC7 - 200 & AC10 - 320 (for attaching polyethylene covered aerial cable to the UPB)

- Stainless steel bail wires not damaged.
- 2 zinc alloy jaws present.
- Bail wire steels not touching.
- Jaws fitted (both in place & parallel with each other, must NOT be out of alignment) correctly onto COVERED suspension steel of aerial cable (not 'lashed cable).
- UV Thermoplastic (insulator) in position and in good condition.
- If pole adjacent to power crossing has a minimum of 310mm of catenary steel been removed from the loop section between AC7 or AC10 type clamps to provide span isolation.
- No mixing of AC7 & AC10 (AC7 for single strand aerial catenary wire. Jaw retainer colour coded black - AC10 Multi-strand aerial catenary wire. Jaw retainer colour coded blue).
- Cable has sufficient slack (such that cable can be easily moved up/down using finger and thumb only)
- On pole terminations where steel has to be cut out of aerial cable to form into joints or block terminals, bared steel must be cut out of cable between 120-150mm at the bend radius of the cable and the exposed steel covered in Cable Abrasion Strip or bound in with wire binding.(See installation instructions)

12.1.2.4 BARREL CLAMP SINGLE STRAND BARE WIRE 2.5mm (BWC25)

BARREL CLAMP MULTI STRAND BARE WIRE 7 X 1.6mm (BWC47)

BARREL CLAMP TERMINATION STAY WIRE (SWC 63)

For attaching the steel suspension wire or stay wire to the UPB

- Correct size of clamp used for aerial cable/stay no mixing of Barrel clamps (3 types, (1) small = Lightweight, (2) large = Heavyweight & (3) Stays = (colour coded yellow).
- Spring loaded steel jaws present.
- Correct type used for aerial cable.

- Binding correct.
- UV thermoplastic (insulator) in position and in good condition.

Note: If suspension steel wire protrudes beyond barrel of the clamp, the sharp end must be protected and the wire must be within the confines of the steel bail wire.

12.1.3 Old Method of termination (applicable to some suppliers)

- Where required, have insulators been used and fitted correctly
- Where an insulator is used to avoid renewing a length of cable the distance from the pole to the insulator is not critical
- If the pole is a joint user pole has the correct method of termination / attachment been used - If unsure of connection agreements on joint user poles refer to Engineering Solutions
- Is the cable the correct distance from the top of the pole (e.g. no nearer/closer than 300mm to top of pole? This does NOT refer to cable separation distances on a pole.)
- Has care been taken to ensure that the cable/suspension steel does not interfere with the BT / Box Connection lid / stay wire?
- Has the suspension steel been passed around the pole the correct number of times?
- Suspension steels not crossed.
- Has the cable been bound in correctly
- Has care been taken to ensure that the binding wire does not bridge the insulator if fitted
- Has the correct grip suspension been used
- Have the O ring/s been fitted (and secured by crushing) in the correct position (for terminations on poles only, "o" rings are not required at the customers fixing).
- Have the correct size O ring/s been used
- Have the correct size of staples been used
- Are the staples in the correct position & not crushing the steel/s
- Have the correct type of Aerial Cable Clamps been used
- Have the correct number of Aerial Cable Clamps been used correctly or full termination applied (Pull On Pole Calculations made correctly)
- Has the correct hollow pole collar been used
- Has the Hollow Pole collar been fitted correctly

- Correct type of cable used. No cables installed other than approved cables designed for the overhead network

12.1.4 Existing Lashed Aerial Cable

- Includes polyethylene, lead and fibre cables
- ON AA work the scope of responsibility for this type of work extends only to the pole being worked on, plus one span and terminations to poles either side.
- Road crossings - New catenary wire provided and bound to existing cables using wire lashing or PCA.
- Road Crossings - Lashed' cable 'going away' from the road crossing poles terminated by providing a full wrap around termination with an insulator stay No.2, and a suitably sized Grips Wire Suspension and Grip Insulator Pole with 1 full length of PCA. (not applicable to insulated terminations where lashed cable needs to be renewed)
- Non-road crossings & Intermediate poles - Hook Aerial cable 1 or 1A (J hook) provided (depending on the size of the cable or if multiple cables exist) and an Aerial Relief Clamp (ARC) clamped onto the catenary wire. 1 full length of the correct size PCA provided either side of the termination (lashing wire not required). Alternatively or where 'Pull on Pole' exceeds nine metres the road crossing full termination method must be used.
- Non-road crossings & Intermediate poles - If the binding wire or lashing wire is broken or coming adrift a suitably sized length of PCA has been provided and any free ends of lashing wire captured within the PCA and no corroded catenary wire left.

12.2 A2400 (DL) N3403 (C) Score: 10 point

Item Description: Planned size and type of pole provided

Scope: All Poles provided that are included in the job/estimate Number

Points of product reference: EPT/ANS/A010

Specific guidance:

- Has the agreed size and type of pole been provided - Pole size reduction changes must be agreed with originator (Openreach Planner for non AA work and the Contractor Surveyor for AA work) however an increase in pole size for sound engineering reasons is permitted.
- On AA work a reduced pole size is acceptable as long as the minimum height of 5.5m has been achieved on all replaced / newly provided wires and no other pole height related defects exist.
- The original pole length should not be reduced by removing the top or the bottom of poles - A circumstance may exist where an existing pole is required

to be shortened by having some of the top removed and this work will only be undertaken in accordance with a planned instruction

- All pole types erected are in good condition (visual inspection) and the right type for the situation (e.g. alternative preservation within schools, parks & playgrounds). Good condition is defined as no significant damage to the pole other than that expected from approved handling methods, and would pass a defect free pole test inspection. Taking into account all possible marks i.e. Pinholes, shot holes, rind galls, fissures and shakes that are allowed at purchase within LN435 and subsequently preservation treatment protected. Also that the 3m mark should be clearly visible & correct.
- Unstayed single span road crossing - See EPT/ANS/A014
- If recovered wooden poles are re-used the following conditions, ISIS EPT/OHP/B058 refers, must be met:

12.3 A2402 (DL) N3404 (C) Score: 10 point

Item Description: Pole Erected in planned position at correct depth and aligned correctly

Scope: All Poles provided that are included in the job/estimate Number

Points of product reference: EPT/ANS/A010

Specific guidance:

- Pole erected in position required by work originator in accordance with preferred position guidance within EPT/ANS/A010 section 4.1 being on the property side of any footpath. Wherever possible /practical a minimum of 1 metre footway clearance maintained for pedestrians. Wherever possible on footpaths/grass verges the pole position should be a minimum of 500mm from the kerb or road edge.
- Poles can be provided outside of the planned position, due to local conditions, as long as the requirements of EPT/ANS/A010 section 4.1 are met and there are no Safety / Quality / Wayleave issues present
- Due to the non-ionizing radiation risk associated with phone masts, Openreach operate a horizontal exclusion zone of 4 metres. To ensure that the Pole climber will always remain outside of the exclusion zone, poles must not be installed within 5 metres of a mast.
- When placing Poles consideration must always be given to existing items of street furniture. Poles should not be placed in positions which will restrict access to PCP'S, DSLAMS etc.
- If pole has been moved from existing position has any existing duct been extended or slewed to new pole position.
- Is Pole set at correct depth with any changes in level ground taken into consideration (ascertained by measurement from 3mtr mark

- Pole base a minimum of 3 metres from the reference line established by conducting a dip test in the conduit / capping.
- Is Pole erected vertically and aligned correctly (new / replaced poles only - lean to be within existing guidance in section 4.16 of EPT/ANS/A010)

Note: Route construction and planned instructions should be accounted for. The pole must not be positioned within 1 Metre of a known hazard unless it is a hollow pole or a planned “H” pole (due to the hazard)

- Where applicable additional depth for Single Short Length Lightweight Aerial Cable Solution requirements met.
- Has the pole been set at the correct depth (if shallow has pole been registered as a legitimate restricted depth pole, if not award a CD).
- Pole installed to correct depth in accordance with the different required planting depths for various ground conditions and pole sizes as defined in EPT/ANS/A010
- Capping/conduit correctly provided to allow dip test to be successfully conducted
- Has any change in level ground been taken into account in relationship to the depth of the pole
- New / replaced poles have been planted at an increased depth to take into account the distance from an existing joint box under the poles in banks/slopes 45 degrees rule.
- Has the pole been erected vertically
- Has the pole been aligned with pole route correctly (not for step alignment - see A2404 for steps) - Route construction and planned instructions should be accounted for.
- Where a hollow pole is being used is the door in the correct position.
- New pole must be 600mm minimum from any pole butt that could not be recovered. (butt should be 300mm below ground level). This minimum distance excludes those pole butts left above ground as being part of a fence / gate post (see A2412)
- Climbing space not impeded by tree branches
- Substantial timber should not be left rubbing on pole ring or pole furniture and fittings
- The pole should not be positioned such that it is within 1Mtr of a known hazard that will result in the pole being 'D' - Where a job has been planned such that this would occur then a deviation should be sought
- The pole must be positioned such that a standard pole test can be undertaken

12.4 A2206 (DL) N3302 (C) Score: 5 point

Item Description: Anti-oscillation twists inserted in aerial cable

Scope: All aerial cables provided or renewed as part of the job/estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A012

Specific guidance:

- Correct number of twists per span been inserted into the cable length
- Marked not checked if cable retensioned

12.5 A2208 (DL) N3303 (C) Score: 5 point

Item Description: Cable tensioned correctly (visual check)

Scope: All aerial cables erected, re-erected, re-tensioned or replaced as part of the job/estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A012

Specific guidance:

- Cable tensioned correctly using the correct technique for the cable used - This is a visual check when retrospective

12.6 A2218 (DL) N3204 (C) Score: 5 point

Item Description: Redundant cable recovered

Scope: All aerial cable route/sections worked upon as part of the job/estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A012

Specific guidance:

- Only mark if job involved renewing or recovering cables
- All redundant cable and wire been recovered using approved techniques and disposed of properly
- Where cables have been replaced has the faulty/redundant cable been recovered? If not item code A2218 is below standard.
- Where cables are being transferred during Asset Assurance Programme poling works has the single spans of obviously redundant cable been recovered. If not item code A2218 is below standard.

12.7 A2404 (DL) N3405 (C) Score: 5 point

Item Description: Has the pole been dressed correctly – non safety items

Scope: All poles erected, provided, renewed **or** replaced as part of the job/estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A010

Specific guidance:

- Ring head, UPB or bracket 22 been fitted correctly
- DPs must be fitted with ring-heads or 2 x Telenco UPBs on stout DPs where ring-heads cannot be fitted
- CPs with single dropwires, with a through angle of greater than 90 degrees, can be fitted with bracket 22 (1 x bracket 22 either side allowed)
- CPs with multiple dropwires must be fitted with a ring-head or UPB (1 X UPB either side allowed)
- CPs at end of route must be fitted with ring head or UPB unless the maximum potential dropwires is 2 with through angles of greater than 90 degrees
- The BT or BC should be sited in the correct position so that it is not obstructed by the pole ring, steps or cables.
- "Hollow pole" cap fitted correctly
- "Hollow pole" door fitted correctly
- Dip test capping/conduit at correct finish level (150-225mm above ground level). For blocked/damaged capping/conduit which prevents dip test being conducted successfully mark A2402 below standard
- A273 statutory notice completed [ID, OUC, Date, Job number (Openreach estimate number) & what work has been carried out e.g. one new pole + two dropwires] and attached to newly erected pole correctly. Where missing inspector must check to see if evidence exists of notice being provided in usual location (nails/staples/part of notice) where evidence supports notice was provided mark as checked OK.

12.8 A2405 (DL) N3420 (C) Score: 10 point

Item Description: Has the pole been dressed correctly – safety items

Scope: All poles erected, provided, renewed **or** replaced as part of the job/estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A010

Specific guidance:

- Pole steps correctly orientated?

- Pole steps been correctly fitted (coach bolts to be fitted with one flat edge hard against metal work of the step as a minimum requirement).
- Sufficient steps and bass steps been provided?
- Correct spacing of steps
- Bottom step correct distance from ground
- Climbing steps unobstructed by other plant on pole

12.9 A2406 (DL) N3406 (C) Score: 5 point

Item Description: Earthing correctly provided (visual inspection) if pole is DP

Scope: All DP poles erected, provided, renewed **or** replaced as part of the job/estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A010

Specific guidance:

- Earthing wire to be fitted to wooden DPs only.
- Where required has Earthing wire of the correct type been fitted
- Has the Earthing wire been fitted correctly
- Have the correct staples been used

12.10 I6506 (DL) N3410 (C) Score: 5 point

Item Description: Lightning protection fitted as required

Scope: All sites where lightning protection is planned or already exists worked upon as part of the job/estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A010 & EPT/ANS/A020

Specific guidance:

- Has lightning protection been provided correctly if planned or maintained correctly where existed prior to work.

12.11 A2220 (DL) N3402 (C) Score: 5 point

Item Description: Redundant pole furniture recovered, holes plugged correctly

Scope: All poles worked upon as part of the job/estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A010

Specific guidance:

- Only mark as checked when new or replacement attachments have been provided on existing pole.
- Cable attachments, furniture and fixings been recovered correctly
- Holes in pole created by removal of furniture been correctly plugged where required except any pre drilled and treated ring head pole holes.

  - Pole steps, split rings, vertical stay brackets & J brackets initially fitted by coach screws – plugs creosote used

  - J brackets, Bolted Universal Pole Brackets (UPBs), any other item fixed with a through bolt - re-insert bolt into hole, fix washer/nut as necessary.

12.12 A2229 (DL) N2239 (C) Score: 5 point

Item Description: Redundant equipment recovered correctly

Scope: All sites worked upon as part of the job/estimate Number in association with the work site identified for checking.

Points of product reference: EPT/ANS/A010

Specific guidance:

- Includes all types of redundant equipment / fittings e.g. WB 900, DACS, BT66
- After DAC's recovery, DAC's unit recovered from underground situation.

12.13 A2230 (DL) N3206 (C) Score: 5 point

Item Description: Cable provided as per WI's. Any departure from estimate correctly agreed and recorded at planning

Scope: All cables provided, renewed, replaced as part of the job/estimate Number in association with the work site identified for checking.

Direct labour check only - Contractors are checked on Job validation checklists

Points of product reference: EPT/ANS/A010

Specific guidance:

- Only mark as checked on planned estimate work / job pack not cable renewals
- Has the cable been provided as per the works instruction

12.14 A2236 (DL) N3307 (C) Score: 10 point

Item Description: Wall plate aerial cable fixing correctly provided/renewed if faulty/defective, using the correct cable fixing bracket into brick.

Scope: All wall plate aerial cable fixing points used on the job/estimate Number in association with the work site identified for checking

Points of product reference: EPT/ANS/A012

Specific guidance:

- Has the correct customer fixing been used for the type of cable
- Customer fixing fitted correctly in the correct position using approved technique
- Telenco BWC 25 or full termination used (CAC or AC7 -200 not allowed)
- Plate wall 5A fixed using correct bolts / eyebolts expanding. If eyebolts used any eyelets are in place, not used for other cable fixings.
- Bail wires not rubbing on eyelets.
- 1 lightweight aerial cable fitted per Plate 5A
- If unused Metal thimble left hanging downwards

12.15 I6246 (DL) N3320 (C) Score: 5 point

Item Description: Cable entry through wall agreed with customer

Scope: All entry points provided through customer/end user wall on the job/estimate Number in association with the work site identified for check

Points of product reference: EPT/ANS/A011

Specific guidance:

- Check position was agreed if customer is available during check.
- Drip loop provided
- The premise's entry hole has been sealed with an approved sealant.

12.16 A2422 (DL) N3308 (C) Score: 5 point

Item Description: Cable feeds correctly run and fixed. Capping correctly sited and fastened.

Scope: All cable feeds provided on the job/estimate Number in association with the work site identified for check

Points of product reference: EPT/ANS/A006 & EPT/ANS/A012

Specific guidance:

- Capping secure
- Cables (aerial cable and block terminal cable feeds) secured to pole using aluminium strip, nails bonding and washers. (The strip wrapped around the cable/cables or the strip bridging the cable/cables methods are acceptable for copper /aluminium cable)
- Fibre cables must only be secured by the aluminium strip bridging method
- Have the cable feeds been properly run

- Ladder placement area avoided with newly provided cables where achievable. Consideration must be given to existing plant, pole orientation and likely ladder location(s) as to the best route for new cables.
  - Provision of “ladder loop”
  - Run straight down the pole to allow V shaped pivot plate to straddle cable(s)
- Capping fitted correctly using the correct fasteners
- If Capping Steel 8B has been provided or replaced has an overlap of the 2 sections been provided
- Capping does not obscure the 3 metre mark

12.17 A2424 (DL) N3309 (C) Score: 5 point

Item Description: Maximum span distance not exceeded

Scope: All aerial cable/s and or dropwires provided on the job/estimate Number in association with the work site identified for check

Points of product reference: EPT/ANS/A012, AEI/AEC/B337

Specific guidance:

- Is the span length within limits for wire / cable type and location e.g. road crossing / non-road crossing
- If span length is greater than the maximum, on an existing cable or dropwire, these should be treat as planned and re-provided.

Note: The revised policy below applies to Fibre cables feeding CBTs **only**. In circumstances where blocked duct/no duct and span length is more than 68m pole to pole see AEI/AEC/B337. This refers to non road crossing wires spans up to 85m are now permitted, for wires crossing carriageway spans up to 75m are permitted so long as 6.5m height is achieved.

12.18 A2408 (DL) N3407 (C) Score: 10 point

Item Description: Pole stays fitted correctly where required

Scope: Both of the ends & all intermediate positions of any Aerial Cable/s provided/transferred/re-tensioned as part of the job/estimate Number in association with the work site identified for check

Points of product reference: EPT/ANS/A014 & EPT/ANS/A015

Specific guidance:

- Checked on every new or existing pole with aerial cables attached
- Stay been provided in accordance with the Restricted Span Rule
- Stay of the correct type.

- Stay construction correct
- Has the correct stay wire been used
- Are the staples the correct size and in the correct position.
- Have the correct grips been used
- Is the stay wire fitted on the pole in the correct position
- If UPB fitted it must be positioned in line of cable approach - not to side of pole.
- Has care been taken to ensure that the stay does not foul any other pole furniture or aerial cable terminations?
- Ground anchor of the correct type
- Has the ground anchor been installed correctly
- Stay wire clearly marked with yellow stay guard.
- Gallows stay in the correct position
- Gallows stay pole the correct class and size
- Gallows stay/carriageway clearance correct
- Stay under correct tension
- Strut properly constructed
- Correct number of stays been used
- Stay been fitted the correct distance from the pole
- Stay been fitted/re-provided correctly when required?
- Stay Anchor 2 locking nuts fully tightened (both ends)
- SWC63 (or any Telenco product) must not to be used at ground anchor position

Note: This includes bringing any poles or associated plant damaged in a Road Traffic Accident (RTA) up to the quality standard

BARREL CLAMP TERMINATION STAY WIRE (SWC 63)

- Correct barrel clamp used for stay wire.
- Correct stay steel used (7/2.0 gauge).
- Any steel that protrudes beyond BARREL CLAMP must be within stainless steel loop that is fixed to UPB (Universal pole bracket) & sharp end covered for safety.

Newly provided anchors:

Screw Acnchor Stay: protruding between 300-400mm above ground level
Anchor Stay 2: protruding max 500 mm above ground level

Stay Anchor 2 Exceptions:

- If the Standard depth cannot be achieved exceptional depths are detailed in EPT/ANS/A015 section 6.2

Note: Reuse of existing stay anchors: where an existing stay anchor is fully serviceable; in good condition; firmly embedded in solid ground and in the correct location to fulfil the route stability requirements then the following applies providing the stay wire can be attached and tensioned correctly

Where an Anchor Screw No.1 or Deadman stay anchor is reused, the following applies:

- The stay must not be significantly bent or corroded to stop re-tensioning of the stay wire.
- 600mm is measured from ground level to end of threaded section of a Deadman Stay Anchor
- 600mm is measured from ground level to top of thimble for an Anchor Screw No.1,
- A thimble must be present on a Deadman Stay Anchor for the grip wire suspension to be fitted.

Anchor Stay Manual 1B

- These can be re-used providing the anchor is firmly in the ground and withstands tension (doesn't' pull out) – if not they should be replaced

Pole Top Vertical Stay Bracket

- Bracket should be fitted minimum 650mm down from the stay fixing position (bottom of UPB
- Secured with four standard coach screws in correct positions (coach screws to be fitted with one flat edge hard against metal work of the step as a minimum requirement).
- Anchor position minimum 600mm from base of pole

12.19 A2426 (DL) N3408 (C) Score: 5 point

Item Description: Pole loadings not exceeded

Scope: All poles provided on the job/estimate Number in association with the work site identified for check

Points of product reference: EPT/ANS/A010 & EPT/ANS/A014

Specific guidance:

- Pole loadings not exceeded
- Only <u>One</u> single span of lightweight aerial cable to be used for a "Single Short Length Lightweight Cable solution".
- Dropwire loadings not exceeded e.g. dropwires in line of route.

12.20 A2432 (DL) N3208 (C) Score: 5 point

Item Description*:* If pole bleeding has it been properly protected (retro check only)

Scope: All poles provided on the job/estimate Number in association with the work site identified for check

Points of product reference: EPT/ANS/A010

Specific guidance:

- Applies to newly provided poles only.
- Pole protected properly using standard practices to protect public from creosote
- Bleeding poles must not be newly provided/erected near waterways, or where it would cause a public nuisance whether protected or not.
- Pole not bleeding, mark NOT CHK.

12.21 A2433 (DL) N3215 (C) Score: 10 point

Item Description: Pole used not bleeding (IP check only)

Scope: All Poles provided that are included in the job/estimate Number in association with the work site identified for check

Points of product reference: EPT/ANS/A010

Specific guidance:

- If pole found to be bleeding during In Progress visit of the poling operation award defect.

12.22 A2428 (DL) N3207 (C) Score: 5 point

Item Description: Any Departure from estimate correctly agreed and recorded at planning.

Scope: All Poles provided that are included in the job/estimate Number in association with the work site identified for check

Direct labour check only - Contractors are checked on Job validation checklists

Points of product reference: EPT/ANS/A010

Specific guidance:

- Only marked as checked on planned estimate work / job pack activities only
- Any additional work or variation has been agreed with the planner or originator of the work

- DFE's for contract work that is not included within the contract price has been authorised
- Have all onsite problems preventing erection to planned standard been notified for agreement to re-site.

12.23 A2412 (DL) N3214 (C) Score: 10 point

Item Description: Pole/pole related items fully recovered

Scope: All Poles replaced/worked upon that are included in the job/estimate Number in association with the work site identified for check

Points of product reference: EPT/ANS/A010

Specific guidance:

- Applies to pole renewal/recovery only
- All pole/pole related items (e.g. stays, struts, poles etc.) that are required to be recovered as part of the job/work pack must have been fully recovered correctly.
- Where the pole has become part of a fence / gatepost etc. and where removing it would cause a gap or similar problem if the upper section (including the 3m mark and all other pole markings) has been removed to leave a stump that is acceptable.
- Stumps must not be left as a matter of course (i.e. just for the convenience of the poling gang). If any are found which appear to serve no 3rd party purpose, they should be defected.
- Any pole butt that could not be recovered should be cut off 300mm below ground level unless it has become part of fence / gate post etc. (as per guidance above).
- When a pole has been unable to be recovered and it has been referred to Openreach to resolve. If it has been agreed to close the job/estimate this is not a defect.
- Aerial cables are covered under A2218

12.24 A2430 (DL) N3409 (C) Score: 5 point

Item Description: Pole correctly numbered

Scope: All Poles provided/replaced/worked upon that are included in the job/estimate Number in association with the work site identified for check

Points of product reference: EPT/ANS/A010

Specific guidance:

- Pole numbered

- Pole numbers correctly positioned, fixed and legible.
- Poles with more than one route must have the suffix added to the carrier poles numbering on the additional routes e.g. 1A, 2A, 3A, 4A for the 2nd route.
- Radio pole (WM) & Cable Marker (CM) marked accordingley

12.25 A2434 (DL) N3411 (C) Score: 10 point

Item Description: All surface reinstatement complies with specification

Scope: All excavations/reinstatements included in the job/estimate Number.

Note: ***Note:*** For Retrospective checks on work completed by contractors ALL reinstatement must be completed to a permanent standard prior to invoice. Where a permanent reinstatement has not been provided MARK THIS ITEM AS BELOW STANDARD

Points of product reference: EPT/ANS/A010 HAUC SROH

Specific guidance:

- Checked on newly provided, renewed and recovered poles only
- All excess soil waste/excavated material from excavation removed from the Worksite
- Re-instatement in accordance with HAUC requirements surrounding the pole has been properly compacted - all
- Site surface reinstated in accordance with HAUC requirements properly - Grass top replaced where appropriate - all
- Physical Reinstatement matches that declared in the Closing Notice or Job Pack – CM only
- Reinstatement provided for all areas disturbed by works
- Road Markings and Special surfaces replaced
- Vertical edges are cut straight & Trim line requirements met
- Wearing course of the correct material
- No evidence of ground subsidence around pole.
- Soil/material surrounding the pole has been properly compacted (backfill).
- Pole Stable in hole (no gap between Pole & Reinstatement may exist)

12.26 I6320 (DL) Score: 10 point

Item Description: Protector Cable Abrasion provided on overhead wire, cable and aerial cable joints worked on, when required.

Scope: All new or replaced aerial cables and dropwires (including CAD55, CDW15 & Fibre Drop Cable) and in line aerial cable joints provided/replaced/worked upon that are included in the job/estimate Number in association with the work site identified for check

Points of product reference: EPT/ANS/A011 & EPT/ANS/A012

Specific guidance:

- All new or replaced aerial cables and dropwires (including CAD55, CDW15 & Fibre Drop Cable) must be provided with the correct PCA where the cables or wires go through trees.
- All in line aerial cable joints that are provided or worked on must be provided with the correct PCA where the joint is within trees.
- The PCA should be provided to a recommended minimum distance of 2 metres beyond the foliage (in both directions). During Quality Checks and audits it will be checked that the PCA is provided beyond the foliage but the distance will not be measured.

12.27 I6322 (DL) Score: 5 point

Item Description: Protector Cable Abrasion correctly fitted, when provided.

Scope: All new or replaced aerial cables and dropwires (including CAD55, CDW15 & Fibre Drop Cable) and in line aerial cable joints provided/replaced/worked upon that are included in the job/estimate Number in association with the work site identified for check

Points of product reference: EPT/ANS/A011 & EPT/ANS/A012

Specific guidance:

- Maximum of 15 PCA provided on dropwires, CAD55, CDW15 or Fibre Drop Cable crossing the carriageway
- Correct size of PCA provided on cables, wires and joints.
- Ends of PCA butted together so protection is continuous

13 *Monopoly wiring*

13.1 I6511 (DL) N3110 (C) Score: 10 point

Item Description: End User external and internal lead in routed to avoid potential faults, damage and safety risks. NTE and equipment correctly mounted and secured.

Scope: All customer/end user sites worked upon that are included in the job/estimate in association with the work site identified for check

Points of product reference: EPT/ANS/A016

Specific guidance:

- Internal wiring not routed on floor or under carpet where it is likely to be walked upon or damaged
- Internal or external wiring not routed where it is likely to be damaged by moving items e.g. across door jambs
- Internal or external wiring not routed where it is likely to be damaged or cause safety risks e.g. across steps
- Internal equipment e.g. NTE not mounted in an unsafe or fault prone position

Note: Use of fireproof fixings and firestopping checked under S0081 & S0082

13.2 I6512 (DL) N3109 (C) Score: 5 point

Item Description: Correct BT/BC/NTE fitted

Scope: All customer/end user sites worked upon that are included in the job/estimate in association with the work site identified for check

Points of product reference: EPT/ANS/A016

Specific guidance:

- Newly Provided BT / NTE sited in damp free vertical position
- Current Openreach Branded NTE fitted on new provides or to replace any existing faulty or obsolete NTE or where no NTE exists.

13.3 I6262 (DL) N3107 (C) Score: 5 point

Item Description: Internal wiring routed correctly into NTP/E and terminated using correct method for NTP/E

Scope: All customer/end user sites worked upon that are included in the job/estimate in association with the work site identified for check

Points of product reference: EPT/ANS/A016

Specific guidance:

- Wire stripped correctly when terminated on non-IDC Block
- Wire enters BT / NTE/ XNTE using correct method for Block / NTE / XNTE
- Wires correctly terminated using correct method for that block
- Wiring in NTE / XNTE meets Openreach’s interconnect obligations
- Bare conductors should not be visible on IDC connectors
- Cable sheath should be contained within the Block / NTE / XNTE
- Customers’ cables terminating in the NTE secured using correct method for NTE

13.4 I6090 (DL) N2242 (C) Score: 10 point

Item Description: External cable within building conforms to fire regulations

Scope: All cables provided in a building as part of the job/estimate in association with the work site identified for check

Points of product reference: EPT/ANS/A016

Specific guidance:

- Cables provided conform to fire regulations
- Polyethylene insulated cables should not be run more than 2 metres within an internal area.

13.5 F1013 (DL) N4115 (C) Score: 10 point

Item Description: XNTE, NTE requirements and monopoly wiring segregation requirements correct.

Scope: All managed install customer/end user sites worked upon that are included in the job/estimate in association with the work site identified for check.

Points of product reference: EPT/ANS/A016

Specific guidance:

- XNTE, NTE requirements and monopoly wiring segregation requirements correct.
- Incoming line not terminated directly on an XNTE (if existing)
- No wiring terminated on XNTE module
- XNTE (if existing) rewired from Internal NTE5 to maintain extension wiring
- No extension wiring or spurs connected prior to Internal NTE5 (back fed /incorrect star wiring)

13.6 F1014 (DL) N4116 (C) Score: 10 point

Item Description: VDSL filter, modem and wiring installed correctly.

Scope: All managed install customer/end user sites worked upon that are included in the job/estimate in association with the work site identified for check

Points of product reference: EPT/ANS/A016

Specific guidance:

- VDSL filter, modem and wiring installed correctly, SSFP fitted in NTE
- SSFP correctly fitted

- Correct VDSL data extension cable kit used (CAT5e) if required
- Cable correctly fixed and free from damage
- No Cat5e internal (white) data extension cable kit run externally.
- BT78B used to connect internal and external cat 5e cable
- Correct wired data extension sockets used
- Cat 5e cable stripped correctly without damage
- Pair twist maintained up to IDC & terminated correctly
- Only factory made RJ11 cords used if provided to connect NTE/Modem to data extension sockets
- G.fast modem & SSFP correctly fitted

13.7 F1008 (DL) Score: 10 point

Item Description: Battery Backup unit (BBU) provided and installed correctly on FTTP (including MDU) installation

Scope: All FTTP managed Install customer/end user sites worked upon that are included in the job/estimate in association with the work site identified for check

Points of product reference: EPT/ANS/A016

Specific guidance:

- Provided and fixed securely to wall
- Provided within 1 metre of power socket

14 *MDFs*

14.1 N0701 (DL) N2503 (C) Score: 10 point

Item Description: Correct gauge & type of jumper wire used

Scope: All MDF jumpers' provided/moved/shifted/replaced/worked upon that are included in the job/estimate Number.

Points of product reference: PRD/MDF/B110

Specific guidance:

- Correct gauge and type of jumper used/provided for circuit worked on.
- If wrong colour on re-used jumpers do not award a defect

14.2 N0702 (DL) N2504 (C) Score: 5 point

Item Description: Jumper routed through correct vertical & horizontal lays, rings & block feed holes.

Scope: All jumpers provided on the frame that are included in the job/estimate in association with the work site identified for check

Points of product reference: PRD/MDF/B110

Specific guidance:

- Checked on all newly provided or renewed jumpers only
- Jumper routed correctly.

14.3 N0703 (DL) N2505 (C) Score: 5 point

Item Description: Jumper lying correctly with the right amount of slack.

Scope: All jumpers provided on the frame that are included in the job/estimate in association with the work site identified for check

Points of product reference: PRD/MDF/B110

Specific guidance:

- Jumper routed correctly.
- On newly provided jumpers is the jumper lying correctly with the right amount of slack.
- On re-used/re-terminated jumpers is the jumper lying correctly and have attempts been made to leave slack (jumper must not be bar tight if it is, it should have been replaced).
- Jumper runs up to 9 metres must have approximately 50mm of slack and Jumper runs over 9 metres must have approximately 100mm of slack.
- Jumpers run through the a C ring must also have 100mm of slack
- Manager only check: brown/white jumper wire used on MDF Deload/Reload activities

14.4 N0726 (DL) N2507 (C) Score: 10 point

Item Description: Renewed/re-used/provided jumper not faulty or defective

Scope: All MDF jumpers provided/moved/shifted/replaced/worked upon that are included in the job/estimate in association with the work site identified for check

Points of product reference: PRD/MDF/B110

Specific guidance:

- Jumper has no joints, crimps or evident defects

14.5 N0704 (DL) N2113 (C) Score: 5 point

Item Description: Jumper terminated with correct polarity as per colour code

Scope: All MDF jumpers provided/shifted/replaced/worked upon that are included in the job/estimate in association with the work site identified for check

Points of product reference: PRD/MDF/B110

Specific guidance:

- Jumper terminated with correct polarity as per colour code.

14.6 N0705 (DL) N2114 (C) Score: 10 point

Item Description: Good mechanical contact between wires and tags

Scope: All MDF jumpers provided/moved/shifted/replaced/worked upon that are included in the job/estimate in association with the work site identified for check.

Points of product reference: PRD/MDF/B110

Specific guidance:

- Excess wire disposed of correctly
- Terminations neat and tidy.
- Only Wire stripper No 2 and Pliers Wiring No 5 to be used to strip insulation (on pliers wiring No5 the action must be away from the body and at or around waist height. (In progress check)
- Wire correctly wrapped around solder tag and soldered. Wire wrapping in excess of the recommended 1.5 turns should only be defected if it is considered to have fault potential.
- Ensure IDC is clear of debris from any recovered termination.
- On the new versions of IDC blocks UG wire and jumper should be terminated on the front of the block as per the MDF recovery plan (Jumper wire on left hand port and permanent wire on right hand port when looked at from the front of the block)

14.7 N0203 (DL) N2140 (C) Score: 10 point

Item Description: Tags soldered correctly, not dry and no solder spikes

Scope: All MDF jumpers provided/moved/shifted/replaced/worked upon that are included in the job/estimate in association with the work site identified for check

Points of product reference: PRD/MDF/B110

Specific guidance:

- Use small amount of solder no solder "spikes" left on tags worked on.
- No excessive build-up of solder on tags worked on.
- All tags in use on the block worked upon soldered correctly (no dry joints).

14.8 N0706 (DL) N2118 (C) Score: 5 point

Item Description: Insulation butted up to tag correctly and not burnt

Scope: All MDF jumpers provided/moved/shifted/replaced/worked upon that are included in the job/estimate in association with the work site identified for check.

Points of product reference: PRD/MDF/B110

Specific guidance:

- The insulation must not touch/wrap around the tag.
- No burning of insulation
- Gap between tag to insulation (up to 2mm) on jumper provided.

14.9 N0707 (DL) N2120 (C) Score: 10 point

Item Description: Correct protective devices fitted as required

Scope: All MDF jumpers provided/moved/shifted/replaced/worked upon that are included in the job/estimate in association with the work site identified for check.

Points of product reference: PRD/MDF/B110

Specific guidance:

- PM1A & 2A manufactured pre week 15 should be changed (check only made retrospectively if it can be done without interrupting service)
- Glass fuses must be removed and replaced with Dummy protectors.
- For Jacks Test 45-49 use Protector Module 2A or 6A as appropriate (unless protection is provided on an alternative block in the circuit). Module colours yellow, green and purple are current and approved – Mark CHK OK. The grey could be either pre or post wk. 15 1990 as this cannot be confirmed when retrospectively quality checking without disrupting service mark CHK OK.
- UXD5 correct protection as appropriate fitted for line card type.
- Only one module with protection is needed per circuit

14.10 N0210 (DL) N2506 (C) Score: 5 point

Item Description: Ensure that the jumpers are recovered and disposed of correctly

Scope: All MDF jumpers recovered/replaced that are included in the job/estimate in association with the work site identified for check.

Points of product reference: PRD/MDF/B110

Specific guidance:

- Tags should be cleaned of excess solder.
- Ensure IDC is clear of debris from the recovered termination.
- No unrecovered jumpers on block side of fanning strip.

14.11 N0714 (DL) N2509 (C) Score: 5 point

Item Description: Frame records/CSS/WM completed clearly and concisely

Scope: All records of MDF jumper/s provided/shifted/replaced/worked upon that are included in the job/estimate in association with the work site identified for check.

Points of product reference: PRD/MDF/B110

Specific guidance:

- Field management/coaches check item only this is not a network assessor Check
- Correct information recorded in electronic version Frame log held on the WM system by Openreach Core teams
- Where locally agreed correct information recorded in Frame log book held in exchange by visiting engineer (Openreach or Contract).

14.12 N0117 (DL) N2240 (C) Score: 1 point

Item Description: All site documentation (visitor book, routines log etc.) and local records updated clearly and accurately.

Scope: All site documentation/records of MDF jumper/s provided/shifted/replaced/worked upon that are included in the job/estimate in association with the work site identified for check.

Points of product reference: PRD/MDF/B119

Specific guidance:

- Field management/coaches check item only this is not a network assessor Check

14.13 N0717 (DL) Score: 5 point

Item Description: Work manager job progression correct with all work being completed.

Scope: All work manager job progression recorded on the WM system that is included in the job/estimate in association with the work site identified for check.

Points of product reference: PRD/MDF/B119

Specific guidance:

- Field management/coaches check item only this is not a network assessor/contractor Check

14.14 N0715 (DL) N4321 (C) Score: 10 point

Item Description: Circuit test carried out and TOK result stored correctly (MDF activity)

Scope: All MDF circuits worked upon that are included in the job/estimate in association with the work site identified for check.

Points of product reference: PRD/MDF/B119

Specific guidance:

- This item only covers MDF singleton provision activities and faults e.g. Fault pair changes are covered by V3715.
- On jobs/activities where multiple check sheets are input only 1 [one] check sheet needs marking
- Mark item as not checked if the activity being checked was closed by the WMC or a 3rd party e.g. Contractors working on MDF activities.
- If an engineer documents in the job notes a valid reason why he / she failed to undertake & record a good line test (e.g. slip number quoted for faulty test head) then they should not be defected – mark item as Checked OK.
- Check that tests result is stored; these would include LTOK, Network problems – LN, Customer problems CA/ CE. Any test result that fails FU – Frames unit must be acted upon to clear any MDF jumpering problem or notes added to reflect reason for failed test, e.g. inventory issue. .
- Check that a good set of results has been stored (as defined by the line test system used) e.g. Pass or ‘Line Test OK’.
- Some line tests may show a different Engineer ID against the test and this is acceptable as long as it was done before job completion.

14.15 I6088 (DL) N2128 (C) Score: 10 point

Item Description: Cable hole fire stopped – temporary or permanent

Scope: All cable fire stop positions for cable provided on the job/estimate in association with the work site identified for check.

Points of product reference: SFY/CSP/B049

Specific guidance:

- Fire stopping provided in accordance with current instructions.

15 *Misc.*

15.1 I6018 (DL) N2226 (C) Score: 5 point

Item Description: Desiccant Packs replaced where appropriate, clearly labelled with UIN or signature, dated and correctly positioned as appropriate

Scope: All products worked upon that previously required or currently require desiccants to be fitted (e.g. Joints, non-vented PCP / SCP's and Pillar Distributions using PC 100) and are included in the job/estimate in association with the work site identified for check.

Points of product reference: EPT/ANS/A006, EPT/CJT/D020

Specific guidance:

- If required PCP / SCP desiccated in line with ISIS policy.
- Desiccant packs free from damage and leakage
- Are the Desiccant packs present/marked with the date of the job closure and is the assessed engineer identified by signature or UIN
- In PCP/SCP desiccant pack No.2A (coloured variety) have been used are they still Amber/orange in colour, NOT WHITE OR CLEAR/COLOURLESS.

15.2 A2126 (DL) N4204 (C) Score: 5 point

Item Description: All records, prints and A154s legible, clean, updated, certified and forwarded

Scope: All Points of Intervention when engaged in E/D Side work included in the job/estimate in association with the work site identified for check.

Note: Direct labour check only - Contractors are checked on Job validation checklists

Points of product reference:

Specific guidance:

- Only marked as checked on planned estimate work / job pack activities only
- All records should be completed as per documented process

15.3 A2128 (DL) N4205 (C) Score: 5 point

Item Description: Booking practices correct

Scope: All booking practises in accordance with the work/job type included in the job/estimate in association with the work site identified for check.

Only checked when engineer has provided the POI, raised an A1024 or asked for a PAT fault.

Points of product reference:

Specific guidance:

- POI details recorded in accordance with ISIS EPT/ANS/A024
- Has A1024 number been recorded in POI notes where required
- If A1024 raised, correct defect & remedy codes been used.
- Internal joint label: UIN, job number and date recorded on either pole pre climb label or rear of A1024 label within joint

Note: On a newly provided joint a POI label is not required as the details are recorded on the body of the closure.

15.4 R2128 (DL) N4213 (C) Score: 5 point

Item Description: Routing recorded correctly

Scope: All E/D Side work included in the job/estimate in association with the work site identified for check.

Points of product reference:

Specific guidance:

- Only applies to information provided by the engineer e.g. POI, Job packs and change of routing details recorded in job notes or WM.
- CSS records cannot be accurately checked in isolation due to WM / CSS upload process delays.
- Routing recorded correctly – old and new details as per POI standards
- Old and new routings provided in POI if pair changed node (MDF, DP or PCP) to joint.
- Upon DAC's recovery have records been up-dated with routing changes?

15.5 A2314 (DL) N2211 (C) Score: 5 point

Item Description: Information on repaired faulty pairs passed to NRO records

Scope: All E Side work included in the job/estimate in association with the work site identified for check.

Points of product reference:

Specific guidance:

- Field management/coaches check item only this is not a network assessor Check
- All records should be completed as per documented process

15.6 A2129 (DL) N4206 (C) Score: 5 point

Item Description: Provision/Installation/Clear code correctly recorded

Scope: All Points of Intervention when engaged in E/D Side Provision/Repair work included in the job/estimate in association with the work site identified for check.

Points of product reference:

Specific guidance:

- Correct information provided on Question Based Closure to generate correct clear code
- **Note:** Where it is suspected a pair change has been carried out but the clear code has been miss booked, equipment such as a tone set and a CLI tone may be required to assist the checker to identify if this is the case. If it is found a pair change has taken place, also check under I6020.

15.7 A2131 (DL) N4207 (C) Score: 5 point

Item Description: Other defects on site reported via A1024

Scope: All E/D Side Provision/Repair work included in the job/estimate in association with the work site identified for check...

Points of prochduct reference: NWK/NNS/V018

Specific guidance:

- Checked on every job type.
- For MDF only check block(s) worked on
- No A1024 has been raised where a defect exists (mark below standard)
- A1024 submitted and is not required (mark below standard)

- A1024 label provided and completed correctly which must also include UIN or A1024 reference number
- If job number was not available due to OOH attendance e.g. RTA - mark as checked OK.
- A1024 labels must not be fitted to Joint User poles
- Pair Changes - Information recorded on the A1024 system should include location of both ends of the pair change, cable size and conductor size (if not 0.5)

15.8 I6002 (DL) N4209 (C) Score: 5 point

Item Description: Customer contacted if fault appointed

Scope: All work included in the job/estimate in association with the work site identified for check.

Points of product reference:

Specific guidance:

- Field management/coaches check item only this is not a network assessor Check
- No guidance required

15.9 I6992 (DL) G0009 (C) Score: 5 point

Item Description: Correct replacement of high security equipment provided on UG frames and covers, to protect the network, or A1024 submitted if replacement equipment is not held.

Scope: This item is only checked when high security equipment existed before the site was visited.

Points of product reference: EPT/UGP/B009, EPT/UGP/B012, EPT/UGP/B014, EPT/UGP/B019

Specific guidance:

- Lockable footway frames and covers secured by integrated lock(s)
- Adjustable plates plant protection locked in central position using single padlock to ensure no plates can be removed.

15.10 V3715 (DL) Score: 10 point

Item Description: Circuit test carried out and TOK result stored correctly (non MDF activity /clear)

Scope: This item only covers external provision activities and faults. (MDF provision activities and faults are covered under N0715 item code)

Note: Openreach check - but includes checks on Contractors working on provision and repair activities.

Points of product reference:

Specific guidance:

- On jobs/activities where multiple check sheets are input only 1 [one] check sheet needs marking
- Mark item as not checked if the activity being checked is not the final customer activity e.g. pair proves.
- Mark item as not checked if the activity being checked was closed by the WMC e.g. for a cable length changeover by ND or 2nd stage repair engineers.
- If an engineer documents in the job notes a valid reason why he / she failed to undertake & record a good line test (e.g. slip number quoted for faulty test head) then they should not be defected – mark item as Checked OK.
- Check that a line test has been made against the external repair or provision activity - use Eclipse MIS. Note: not all tests are transferred to CSS as this depends on the circuit type – refer to Test on Completion (TOC) documentation.
- Check that a good set of results has been stored (as defined by the line test system used) e.g. Pass or 'Line Test OK'.
- Some line tests may show a different Engineer ID against the test and this is acceptable as long as it was done before job completion.

15.11 V3716 (DL) Score: 5 point

Item Description: Test and Demonstrate end user contact name recorded (non MDF activity / clear) – for provision , SFI2, Broadband Boost, CDTA, CDTnA, FTTC, FTTP, D side pair changes and faults cleared at the EU premises.

Scope: This item only covers external provision activities and faults. (MDF provision activities and faults are not required to test and demonstrate to the End User)

Note: Openreach check only - but includes checks on Contractors working on provision and repair activities.

Points of product reference:

Specific guidance:

- On jobs/activities where multiple check sheets are input only 1 [one] check sheet needs marking

- Mark item as not checked if the activity being checked is not the final customer activity e.g. pair proves.
- Mark item as not checked if the activity being checked was closed by the WMC e.g. for a cable length changeover by ND or 2nd stage repair engineers.
- If an engineer documents in the job notes a valid reason why he / she failed to test and demonstrate to the end user/ agent then they should not be defected – mark item as Checked OK.
- Check, on CSS or WM, that notes have been added to prove that a test and demonstrate has been executed and that the end-user /agents name has been recorded in the notes. e.g. " T&D Mrs Smith"' would be acceptable but T&D or CWWC with no end user name would not be. In CSS for repair use CSS DFRN transaction and for provision use DWI transaction or use WM Live / Taskforce notes e.g. if NEO task closed as 172* or CSS note truncation is suspected
- Some T & D notes may be entered by a different Engineer ID and this is acceptable as long as it was done before job completion.
- For hard network faults where there is no need to visit the EU i.e. those faults not covered by the check item description the following notes format will apply:
  - If agreed **OK** with End User whilst at POI - 'FT2 Job Closure LTOK confirmed with 'insert EU name''.
  - If End User not available - 'FT2 Job Closure - LTOK but unable to confirm with EU'
- On repair tasks - for 82.7 clears (unless no access) and for faults cleared by visiting EU premises then full T&D must be completed at EU premises and EU/agents name recorded.
- If it was not necessary to travel to EU to perform a PQT has the relevant 'FT2 job closure LTOK' note been added to reflect EU availability?

15.12 V3717 (DL) Score: 10 point

Item Description: PQT attempted, if HHT held, from cust premises/closest accessible point if no access – for all copper provides Inc. NCF, BBB & SFI2, CDTA & CDTnA, CIDT repair, FTTCGEA repair, known RR or ELF on WLR3 & LLU repair, FTTC provide tasks exc. PCP only.

Scope: This item covers external provision activities and faults completed by HHT Users.

Note: Openreach check only

Points of product reference: When to PQT Briefing v17

Specific guidance:

- Only checked if HHT users are using ToCMIS.
- If PQT is shown as attempted on MIS = checked OK
- If PQT is shown as not attempted but notes explain reason why i.e. system failure or HHT faulty = checked OK
- If PQT is not shown as attempted, with no notes = below standard
- For hard network faults where there is no need to visit the EU to perform a PQT i.e. those faults not covered by the check item description there is no need to travel to the EU to perform a PQT at the NTE - the item should be marked as not checked.

15.13 V3718 (DL) Score: 5 point

Item Description: WM notes show Authoriser/reason unable to complete test, if no successful PQT result - for all copper provides Inc. NCF, BBB & SFI2, CDTA & CDTnA, CIDT repair, FTTCGEA repair, known RR or ELF on WLR3 & LLU repair, FTTC provide tasks exc. PCP only.

Scope: This item covers external provision activities and faults completed by HHT Users when a PQT was attempted but did not show as 'Pass'.
Note: Openreach check only

Points of product reference: When to PQT Briefing v17

Specific guidance:

- Only checked if an attempted PQT is not shown as Pass on MIS i.e. test fail or 'Other' (e.g. test aborted, abandoned or incomplete)
- If WM, or Supplier, notes show who authorised closure of job for test fail or reason unable to test for 'Other' = checked OK
- If WM, or Supplier, notes do not show who authorised closure of job for test fail or reason unable to test for 'Other' = below standard
- For hard network faults where there is no need to visit the EU to perform a PQT i.e. those faults not covered by the check item description there is no need to travel to the EU to perform a PQT at the NTE. In these cases no PQT will be attempted and no notes will be expected – mark as not checked.

15.14 V3720 (DL) Score: 5 point

Item Description: Quality of Job notes for CP don't contain technical jargon/abbreviations, clearly states reasons for any delay, what action taken, engineers involvement, who is dealing, action required to resolve and when?

Scope: This item covers external provision activities and faults

Openreach check only

Line Manager Check only

Specific guidance:

- Details what action has been taken (if no action explain why)
- Details what the next steps are (e.g. Passed to survey team for review)
- Details when the next update will be provided (if the date is a long way in the future, it's good practice to provide regular updates to confirm that everything is progressing to plan).
- Abbreviations, technical terms or jargon avoided
- The problem is stated, what is being done to resolve it and when it's likely to be resolved
- Reasons for any delay clearly explained
- Regular updates provided if things change or further delays are expected.

15.15 S0080 Score: 10 points

Item Description: Fire stopping correctly provided (where required) to any new or existing hole (worked on) in building fabric within end user premises

Scope: All workpoints which have internal cabling

Points of product reference: AEI/AEC/B313, SFY/CSP/B049

Specific Guidance:

- Correct fire stopping used to seal new and worked on cable hole(s)

15.16 S0081 Score: 10 points

Item Description: All newly provided cables within end user premises running in fire protected routes secured with appropriate fireproof fixings

Scope: All workpoints which have internal cabling

Points of product reference: AEI/AEC/B313, SFY/CSP/B049

Specific Guidance:

- Correct fixings used to secure internal cabling and trunking

15.17 I6020 Score: 0 points

Item Description: Any pair swap(s) are compliant with the Pair Swap Policy.

Scope: All workpoints

Points of product reference: EPT/ANS/A024

Specific Guidance:

- Pair change policy followed as detailed in EPT/ANS/A024.

- When an engineer is working on a Repair, SFI or BB boost job, a pair change is not acceptable, however, if a pair change has taken place, before awarding a defect check the non-pair change policy has been followed.
- Where an Interruption cable has been provided on a faulty length, all circuits in the faulty cable must been changed over where possible to avoid more faults and an A55/A1024 completed.

15.18 A2038 Score: 10 points

Item Description: Correct inserters, crimper and test adaptor lead used for PCP technology

Scope: All PCP checked

Points of product reference: EPT/ANS/A006, EPT/CJT/D020, AEI/BPG/G005

Specific Guidance:

- Correct and serviceable test leads for specific PCP modules
- Correct and serviceable inserter for specific PCP modules

16 *Generic items*

16.1 G1001 (DL) G0001 (C) Score: 10 points

Item Description: The POI / work location information supplied is correct.

Scope: Can all the work sites for the job/estimate be identified from the information supplied by the engineer/within the job pack location details**.** Is there sufficient accurate information available to carry out inspection?

Only checked on Line 8 repair with POI provided, Provision jobs with POI provided and non CSS jobs with POI actually provided by engineer / supplier e.g. ND engineers and Contractor job packs.

Does not include work location details provided from planning job packs.

If work execution engineers / suppliers need to be contacted to provide work location information that should have provided in the POI then mark item A2128 Bel Std.

Points of product reference: EPT/ANS/A024

Specific Guidance:

- POI details recorded in accordance with ISIS EPT/ANS/A024
- Records updated/notes added where appropriate

- All records, prints and A154s legible, clean, updated, certified and forwarded
- If not possible to identify the location from details supplied the quality checker must attempt to ring/contact either the engineer/coach/manager/co-ordination office as applicable for any additional information that may assist in identifying the site.

Note: Quality checkers must seek clarification if insufficient information available or unable to find job at first attempt.

- CD applies if sufficient information is not obtainable within 30 mins period on site.

Note: Minor clerical errors should not lead to CD being applied.

16.2 G1002 (DL) G0002 (C) Score: 10 points

Item Description: Any observed open joints in Worksite, closed or reported.

Scope: All non-fibre closures within worksite visually checked and any observed open joints are either closed or reported.

Will be marked as checked for all Jointing POI worksites with more than 1 metallic joint or all non-Jointing worksites (e.g. Overhead Cabling, poling or Block terminals) with at least 1 joint

Note: Quality checkers should only consider joints that can be seen by a visual (hands free) check from the operatives working position.

Points of product reference: EPT/ANS/A024

Specific Guidance:

Note: Item code G1002/G0002 defect definition applies to all engineers; however Box Building, Civils, Cabling and CAL/OMI engineers who are not trained in jointing skills will only be checked against

1. Wires/Conductors are visible
2. Plastic Bag or other unapproved method has been used as a closure
3. Stumped cable ends have not been sealed using caps sealing.

Note: Observed open joints are those **not** being worked on, but are present in the same Worksite as the work in hand; they should be closed on the day or reported using an A1024 with a defect code of 461.

Note: A stumped cable is defined as a cable entering a joint in the same location as the workpoint being inspected. Where this is not the case it will be assumed the cable in question has been abandoned.

- Definition of An Open Joint is, where it can be seen that:-
  - Wires/conductors are visible.
  - Plastic bag or other unapproved method has been used as a closure.

- A pedcap or heat-shrink closure that has been re-closed using adhesive tape.
- An expanding plug joint with defective collars, missing or broken plugs or bolts.
- 30, 31 or 32 series closures that have missing domes or clamps, broken clamps, clamp faces do not meet / touch at some point in their length or unsealed entry ports, including resin closures without resin.
- 34 series closures that have missing bolts, closure faces that do not meet as per instructions, or unsealed entry ports.
- Any non-standard strap between joints, e.g. jumper wire, dropwire or internal cable
- Closures with damage to the external fabric that allow the ingress of moisture.
- Denso tape or tape sealing, except where it is provided as a protective wrap on some lead sheathed cables and joints.
- Adhesive tape closures, without tape.
- Sheet Rubber Adhesive closures with plastic straps and no evidence of orange "Tape Temporary Closure" having been used.
- Sheet Rubber Adhesive closures with no clips, strips or tape fitted.
- Sheet Rubber Adhesive which is open allowing ingress of moisture.
- Stumped cable ends that have not been sealed using caps sealing
- UCJ latches missing or not closed
- Armoured cable into closure
- Split sheath that would allow ingress of water

■ Items NOT classed as - *Obviously Open.*

- A correctly sealed, but obsolete closure.
- Closure with incorrectly positioned/or no SCOPs visible.
- Excess cable diameters on closures.
- Excess cables in port or joint end.
- Missing branch clips.
- Cables in joints that can only be deemed loose by pulling them.

16.3 G1012 (DL) Score 10

Item Description: Waste left inside and/or outside PCP/SCP/DSLAM that can cause damage to health and/or the environment

Scope: All PCP/SCP/DSLAM's

Points of Reference: EPT/ANS/A024

Specific Guidance:

- Due to the health risk to engineers/partners and the environmental impact rubbish bags, face masks, gloves, food scraps, food wrappers, drink cans/cups, cardboard, batteries etc. must be removed from PCP/SCP/DSLAM
- It is not permissible to leave bags with the intention of them being used to deposit rubbish of any kind in PCP/SCP/DSLAM

Note: Non health/environmental waste is covered by G1003 "worksite left tidy rubbish removed & redundant equipment recovered"

16.4 G1003 (DL) G0003 (C) Score: 5 points

Item Description: Worksite left tidy Openreach/Contractor Rubbish removed.

Scope: Proximity of the work site worked upon in association with estimate/job identified for checking.

Note: If a customer or member of public would be put at risk or consider the Openreach/Contractor items left above ground were creating an untidy mess. This also applies to rubbish within PCP/SCPs and jointing boxes.

Points of product reference:

Specific Guidance:

- Above and/or below ground - Business waste consists of any wire, connectors, cable sheath, steel armouring, tape, excess spoil, rubbish bags, pole fixings, closures, excavated waste, cable etc. (this is not a complete list).

Note: This is NOT intended for insignificant quantities of Openreach or contractor rubbish/scrap such as small quantities of off-cut wire or a few crimps. This should be removed and disposed of safely by the quality checker.

- Cover/lid not causing a tripping hazard (due to soil not being removed around frame and cover).
- Above and/or below ground - Any other waste brought to and left on site
- On MDFs – This is an in progress check only
- At the MDF/Frame - no wire/rubbish left after termination in the near vicinity of blocks worked upon.

16.5 G1005 (DL) G0007 (C) Score: 10 points

Item Description: Observed open Fibre joints in worksite, closed or reported.

Scope: Worksites where there is more than 1 fibre joint present.

Will be marked as checked for all worksites with more than 1 fibre joint

Note: Observed open joints are those **not** being worked on, but are present in the same Worksite as the work in hand. When in Exchange cable chambers the work area is described as directly above or below and immediately to the left and right of the plant being worked on. Defects found on joints within this area should be closed on the day or reported to the **AAPO** Via A1024

Points of product reference: NWK/NNS/V080

Specific Guidance:

Note: Item code G1005/G0007 defect definition applies to all engineers; however Box Building, Civils, Cabling and CAL/OMI engineers who are not trained in jointing skills will only be checked against:-

- Elements / fibres are visible
- Plastic Bag or other unapproved method has been used as a closure
- Stumped cable ends have not been sealed using caps sealing.

Definition of an Observed Open **Fibre** Joint is, where it can be seen that:

- An unapproved or no closure has been fitted
- A heatshrink type closure which has been closed using tape or other unapproved means
- Burst or excessively damaged shrinkdown materials
- A closure which has broken or missing clamps
- Closures with damage to the external fabric that allows the ingress of moisture.
- Stumped cable ends that have not been sealed using caps sealing.
- Blown fibre closures that have missing bolts, closure faces that don’t meet as per instructions or unsealed entry ports.

Fibre items not classed as obviously open:

- 11D, Blown Fibre closure 1A with clamps which do not have the faces of the clamps meeting
- Closure with incorrectly positioned/or no SCOPs visible.
- Missing or incorrect branch clips.

- Missing or damaged heat protection foils

16.6 G9001 (C) Score: 10 points

Item Description: Product item not covered elsewhere in product checks

Scope: The work site worked upon in association with estimate/job.

Note: This check is to capture any product related items not already covered by a product 10 point item that meets the necessary CD criteria.

Points of product reference:

Specific Guidance:

1. Where the inspector identifies a defect which meets the current CD criteria but is not captured elsewhere within the check sheet the inspector will mark this item as “Below Standard”
2. Where no items are identified as per above this item will be marked “ Not Checked”

For “1” above:

- Evidence and photographs will be assembled and passed to the Openreach Platinum user
- Once received the Openreach Platinum user will advise the inspector/supplier to change the mark to “Not Checked”
- Where appropriate the issues investigated by the Quality Standards Manager and relevant subject matter expert. Where it is agreed that the item is a defect then details will either be added to this guidance note in the additions section below until such times as a new item is generated and implemented or covered within a change to an existing GN. The supplier will be required to complete all necessary reworks

Note: Unless listed below this Item can only be marked as either “Not Checked” or “Below Standard”

- This Item is also used where issues, previously raised under G9001 and agreed by the forum as being applicable are awaiting allocation of a separate item number, are encountered during the check. Details of these are listed below and must be marked either checked ok or below standard. Where the item is marked “Below Standard” the supplier will forward the details to the OR GU for monitoring purposes
- Non-Civils activity. Where cable has been provided in duct that fails access or working space safety criteria of C2026 mark G9001 as “Below Standard”

17 *References*

Further information available is available from the AEI Technical Library

18 *Enquiries*

Enquiries and document change requests should be made with or sent to the author of this document. .

END OF DOCUMENT