WorkPath Technical Solutions Ltd

WorkPath Workforce Transition Framework™

Occupational Transition Assessment

OTA-001 | Telecoms **Overhead Line Engineer** → Power Transmission & Distribution Overhead Linesperson

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Status

Version 1.0

Discussion Draft — Indicative Assessment

Executive Summary

Telecoms OHL Engineer → Power T&D Overhead Linesperson

High	Very High	Moderate	6–9 months
Occupational Compatibility	Behavioural Transfer	Knowledge Gap	Indicative Transition

The United Kingdom is entering a period of unprecedented investment in electricity transmission and distribution infrastructure. Decarbonisation commitments, renewable energy integration and growing electricity demand are creating sustained pressure on engineering workforce supply across the power sector — and traditional recruitment approaches are increasingly insufficient to meet that demand.

This report demonstrates the application of the WorkPath Workforce Transition Framework™ — a structured, competency-based methodology for evaluating occupational compatibility and identifying the development pathway required to transition experienced engineers from adjacent sectors into Power Transmission and Distribution.

For this pilot assessment, the source occupation is the Telecoms Overhead Line Engineer, and the target is the Power Transmission and Distribution Overhead Linesperson.

Key Findings

Areas of Strong Compatibility

- Working at height and pole climbing
- Mechanical installation and cable handling
- Dynamic risk assessment and decision-making
- Behavioural safety and safety management
- Technical documentation and quality procedures
- Outdoor operational working environments
- Team-based field engineering activities

Principal Development Areas

- High voltage safety and electrical principles
- ENA / DNO Safety Rules and permit-to-work s
- Industry authorisations (EUSR, ECS, APHV5)
- Conductor stringing and mechanical tensioning
- Insulator installation and earthing
- Transmission plant familiarisation
- Network operating procedures

Importantly, the principal competency gaps are knowledge and governance related rather than deficiencies in engineering aptitude or practical capability. This distinction is significant: it suggests that transition programmes can focus on targeted competency development rather than repeating existing engineering skills — potentially reducing the time to operational deployment by a meaningful margin compared with a conventional new-entrant pathway.

Assessment Status

These findings are indicative. Validation against the client organisation’s competency matrices, training programmes, safety rules and authorisation requirements is required before implementation.

The UK Power T&D Workforce Challenge

Why the sector needs a new approach to engineering recruitment

The UK electricity network is undergoing its largest transformation for several decades. Significant investment is being directed towards reinforcing existing infrastructure, connecting renewable generation, supporting electrification of heat and transport, and improving network resilience against climate impacts.

This transformation is creating sustained demand for skilled personnel across transmission and distribution disciplines. Industry feedback consistently identifies shortages in occupations across overhead lines, cable jointing, electrical fitting, civils and project delivery. Whilst apprenticeship programmes remain essential, they require several years before individuals achieve full occupational competence. At the same time, experienced engineers continue to retire, reducing the availability of established technical expertise.

These factors combine to create a structural workforce challenge that cannot be addressed through traditional recruitment alone. Expanding recruitment into adjacent engineering occupations offers one practical solution — provided that transition can be managed safely, systematically and efficiently.

Why Workforce Transition?

Engineering occupations often share a significant proportion of common competencies despite operating within different sectors. An experienced telecommunications overhead engineer routinely works at height, climbs poles, handles cables, conducts dynamic risk assessments and manages public safety — all within a structured engineering environment.

The objective of workforce transition is to recognise that existing competence and concentrate learning on elements genuinely unique to the target occupation. This reduces duplication of training whilst maintaining safety, governance and operational standards.

Why Adjacent Industries?

The engineering labour market contains many occupations with transferable competencies that are rarely considered within traditional recruitment strategies. Examples include Rail OLE Engineers, Street Lighting Engineers, Wind Turbine Technicians, Industrial Electricians and Military Engineers.

A structured assessment methodology enables organisations to compare these occupations objectively, identify development requirements and prioritise those offering the greatest workforce potential — moving recruitment from anecdote to evidence.

The WorkPath Workforce Transition Framework™

A structured, repeatable methodology for occupational compatibility assessment

The WorkPath Workforce Transition Framework™ evaluates occupations through competency-based analysis rather than job titles or sector experience. Rather than asking "Has this individual previously worked in Power T&D?", the Framework asks: which competencies does this individual already possess, which require development, and how quickly can operational competence be achieved?

This represents a shift from experience-based recruitment to competency-based workforce planning — one that creates a structured, auditable evidence base to support both individual transitions and strategic workforce decisions.

Six Core Principles

1	**Competency before Job Title**	Compare capabilities, not labels. Previous industry experience is a useful indicator, not a prerequisite.
2	**Evidence-Based Assessment**	Document the rationale for every conclusion so findings can be validated, challenged and refined.
3	**Recognition of Existing Competence**	Avoid unnecessary retraining. Formal training should only be delivered where genuine gaps exist.
4	**Safety Before Productivity**	No individual progresses to operational activity until all safety-critical competencies are confirmed.
5	**Operational Readiness**	Assess not only what must be learned but when — sequencing matters as much as content.
6	**Continuous Validation**	Refine assessments as employer-specific information, operational feedback and competency data become available.

Eight-Stage Assessment Process

01	**Define the target occupation** Establish the operational requirements, competency domains and safety-critical elements of the destination role.
02	**Analyse the source occupation** Map the knowledge, technical skills, behaviours and operational environment of the source role.
03	**Decompose both roles into competency domains** Break each occupation into measurable, comparable components — technical, safety, behavioural, physical, equipment.
04	**Assess transferability at individual competency level** Score each competency against a defined transferability scale: Direct Transfer, Partial Transfer, or Gap.
05	**Identify knowledge and behavioural gaps** Distinguish between industry-specific knowledge gaps (which require training) and genuine capability deficits (which may disqualify).

06 **Estimate learning effort and delivery approach**

Categorise development requirements: RPL, Familiarisation, Structured Development, or Formal Industry Qualification.

07 **Evaluate operational readiness and workforce impact**

Assess time to deployment, training centre utilisation and programme scalability.

08 **Validate findings with subject matter experts**

Refine the assessment against the employer's internal competency frameworks, procedures and safety rules.

Occupational Analysis

Source and target occupation profiles

Source Occupation: Telecoms Overhead Line Engineer

Telecoms Overhead Line Engineers install, maintain, repair and renew overhead telecommunications infrastructure across the UK. The role operates within a highly structured engineering environment where safety, quality and operational performance are paramount. Engineers work on timber poles, overhead copper and fibre cables, distribution hardware and associated civil infrastructure.

Although the primary purpose is telecommunications network delivery, the occupation develops a combination of engineering, construction and operational competencies that extend well beyond telecommunications. Many of these are directly relevant to overhead electricity network operations.

Source Occupation Profile	
Employer	Major UK Telecommunications Operator
Primary Activity	Installation, maintenance and repair of overhead telecommunications infrastructure
Operational Environment	Outdoor, dispersed field operations — urban, rural, highway and remote locations
Safety Framework	Working at Height regulations, pole rescue procedures, dynamic risk assessment
Typical Credentials	SA001, SA024 (Pole Top Rescue), N27, O008, NRSWA Units 002/003, IPAF 3a/3b, WAH, Chapter 8 TM
Physical Demands	Pole climbing, working at height, manual handling, outdoor operations in all weathers
Behavioural Competencies	Professional judgement, situational awareness, personal accountability, continuous learning

Target Occupation: Power T&D Overhead Linesperson

Power Transmission and Distribution Overhead Linespersons construct, maintain, refurbish and repair overhead electricity infrastructure that forms part of the national transmission and distribution network. The role is safety critical and operates within highly regulated environments where compliance with safety legislation, operational procedures and company authorisations is essential.

Activities frequently involve working on live or potentially live electrical infrastructure under controlled conditions, requiring a combination of engineering, construction and operational disciplines.

Target Occupation Profile	
Employers	DNOs, transmission contractors and infrastructure delivery organisations
Primary Activity	Construction, maintenance and refurbishment of overhead electricity infrastructure
Operational Environment	Transmission routes, distribution networks, substation compounds,

	remote rural locations
Safety Framework	ENA Safety Rules, HV permit-to-work, DNO/National Grid authorisations, electrical exclusion zones
Typical Credentials	EUSR SHEA Power card, ECS Gold Card (Overhead Lines), APHV5 (ENA Safety Rules), IPAF 3a/3b, WAH
Authorisation Levels	Instructed Person (IP) → Authorised Person (AP) → Senior Authorised Person (SAP) progression
Physical Demands	Climbing, working at height, manual handling, operating plant and lifting equipment

Initial Occupational Comparison

Both occupations share a substantial operational foundation. The principal differences are concentrated in the operational context — specifically, the electricity transmission role introduces requirements for high-voltage safety, network operating procedures, industry-specific authorisations and transmission construction methods. These differences appear to represent structured learning requirements rather than evidence of incompatible occupations.

Directly Compatible	Requires Development	Significant Gap
• Working at height • Pole climbing • Mechanical installation • Dynamic risk assessment • Behavioural safety • Manual handling • Field documentation • Team operations	• Conductor handling • Transmission hardware • Rigging techniques • Mechanical tensioning • Plant familiarisation • Lifting operations • HV awareness • Network documentation	• HV safety legislation • ENA / DNO Safety Rules • Permit-to-work systems • Industry authorisations • Conductor stringing • Electrical protection • Network earthing

Competency Assessment

Four-category learning effort profile

The Framework decomposes each occupation into measurable competency domains and assesses the extent to which each competency is expected to transfer. The outcome enables organisations to distinguish between what already exists, what requires brief familiarisation, what requires structured development, and what requires formal industry qualification.

1

Existing Competence — Recognition of Prior Learning

Competencies already demonstrated within the source occupation. Where evidenced through practical observation and supervisor confirmation, no formal retraining is anticipated.

- → Working at Height
- → Pole Climbing
- → Harness Inspection and Use
- → Dynamic Risk Assessment
- → Mechanical Assembly and Installation
- → Manual Handling
- → Technical Documentation
- → Behavioural Safety Culture
- → Emergency Response
- → Team-Based Field Operations

2

Familiarisation — Short Structured Exposure

Competencies requiring brief classroom sessions, equipment demonstrations or procedure reviews. The underlying engineering knowledge exists; only the organisational or product-specific context differs.

- → Engineering Drawing Interpretation (electricity)
- → Company Documentation Systems
- → Equipment Familiarisation (transmission hardware)
- → Quality Procedures
- → Network Architecture Overview
- → Operational Communication Protocols

3

Structured Development — Instructor-Led Practical Training

Competencies requiring instructor-led practical development within a controlled training environment. Underlying aptitude is present; electricity-specific techniques require hands-on learning.

- → OHL Construction Methods
- → Conductor Handling and Stringing
- → Insulator Installation
- → Temporary Earths Application
- → Rigging Techniques
- → Mechanical Tensioning
- → Heavy Lifting Plant Operations

4

Formal Industry Development — Qualification and Authorisation

Competencies unique to the electricity industry that require formal qualification, external assessment and organisational authorisation before deployment.

- → EUSR SHEA Power Card
- → ECS Gold Card (Overhead Lines)

→ APHV5 — ENA Safety Rules (5-day C&G assured course)
→ HV Awareness Training
→ Permit-to-Work Systems
→ Network Operating Procedures
→ Authorisation to Instructed Person (IP) level

Transition Framework Design

Six-phase model: from candidate assessment to independent deployment

The proposed transition model comprises six distinct phases. The objective is not to recreate an apprenticeship programme or repeat competencies that already exist. Instead, the transition process recognises existing capability and focuses development on those competencies genuinely unique to Power T&D. Safety-critical learning always takes precedence over productivity timelines.

	Phase	Key Activities	Milestone
1	**Candidate Assessment**	→ CV and career history review → Competency and behavioural interview → Qualifications and certification review → Driving licence and medical confirmation → Physical capability assessment	Candidate confirmed suitable for transition programme
2	**Recognition of Prior Learning**	→ Practical observation — pole climbing, WAH, harness use → Dynamic risk assessment demonstration → Evidence reviews and qualification verification → Supervisor and assessor discussion → Competencies recorded as recognised — no formal retraining	RPL log completed; existing competencies formally recognised
3	**Knowledge Development**	→ HV awareness and electrical principles → Electricity network fundamentals and terminology → Industry legislation and electrical hazard management → ENA / DNO Safety Rules overview → Permit-to-work systems and operational documentation	Knowledge assessments passed; learner cleared for practical phases
4	**Practical Skills Development**	→ OHL construction methods and conductor handling → Conductor stringing and mechanical tensioning → Insulator and hardware installation → Temporary earths application → Rigging and plant familiarisation	Core practical competencies demonstrated in training environment
5	**Supervised Operational Experience**	→ Shadowing experienced Linespersons on live sites → Supervised practical tasks with daily competency review → Technical coaching and behavioural observations → Safety and quality performance monitoring → Progressive increase in task complexity and responsibility	Consistent supervised performance confirmed by line supervisor
6	**Competency Sign-Off & Authorisation**	→ Practical and knowledge assessments completed → Competency portfolio reviewed and signed off → Professional discussion with authorising assessor → Formal organisational authorisation issued → Independent operational deployment approved	Individual authorised for independent deployment — programme complete

Operational Readiness Gates

To maintain consistency and governance, the Framework recommends six formal readiness gates. An individual may not progress to the next phase until each gate has been passed. This ensures that operational responsibility is always aligned with demonstrated and documented competence.

G1	G2	G3	G4	G5	G6
Entry	Safety Critical	Practical Core	Supervised Ops	Authorisation	Deployment

The Value of Recognition of Prior Learning

RPL is one of the key differentiators within the WorkPath approach. Rather than requiring every individual to complete identical training programmes, RPL enables organisations to formally recognise existing competence through structured verification — not assumption. Potential benefits include reduced duplication of learning, shorter transition programmes, more effective use of training centre time and faster operational deployment. RPL must always be evidenced: observed performance, practical demonstration and supervisor confirmation, not self-declaration.

Business Value & Workforce Planning

Strategic benefits of an adjacent-industry recruitment approach

The value of the WorkPath Workforce Transition Framework™ extends beyond individual competency mapping. Its broader purpose is to support organisations in making informed workforce planning decisions — identifying opportunities to increase workforce capacity whilst maintaining operational safety, competency governance and operational performance.

Occupational Compatibility Assessment

Dimension	Assessment
Occupational Compatibility	★★★★☆ **High**
Behavioural Compatibility	★★★★★ **Very High**
Working at Height & Pole Operations	★★★★★ **Very High**
Mechanical Engineering Capability	★★★★☆ **High**
Safety Culture and Behavioural Maturity	★★★★★ **Very High**
Industry Knowledge Gap	★★★☆☆ **Moderate**
Electrical Knowledge Gap	★★☆☆☆ **Significant**
Training Complexity	★★★☆☆ **Moderate**
Overall Transition Potential	★★★★☆ **High**

Workforce Capacity Benefits

Organisations adopting an adjacent-industry recruitment approach gain several strategic advantages:

- Broader labour market access — not restricted to candidates with direct T&D experience
- Reduced competition with electricity sector peers competing for the same limited pool
- Improved workforce flexibility across different demand cycles
- Evidence-based recruitment planning rather than reactive hiring
- Better utilisation of existing training centre capacity
- Longer-term workforce resilience through multiple sustainable pipelines

Training Centre Value

Where organisations possess internal training facilities, competency-based transition improves utilisation:

- Reduced delivery of introductory engineering content that candidates already know
- Greater emphasis on organisation-specific procedures and systems
- More practical, hands-on learning replacing unnecessary theory
- Focused competency development where it genuinely adds value
- More efficient instructor utilisation across cohorts
- Flexible programme scheduling to match operational demand

From Reactive Recruitment to Strategic Workforce Planning

Recruitment asks: "Who can we recruit today?" Workforce planning asks: "Where will our workforce come from over the next five to ten years?" By identifying and assessing multiple adjacent occupations, organisations create sustainable talent pipelines rather than relying on a finite supply of experienced industry personnel. The WorkPath Framework supports this shift by providing a repeatable, evidence-based methodology that improves with every occupational assessment completed.

Implementation Roadmap

A phased approach to embedding the Framework within workforce planning

The following roadmap provides a structured implementation model comprising six phases. Each phase builds on the previous one, reducing implementation risk and allowing evidence to inform future development. The approach is intentionally modular — designed to be tested, validated and refined before wider adoption.

	Phase	Key Activities	Milestone
1	**Framework Validation**	→ Review pilot assessment with technical SMEs → Compare competency mapping vs internal frameworks → Validate safety-critical competencies and assumptions → Agree terminology, assessment criteria and documentation → Identify any organisation-specific requirements	Validated methodology and agreed assessment approach
2	**Occupational Assessments**	→ Complete priority adjacent occupation assessments → Recommended: Rail OLE, Street Lighting, Wind Turbine, Fibre → Produce occupational profiles, transferability analysis and training recs → Build initial Workforce Transition Library	Library of assessments covering 4–6 adjacent occupations
3	**Transition Programme Design**	→ Identify competency gaps per occupation → Define RPL opportunities and verification approach → Develop training pathways and learning sequences → Produce competency sign-off frameworks and assessment docs	Repeatable programme design aligned to training centre capability
4	**Pilot Delivery**	→ Select initial pilot cohort (recommended: 5–10 Telecoms OHL engineers) → Deliver transition programme through training centres → Validate competency assumptions against operational practice → Capture supervisor feedback and operational performance data	Evidence that transition pathway is safe and operationally effective
5	**Evaluation & Refinement**	→ Assess time to operational readiness vs projection → Review competency achievement, safety and quality performance → Gather learner and supervisor feedback → Update Framework, competency assessments and programme content	Refined Framework supported by real operational evidence
6	**Strategic Rollout**	→ Expand occupational assessments across disciplines → Integrate Framework with workforce planning processes → Support annual recruitment campaigns with occupational data → Maintain Workforce Transition Library as live planning asset	Framework embedded as a recognised workforce planning capability

Priority Occupations for Future Assessment

Telecommunications

- → Telecoms OHL Engineers (pilot)
- → Fibre Network Engineers
- → Telecommunications Field Engineers

Rail

- → Overhead Line Engineers (OLE)
- → Signalling Technicians
- → Electrical Maintenance Technicians

Renewable Energy

- → Wind Turbine Technicians
- → Solar Installation Engineers
- → Renewable Maintenance Technicians

Construction & Infrastructure

- → Street Lighting Engineers
- → Highways Electrical Engineers
- → Utilities Operatives

Industrial Engineering

- → Industrial Electricians
- → Mechanical Maintenance Engineers
- → Instrumentation Technicians

Defence

- → Royal Engineers
- → REME Technicians
- → RAF Engineering Technicians
- → Royal Navy Engineering Branch

Conclusions & Recommendations

This report has demonstrated the application of the WorkPath Workforce Transition Framework™ through an indicative assessment of occupational compatibility between a Telecoms Overhead Line Engineer and a Power Transmission and Distribution Overhead Linesperson.

The findings indicate that Telecoms OHL Engineers possess a substantial proportion of the practical engineering, behavioural and safety competencies associated with overhead line operations. The principal gaps relate to electricity-specific knowledge, industry governance and operational authorisations — areas that represent structured learning requirements rather than fundamental incompatibility.

Six Recommendations

R1	**Validate the Pilot Assessment**	Conduct technical workshops with client subject matter experts to compare the indicative assessment against internal competency standards, authorisation requirements and operational procedures.
R2	**Refine the Competency Mapping**	Review the client organisation's training matrices, competency frameworks and safety rules to remove assumptions and align the assessment with organisational practice.
R3	**Commission Additional Occupational Assessments**	Test the methodology's repeatability across Rail OLE Engineers, Street Lighting Engineers and Wind Turbine Technicians. Confirm whether similar transition opportunities exist.
R4	**Build a Workforce Transition Library**	Develop a structured collection of occupational assessments using consistent methodology. This becomes a strategic planning asset improving in value with each assessment added.
R5	**Run a Pilot Transition Programme**	Recruit a small cohort (5–10 individuals) from an agreed adjacent occupation. Use the pilot to validate competency assumptions, measure training effort, and gather supervisor and operational feedback.
R6	**Embed Continuous Improvement**	Capture operational learning from each transition programme and use it to refine future assessments and pathways. The Framework should evolve as evidence accumulates — not remain static.

The WorkPath Workforce Transition Framework™

A repeatable methodology for evidence-based workforce planning across engineering disciplines