NorthEast Pharma

Solving critical supply: November 2020



The need for UK API manufacture

- COVID 19 has identified weaknesses in the UK medicine supply chain
- Nearly 200 medicines were in short supply at the COVID peak
- 80% of these medicines are generic and sourced predominantly in Asia
- · Many of these products, now generic, were once manufactured in the UK e.g. Paracetamol
- The drive for low cost medicine prompted a shift to Far East supply options
- 15 years ago API manufacture in the UK was considered unsustainable
- Significant capacity was decommissioned Dartford, Holmes Chapel, Huddersfield, Loughborough, Sandwich, Ulverston, Cambois (Penicillin), Avlon, Dudley (Paracetamol), Nottingham (Ibuprofen). Kent (Atricurium family and Foranes)
- Regulatory, Safety, Environmental and Quality issues have plagued Asian manufacture resulting in low confidence and a shift back to the West
- Limited Western manufacture now largely supports innovator space with high margin potential
- Western manufactures are in high demand by innovator space



How do we encourage western manufacturers to manufacture generic products?

A new model for UK generic API manufacture

With limited capacity, why would current UK supply base consider low margin API generic business?

A new model to support supply chain integrity is needed

- Need to use and leverage
 - established skill base
 - · safety and environmental system
 - established quality systems
 - · existing utility infrastructure
 - collective skills and capabilities across North East companies

The proposal

- Build manufacturing capability on an existing site(s) dedicated to DS / DP manufacture for the NHS 18 months £100M - £150M
- Pricing model to be cost plus with long-term supply agreement
- Establish and validate up to 25 API's (3 years)
- Build appropriate strategic stocks
- · Employ novel manufacturing technology to drive productivity and reduce cost

New NHS plant on an existing sites supported by multi company collaborative capabilities

Plant NHS • Safety/Environmental permits • Quality system – MHRA compliant • Skill base/know how • Energy infrastructure • Effluent infrastructure • Raw material supply chain in place • Waste disposal network • Plant design know how • Speed of build/commissioning • Management team • Plant 1 Plant 2 Plant 3 Plant 3

API (Drug substance) Development and Manufacture

North East Companies	Development	СРР	Analytical Development	Registration	Manufacture
High Force Research	⊘	⊘	⊘		
Onyx	⊘	✓	⊘		
Arcinova	⊘	⊘	⊘	⊘	(Niche)
Sterling Pharma	⊘	⊘	⊘	⊘	⊘
Piramal	⊘	⊘	⊘	⊘	Ø
Recipharm	⊘	⊘	⋖	✓	⋖

Drug Product - Development and Manufacture

North East Companies	Formulation Development	СРР	Analytical Development	Registration	Manufacture	Packaging
Accord	⊘	⊘	⊘	⊘	⊘	⊘
Piramal	⊘	⊘	⊘	⊘	⊘	⊘
Arcinova	⊘	⊘	⊘			
MSD	✓	⊘	⊘	⊘	⊘	⊘
Wasdell Manufacturing Ltd.	TBC	ТВС	TBC	TBC	TBC	⊘

Possible way forward

- Develop a portfolio of "in demand" products suitable for reshoring into NEPharma company consortium
 - Fully aligned with NHS, NuTH trust identified shortages
 - Based on critical need and supply chain fragility
 - · Could be a mix of DS, DP and packaging
 - Likely to be small to medium volume
 - Likely to be medium to high cost
 - Fits with combined capability and technologies within NEPharma
 - Could leverage new technologies being developed within the NE Cpi / Universities
- Once portfolio identified
 - Determine process, technology and supply chain requirements and complete feasibility on how this could be satisfied within NEPharma consortium

Summary

- Proposal builds dedicated capacity to manufacture key generic products required by the NHS
- Provides a reliable and compliant solution with flexibility
- Cost plus approach providing cost protection to NHS
- Build on strong North East Pharma heritage
- Links to the well established innovation centres in the North East CPI and Universities
- Creates high value employment in the UK
- Improves UK resilience
- Proposal is aligned to UK Life Sciences and North East England growth strategies
- NEPharma and NEPIC are being funded by grants from NELEP to further develop the proposal, recruit the consortium companies, prepare a feasibility study and develop a business case for submission
- The North East is well positioned to play a major role in stabilising medicine supply chains for the NHS

Thank you

