National Remote Operation – Initiation Solution
Project Aims

- Technical Solutions of Remote Operation of Manned Assets
- Completion of Feasibility Report
- Proof of Concept
- Capital Investment costs
- Review of CRT Manned Assets
- Efficiency Savings
- Cost Benefit Analysis
Work to date

• Identified 46 suitable assets

• Identified two technical solutions for lock & bridge sites

• Proof of concept being carried out through September
North West: Liverpool Docks
2no. Bridges and 1 Lock

East Midland: 4 no. Trent Locks

London: 3 no. Locks & 1 Bridge

North East: 5 no. A&C Locks & Tees Barrage

M&P: 2 no. tunnels

NW & Borders: 2 no. Locks & 4 Bridges

SW & Severn: 7 no. R. Severn Locks

SW & Severn: 14 no. G&S Bridges
User Initiation Operation

NOTE: Zone B detection of opening is only required for swing bridges.

* Zone B is shown at minimum extent necessary to ensure boats are clear of closing bridge. In some cases this zone may need to be extended for some distance down the canal in either direction to ensure boats which may have passed the canal traffic lights showing proceed are detected before bridge movement starts.

DRAWINGS TO ILLUSTRATE GENERAL PRINCIPLE ONLY
Zones may vary to suit available technology and will be subject to site conditions and risk assessments.
Bridge Solution

Figure 4.4: Detection in Zone A using TEW lidar scanner
Figure 4-6: Detection in Zone B using laser measurement sensor

For clarity, bridge not shown

Zone B

Laser measurement sensor
Lock Solution

Figure 4-8: Detection in Zone 1 using Sick LMS

Lock chamber

Zone 1
Lock Solution

Figure 4-10: Detection in Zone 2 using Sick LMS

Zone 2

Lock chamber

Laser measurement sensors

Zone 2
Scenario 1 - Single boat request for operation

- Beacon to broadcast SSID name "Bridge Y to Gloucester"
- Beacon to broadcast SSID name "Bridge Y to Sharpness"
- Beacon to broadcast SSID name "Bridge X to Gloucester"
- Beacon to broadcast SSID name "Bridge X to Sharpness"

To Sharpness

Bridge Y

Boat Bedford

Bridge X

To Gloucester
Welcome to the CRT Remote Operation device.
Two Hot spots are available.
Please select direction of travel & bridge to operate

Press to Select Bridge X To Gloucester

Press to Select Bridge Y To Sharpness

If assistance is required call 0800 555555

Connected to Bridge X To Gloucester

Press to open Bridge X

Press to go Back to Previous page

If assistance is required call 0800 555555
Connected to Bridge X To Gloucester

Bridge X is opening

Please remain behind the navigation traffic lights and wait further instruction.

If assistance is required call 0800 555555

Connected to Bridge X To Gloucester

Bridge X is open

Please proceed with caution, boats may be approaching from the opposite direction. Keep to the left and proceed beyond the far navigation lights.

If assistance is required call 0800 555555