

Part D. Description of the Goods and Other Details

D1 OPERATING ENVIRONMENT

The railway station environment in which the indicators are required to operate includes significant levels of vibration, dust (containing both conductive and non-conductive particles), air pollution to the maximum allowable safe levels and temperatures within the range as specified by the Bureau of Meteorology. Indicators are exposed to potential vandalism.

The station supply is known to be subjected to widely varying voltages (180v to 280v ac), momentary dropouts and power surges. Also, due to the proximity of the traction supply, it is also subjected to strong electric and magnetic fields.

The Concourse Indicator Housings shall be built to enable the operation of the equipment it houses as specified in this environment.

D2 CONCOURSE INDICATOR HOUSINGS

D2.1 Quantities & Types

NOTE ; The numbers of the two types of housings vary as set out Sections B1.2.1, B1.2.2 & B1.2.3

a) Type NEC LCD4010 40” (or similar) Concourse Indicator housing,

- 1) **Wolli Creek - One set of four housings** with suitable blanking plates and plinths comprising One left hand unit, Two middle units and One right hand unit
(A Plinth to suit 4 housings with required gap)
- 2) **Gosford – One set of six housings** with suitable blanking plates and plinths comprising One left hand unit, Four middle units and One right hand unit
A Plinth to suit **4 (four) housings** with required gap (The two middle housings must be manufactured but may not be installed concurrently with this project)
- 3) **Hurstville – Two sets of two housings** with suitable blanking plates and plinths each comprising One left hand unit, and One right hand unit. Each plinth to suit 2 housings with required gap.
- 4) **Penrith – Two sets of two housings** with suitable blanking plates and plinths comprising One left hand unit, and One right hand unit. Each plinth to suit 2 housings with required gap.

b) Type NEC LCD3210 32” (or similar) Concourse Indicator housing,

- 1) **Wolli Creek - One set of four housings** with suitable blanking plates and plinths comprising One left hand unit, Two middle units and One right hand unit. A plinths to suit 4 housings with required gap.

Note: This set of four housings for 32"screens is to be mounted on an existing ramp and it is required that the display screens of all four units be horizontal and in the one line. The plinths will have to be made to allow for the slope of the ramp. It forms part of this contract that the

contractor is required to visit the station and measure for themselves the dimensions necessary to accommodate the slope before manufacturing the plinths.

D2.2 General

- a) The concourse indicator housings are required to house, suitably protect and provide power and data connection for RailCorp supplied computers and LCD screens. The housings shall be as per the attached drawings and documents with the RFQ (**APPENDIX D1, D2 and D3**).
 - I. Be a single sided indicator similar to the existing screen based concourse indicators in use at the Kent Street entrance of Town Hall Station
 - II. Shall house a 40" NEC LCD4010 (or similar) or a 32" NEC LCD3210 (or similar) monitor, (as appropriate), in portrait mode.
 - III. The Contractor shall provide all as-built drawings at the completion of the project.
- b) Materials and finish
 - I. Concourse indicator housings to be manufactured using stainless steel (3mm thick). Cabinet shall be Stainless Steel type 316 with exterior being white anti-graffiti Dulux line 910 (Nominated Supplier) powder coat paint. The tenderer must ensure the surface is suitably prepared before powder coat application.
 - II. The door inside will need stiffeners to take the bounce out. They should be bent stainless into 'U' shapes, and this then stuck onto the door inside, with '3M VHB' correctly applied in accordance with the manufactures specification. The cleaning of both surfaces with the recommended cleaner is mandatory (part no. 3M HIPA700). Note all MSDS documents must be supplied before delivery.
 - III. There shall be no sharp surfaces, edges or corners. All areas where a human is able to reach the edges of the steel need to be arising and corners need to be rounded (approximately 5mm radius). In addition all metal corners around the PC shelf need to be covered with suitable corner protection.
 - IV. The finish of the glazing and Sikaflex needs to be carefully finished to ensure neatness, and must be cured before delivery.
 - V. A barrier is required between dissimilar metals to prevent galvanic corrosion.
- c) Access
 - I. Require a RFID tool for door unlocking, with all indicators shall be keyed alike and as per Parramatta (Jan/06 versions) housings. Door locks shall be two off electric, ES700 per housing. Unlocking via RFID tag, the reader being at the bottom of the door.
 - II. Have no visible means of entry from a casual inspection.
 - III. Locks should require power to unlock.
- d) Protection
 - I. Provide suitable protection from vandalism.
 - II. Each housing shall have a glass panel to protect LCD. The front door shall contain glass 12mm (nominally) clear anti reflective laminated safety glass manufactured and certified to AS2208 with visible reflection no greater than 0.5%.
 - III. The glass panels shall be mounted wet sealed into an aluminum security frame of approximate size, with mounting arrangement included to facilitate simple method of replacement. The glass is to be mounted flush with the exterior surface of the door. It should be fitted by a competent glazier.
- e) Environmental

- I. Be rated to IP55.
 - II. Provide two fans mounted at the top of the housing that expel air from the interior of the housing. Air is to be drawn into the housing via replaceable filters accessible only from the inside. Each housing set of 2 fans is to be powered from power leads connected at junction box and one lead plugged into a single housing GPO.
 - III. Provide a space for ventilation at base of door as per design drawings, and install filter material provided by RailCorp.
 - IV. The door 'D' seal needs to be able to take up a door fit variation. This seal should be a one-piece construction, and capable of withstanding the wiping action of the area around the hinge. In preference the seal should not be glued in place.
 - V. Include a square cut-out of 350mm on back wall above PC location with 8 threaded studs suitable for mounting filter panels at a later date. Include a powder coated plate to cover this hole with wing nuts removable from inside.
 - VI. Include 4 threaded studs around fans suitable for mounting filter panels at a later date.
- f) Electrical and wiring
- I. Provide a minimum of three twin plus one captive GPO in each housing. These GPO's are to be tested at the factory before delivery.
 - II. Provide two SC-SC through connectors suitably mounted on inside side wall to allow termination of an incoming data fiber pair and connection of associated patch cable.
 - III. The lock system must have back emf surge protection installed for the solenoids.
 - IV. Tag reader access hole preferably dimension of the reader minus 0.2mm.
 - V. The tag reader needs to have the 12vDC wired directly to the contacts of the reader relay. The lock (ES700) does not need the power conditioning circuit (designed for the power to lock mode, as opposed to this design being power to unlock).
 - VI. Tag read power supplies must be a three-pin (captive type) plug to ensure that the plug stays in place.
- g) Installation and Maintenance
- I. Provide easy access from inside for in situ maintenance or replacement of all prime components.
 - II. The cabinets are to be arranged in one set. There is to be an end piece covering right hand end if required.
 - III. The overall height is **2400mm** of the housings without the plinth. The top hinge point is to be able to be screwed in place, upwards from inside the enclosure.
 - IV. All housings are to be bolted onto a plinth.
 - V. The screen is to have about 8mm clearance from the rear face of the glass.
 - VI. The screen is to be held up in place on a trolley system so that it can be lowered for servicing, or replacement.
 - VII. The screen is first attached to a metal bracket via the VESA mount. This drops into the trolley.
 - VIII. The front door is to have a seal all the way around, which will need gluing in place with 3M-VHB tape.
 - IX. The box is to have two fans in the roof. These are to be fixed from the inside. The Contractor is to supply a spare fan box.
 - X. The plinth is to be bolted down with suitable clearance between holes to bolt to floor and plinth structure.

- XI. The plinth is to have holes, complete with grommets, to allow for cables to pass between the cabinets.
 - XII. The stainless steel fascia (kickplate) shall be measured at initial installation and supplied to suit on an agreed date with RailCorp.
 - XIII. It is important that the screen is lined up correctly with the glass covered opening in the door, when it is up in its elevated position. The trolley system should be adjusted so that the screen always arrives in the same position, which is lined up with the window.
 - XIV. Provide lifting devices or other suitable arrangements for removal / installation of LCD screens for maintenance purposes (note that such arrangements must not interfere with data or power cable or the PC).
 - XV. All LCD's needed to be lifted and lowered by a double pulley system, to facilitate manual handling
 - XVI. Provide all materials necessary for the easy installation and removal of the LCD screen and PC. LCD (screens to be NEC LCD3210 (or similar) or NEC LCD 4010 (or similar) depending on the alternative chosen); the PC will be a small form factor general office PC model HP 7100 (or similar).
 - XVII. Be of the smallest size and lowest weight within the limits of the specific requirements outlined in this specification.
 - XVIII. If required to fill the gaps between the indicators and the walls, also supply powder coated end blanking panels.
 - XIX. The door shall be mounted so that the door hinges do not move out of alignment – such as using star washers on top bolts.
- h) The Concourse Indicator housings are installed side by side – the following arrangements are required:
- I. Suitable means to join housings at the top to stabilize the units. Where two boxes are adjoining, the tops of the box's need to be joined by a plate at the top. This plate should be screwed from underneath, and the plate should have captive nuts.
 - II. The front fascia-joining piece needs to be made to well clear the door lock 'strikes'.
 - III. Suitable means to secure the housings, at the top, to a rear wall. Tenderer to supply wall angle mounting brackets for securing to rear wall on installation. Holes (12mm) in housing to be fitted with grommets. Size to be specified by Tenderer after award of contract after site inspection. Bolts to be supplied by tenderer.
 - IV. Holes (12mm) to be supplied also on rear wall of housings to allow the installation contractor to bolt to rear wall if wall of suitable material. Grommets to be supplied if holes not used.
 - V. Have lifting points to aid installation. The lifting points shall be either removable and the holes plugged post-installation or shall they not be visible once the module is installed.
 - VI. Have dual access holes between housings or some mechanism to open adjacent housing in event of a lock arrangement failure.
 - VII. This project provides for two groups (sets) of concourse indicators at Wolli Creek and one group at Gosford, two groups at Hurstville and two at Penrith
 - VIII. The housings shall be manufactured to a standard that enable a single mounting of an indicator if required.
- i) Plinth
- I. The concourse indicators will be mounted on a plinth. The plinth shall be **100mm** high.
 - II. The plinths shall have a brushed stainless steel fascia (kickplate).

- III. The plinth shall mount the set of concourse indicators.
- IV. The plinth shall be designed to enable the installation contractor to level the top of the plinth despite uneven and/or sloping floor.
- V. The plinths shall have a stainless steel facing on all exposed sides. If the indicator is mounted on a sloping floor the facing shall fill the gap between the bottom of the housing and the floor with no more than a 5mm gap to the floor
- VI. The plinth shall have access holes for cabling to enable cables to connect concourse indicator in a set. These holes shall have rubber grommets or suitable edge shielding and have no sharp edges.
- VII. The plinth shall be of 5mm stainless steel.
- VIII. The length of the plinth shall suit quantity as specified in D2.1 with 30mm gap between housings.

j) Additional Information to Concourse Housing Drawings.

1. Door Seats

The drawings show a single 'D' seal, which is mounted on the main box. In order to get a seal in conditions where the door is not flat, a second seal on the door is required. This seal should just contact the box seal.

2. Plinth.

The drawings of the plinth do not show any levelling facilities. These are required. The section of the plinth should be an unequal 'C' section; where the lower part of the 'C' (the part that contacts the ground) is longer so that bolts can be inserted without fowling the upper part of the 'C'. This lower section is required to have 20mm diameter holes for the hold down bolts, and levelling screws. The levelling screws, 10mm dia., need nuts welded on the inside of the 'C' section and also to be supplied with loose nuts to lock the screw on the underside. The length of the levelling screw is required to be 60mm. The number of hold down bolt holes and levelling screws required is:

Number of Concourse Housings per plinth	Number of Hold Down Holes	Levelling Screws
1	4	4
2	6	6
3	8	6
4	10	6

D2.3 Standard Specifications, codes and ordinances

All cabling, termination points etc. shall comply with relevant Australian Standards.

D2.4 Attached Files

The files listed in the table below are appended to this RFQ:

Document Ref. No.	Title
SPI06011-1	SPI06011-1 Concourse Indicator Parts List.doc
SPI06011-2	SPI06011-2 ES700 Door Lock. PDF
SPI06011-4	SPI06011-4 Tag Reader Dimensions.ppt
SPI06011-6	SPI06011-6 Cabinet V4 Rev1 251105 with pdfs.zip
SPIPAR000165	SPIPAR000165 Parramatta design 211205.zip

D2.5 Additional Deliverables

One power panel, 10 rolls of double sided tape and 5 cans of cleaning fluid for each station.

D3 PLATFORM INDICATOR HOUSINGS

D3.1.General Requirements.

Different types of housings are required to be manufactured and supplied as follows: -

3.1.1 Type A :-

3.1.1.1 Standard 2x24" (landscape mode) double faced dual screen indicator housings with provision for attaching a container for the PC at one end. The supply of this container is also included in this contract.

- i. Gosford 3 No.
- ii. Hornsby 8 No.
- iii. Penrith 6 No.

3.1.1.2 Blanking plates to cover 100mm space between the units to prevent access of birds and dirt. The backs of each unit shall have a sufficient number and size of openings to allow both units to be easily wired up to act together.

Gosford 1 set of blanking plates.

3.1.1.3 Single sided 2x24" (landscape mode) screen indicator housings with an extension for the PC at :-

- i. Penrith 1 No.

D 3.2 Notes

- The two types of housings must be manufactured to the detailed design supplied in the CD enclosed. The detailed design is specified in a 3D CAD/CAM program called **SolidWorks**. Also included are **eDrawings** of the housing types.
- A parts list of the internal housing components to be supplied and installed into each housing by the tenderer, can be found in the document attached "*Platform Indicator Housing Design.pdf*". The parts and suppliers listed are only suggested and equivalent or better parts maybe used by the Tender at RailCorp's discretion. **Note that LCD screens, PC's and the cables connecting to these devices (i.e. monitor, IEC power and fibre optic cables) will be supplied and installed by RailCorp.**
- A detailed description of both housing types can be found in attached document "*Platform Indicator Housing Design.pdf*".
- All housings must be constructed to match the security design described in attached document "*Platform Indicator Housing Design.pdf*".

The documents listed in the table below are appended to this RFQ:

Document Ref.	Revision No.	Title
BSPI000198	1	Platform Indicator Housing Design.pdf
Ai Industrial PI drawings	231006	Platform Indicator Drawings 231006 - Ai Industrial.zip

D3.3 Particular Requirements

D3.2.1 Electrical & Wiring Connections:

- All electrical cabling, termination points etc. shall comply with relevant Australian Standards.

D3.2.2 Construction of Housing:

- Rated to IP55
- Robust enough to protect internal components from damage when impacted by a thrown bottle/can of drink or a ballast fired @ 140 km/h
- Be white anti-graffiti powder-coat paint Dulux line 910 (Nominated Supplier).

D3.2.3 Security of Housing:

- The construction of the housings should not compromise the security design and must comply with AS3555.1 LEVEL 3 (10 Mins).

D3.2.4 Glass Panel:

- The glass panel that protects the LCD screens must be clear anti reflective laminated safety glass manufactured and certified to AS2208 with visible reflection no greater than 0.5%
- Glass panel to be bonded on the inside of the front faceplate of "Dual Screen Housing's" with Sikaflex-265.

D4 SAFETY AND QUALITY SYSTEM REQUIREMENTS

The Contractor shall have the appropriate quality management system in place. If the manufacturer is required to enter RailCorp stations, then they must comply with RailCorp and Work-Cover safety standards and procedures.

The tenderer shall inspect and test all parts and the complete system before delivery and ensure quality of system is as per or exceeds design such as checking voltages correct at solenoid.

Note all MSDS (Material Safety Data Sheet) documents must be supplied before delivery.

D5 ACCEPTANCE AND REJECTION CRITERIA

RailCorp will typically consider the following criteria in assessing the Contractor during progress and upon Practical Completion:

- a) Design and robustness demonstrated in the construction.
- b) Timeliness of deliverables.
- c) Product quality, including the finish and removal of sharp edges of the components inside the cabinets.
- d) Completeness and readability of as-built drawings.
- e) RailCorp reserves the right to inspect all indicators at the manufacturers premises before delivery.

D6 AS-BUILT DRAWINGS AND ASSET LIST

Acceptance of the Goods will be granted when the final reviewed As-Built Drawings have been received and accepted.

The As-Built drawings shall be supplied both as:-

- a) A3 paper copies, and AutoCAD or Visio files, and
- b) In "SolidWorks" file format

D7 SHARP EDGES AND LOGOS

(a) Sharp Edges.

All sharp edges created during the manufacturing process shall be removed. This can be done by rounding corners, arising or cleaning. Where necessary cover strips should be used. It should not be possible to put hands inside any enclosure and encounter dangerous or sharp edges.

(b) Manufacturers Logo.

There are to be no manufacturer's logos or identification on any part of the external surfaces. They are, however, permitted in the interior, but must not be visible from externally.

D8 MANUFACTURING PROGRAM

A detailed manufacturing program to the satisfaction of RailCorp will be prepared by the Contractor within 1 weeks of the award of the Contract.

The Contractor will review this program at the end of each month and formally advise the progress of the works to RailCorp.

The Contractor shall be paid for earlier manufacture of the finished products, which shall then become the property of RailCorp, but which will be held in the contractors store in trust awaiting delivery to the appropriate station. The contractor will be held responsible for any damage to the goods whilst being held in its store.

ACCEPTANCE OF THE ABOVE DELIVERY DATES	<hr/> SIGNED BY CONTRACTOR
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D9 APPENDICES

1. Appendix D1 – Platform Indicator Housing Design for Bankstown, East Hills and Illawarra Lines;
2. Appendix D2 – Concourse Indicator Parts List
3. Appendix D3 – List of Drawings (**Note:** To obtain full view of some of the Drawings attached with the RFQ , the Tenderers must access the soft copy of the Drawing on the Web or shall obtain a soft copy from:

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