



**Australian Government**  
**National Measurement  
Institute**

Bradfield Road, West Lindfield NSW 2070

**Cancellation**  
**Supplementary Certificate of Approval**  
**No S411**

Issued by the Chief Metrologist under Regulation 60  
of the  
*National Measurement Regulations 1999*

This is to certify that the approval for use for trade granted in respect of the

Shell Model DCA1 Control System for Fuel Dispensers for Motor Vehicles

submitted by      Shell Company of Australia Limited  
                            8 Redfern Road  
                            Hawthorn East    VIC      3123

has been cancelled in respect of new instruments as from 1 January 2009.

Signed by a person authorised by the Chief Metrologist  
to exercise his powers under Regulation 60 of the  
*National Measurement Regulations 1999*.

A handwritten signature in black ink, appearing to be 'J. H. T.', written in a cursive style.



# Australian Government

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## National Standards Commission

12 Lyonpark Road, North Ryde NSW 2113 Australia

### Certificate of Approval

**No S411**

Issued under Regulation 60  
of the  
National Measurement Regulations 1999

This is to certify that an approval for use for trade has been granted in respect of the  
Shell Model DCA1 Control System for Fuel Dispensers for Motor Vehicles

submitted by Shell Company of Australia Limited  
8 Redfern Road  
Hawthorn East VIC 3123.

**NOTE:** This Certificate relates to the suitability of the pattern of the instrument for use for trade only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

#### CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 December 2007, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked NSC No S411 and only by persons authorised by the submitter.

Instruments incorporating a component purporting to comply with this approval shall be marked NSC No S411 in addition to the approval number of the instrument.

Instruments purporting to comply with this approval and currently marked NSC No PS411 may be re-marked NSC No S411 but only by persons authorised by the submitter.

It is the submitter's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the Commission and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with the Commission's Document NSC P 106.

The Commission reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate No S1/0/A.

#### DESCRIPTIVE ADVICE

**Pattern:** provisionally approved 13 November 2002  
approved 23 December 2002

- The pattern is a Shell model DCA1 card-operated control console interfaced with Commission-approved PEC CEPEC fuel dispensers for motor vehicles.

**Variants:** provisionally approved 13 November 2002  
approved 23 December 2002

1. For use with Commission-approved Email or Fuelquip fuel dispensers.
2. For use with Commission-approved Gilbarco/Marconi fuel dispensers.

**Variant:** approved 24 June 2003

3. Interfaced to an Integration Technologies model Enabler 2PCI control system.

Technical Schedule No S411 describes the pattern and variants 1 to 3.

#### FILING ADVICE

Supplementary Certificate of Approval No S411, its Technical Schedule and Figures 1 and 2 all dated 27 June 2003, are superseded by the documentation attached herein, and may be destroyed. The documentation for this approval now comprises:

Supplementary Certificate of Approval No S411 dated 20 January 2004  
Technical Schedule No S411 dated 20 January 2004 (incl. Table 1 and Test Procedure)  
Figures 1 and 2 dated 20 January 2004

Signed by a person authorised under Regulation 60 of the National Measurement Regulations 1999 to exercise the powers and functions of the Commission under this Regulation.



## TECHNICAL SCHEDULE No S411

**Pattern:** Shell Model DCA1 Control System for Fuel Dispensers for Motor Vehicles

**Submittor:** Shell Company of Australia Limited  
8 Redfern Road  
Hawthorn East VIC 3123.

### 1. Description of Pattern

The pattern is a Shell model DCA1 card-operated control system interfaced with Commission-approved PEC CEPEC fuel dispensers for motor vehicles or any other compatible (#) Commission-approved fuel dispensers.

(#) "Compatible" is defined to mean that no additions/changes to hardware/software are required for satisfactory operation of the complete system including all checking facilities.

#### 1.1 Field of Operation

- The DCA1 control console is approved for environment class N, i.e. in an outdoor climate-controlled environment between -10°C and 55°C.
- The control console provides a self-serve arrangement for up to 24 compatible Commission-approved fuel dispensers via up to 3 distribution modules.

#### 1.2 System Description

The Shell model DCA1 control console (Figure 1) is a stand-alone card-operated terminal that allows unattended self-serve operation of Commission-approved fuel dispensers for motor vehicles. The DCA1 console authorises payment for the delivered fuel indirectly either via an electronic fund transfer facility or via controlled distribution cards such as Shell cards.

The DCA1 software version number 11.0.0.15a is displayed on the DCA display (refer to the Test Procedure).

The external hardware (Figure 1) comprises:

- A type IEE L3525-0415 backlit liquid crystal display, with four lines (each of twenty characters) to provide instructions and information for the user.
- A magnetic stripe card reader.
- A QWERTY type 101 PC touch keypad.
- A KEYCORP model K71R PIN keypad with a liquid crystal display for entering personal identification numbers.
- A receipt slot from which the receipt for the transaction is issued.
- A help phone comprising a speaker/microphone and connection button.

The internal components (Figure 2) comprise:

- An ORBIT model DURON 90 rack-mounted PC assembly or any other equivalent (\*) assembly.
- An Epson model DC T500 receipt printer or any other equivalent (\*) printer powered by a model PS170 power supply. The submitter should be consulted regarding the acceptability of alternative power supply units.
- (\*) "Equivalent" is defined to mean other proprietary equipment of the same or better specifications requiring no changes to software for satisfactory operation of the complete system including all checking facilities.
- A customised MGE model Elipse-800 uninterruptible power supply.
- An Integration Technologies model Enabler II controller card and Version 2.50 software.
- Up to 3 protocol distribution modules, each containing a New Zealand Protocol Distribution circuit board which enables communication with up to 8 Commission-approved PEC CEPEC fuel dispensers. Up to 3 protocol distribution modules may be connected.

### 1.3 Typical Operating Sequence

Typical operating prompts displayed by the DCA1 console are:

- "Insert card and then remove card".
- "Enter pump number Press enter"
- "Select grade 1. Lead free"
- "Pump: # Grade: # Confirm yes/no"
- "Enter CSN or OK On PIN pad"
- Other prompts may be displayed to enter, for example, the vehicle registration number, odometer reading or an order number.
- "Approved" is then displayed followed by "thank you" and "pump # is ready"

When the delivery is complete, inserting the card within 15 minutes will give the option of obtaining a receipt for the delivery or performing another delivery.

### 1.4 Checking Facility

The DCA1 console monitors the fuel dispensers to which it is interfaced, and only displays the fuel dispensers that are available for unattended self-serve operation.

In the event that a receipt is unable to be issued, the DCA1 informs the user prior to commencement of the delivery.

In the event of a power failure, the DCA1 allows up to 15 minutes for the customer to obtain a receipt for any delivery made.

## 1.5 Verification/Certification Provision

Provision is made for a verification/certification mark to be applied.

## 1.6 Descriptive Markings

Instruments carry the following data, together in one location:

Manufacturer's mark, or name written in full	.....
Model number	.....
Serial number	.....
Pattern approval mark	NSC No S411
Year of manufacture	.....
Environmental class	Class N

In addition, each protocol distribution module is identified and is marked with the approval number "NSC No S411".

## 2. Description of Variants

### 2.1 Variant 1

With a protocol distribution module containing an Email Distribution circuit board which enables communication with up to 8 Commission-approved Email or Fuelquip fuel dispensers.

### 2.2 Variant 2

With a protocol distribution module containing an Intelligent Current Loop circuit board which enables communication with up to 8 Commission-approved Gilbarco/Marconi fuel dispensers.

### 2.3 Variant 3

Interfaced to an Integration Technologies model Enabler 2PCI control system, as described in the documentation of NSC approval No S405, in which case the Integration Technologies model Enabler II controller card described for the pattern (DCA1) need not be installed.

## TEST PROCEDURE

Instruments should be tested in accordance with any test included in the approval documentation for the fuel dispenser to which the pattern is connected, as appropriate, and in accordance with any other relevant tests.

The following tests are to be performed at initial verification/certification of the self-serve system or whenever a fuel dispenser, or the calculator/indicator, is changed.

1. Check the software version number for the self-serve device, as follows:
  - Insert and then remove card.
  - Enter dispenser (pump) number and press enter.
  - Enter "99".
  - Enter DCA version password and press enter.
  - Enter "Shell" via the keypad.
  - "Version Number DCA 11.0.0.15a" will be displayed.
  - After displaying the version numbers, the DCA will return to "Insert Card and then remove card" prompt.
2. Check that the instrument comprises the components described elsewhere in this Technical Schedule.
3. Authorise a delivery and check that the delivery details on the fuel dispenser agree with the receipt obtained from the DCA1 console.



# Australian Government

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## National Standards Commission

12 Lyonpark Road, North Ryde NSW 2113 Australia

### Notification of Change

### Supplementary Certificate of Approval No S411

### Change No 1

The following change is made to the approval documentation for the  
Shell Model DCA1 Control System for Fuel Dispensers for Motor Vehicles

submitted by Shell Company of Australia Limited  
now of 8 Redfern Road  
Hawthorn East VIC 3123.

Supplementary Certificate of Approval No S411, its Technical Schedule and Figures 1 and 2 all dated 27 June 2003, are superseded by the documentation attached herein, and may be destroyed.

Signed by a person authorised under Regulation 60 of the National Measurement Regulations 1999 to exercise the powers and functions of the Commission under this Regulation.

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**Australian Government**  

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**National Measurement  
Institute**

12 Lyonpark Road, North Ryde NSW 2113

**Notification of Change**  
**Supplementary Certificate of Approval No S411**  
**Change No 2**

Issued by the Chief Metrologist under Regulation 60  
of the  
National Measurement Regulations 1999

The following change is made to the approval documentation for the  
Shell Model DCA1 Control System for Fuel Dispensers for Motor Vehicles

submitted by Shell Company of Australia Limited  
8 Redfern Road  
Hawthorn East VIC 3123.

In Technical Schedule No S411 dated 20 January 2004, in clause **1.2 System Description** the 4th dot point on page 2 is amended to read:

“An Integration Technologies model Enabler II controller card and Version 2.50  
or 2.56 software.”

Signed by a person authorised by the Chief Metrologist  
to exercise his powers under Regulation 60 of the  
National Measurement Regulations 1999.

A handwritten signature in black ink, appearing to be 'J. H. T.', is located in the bottom right corner of the page.

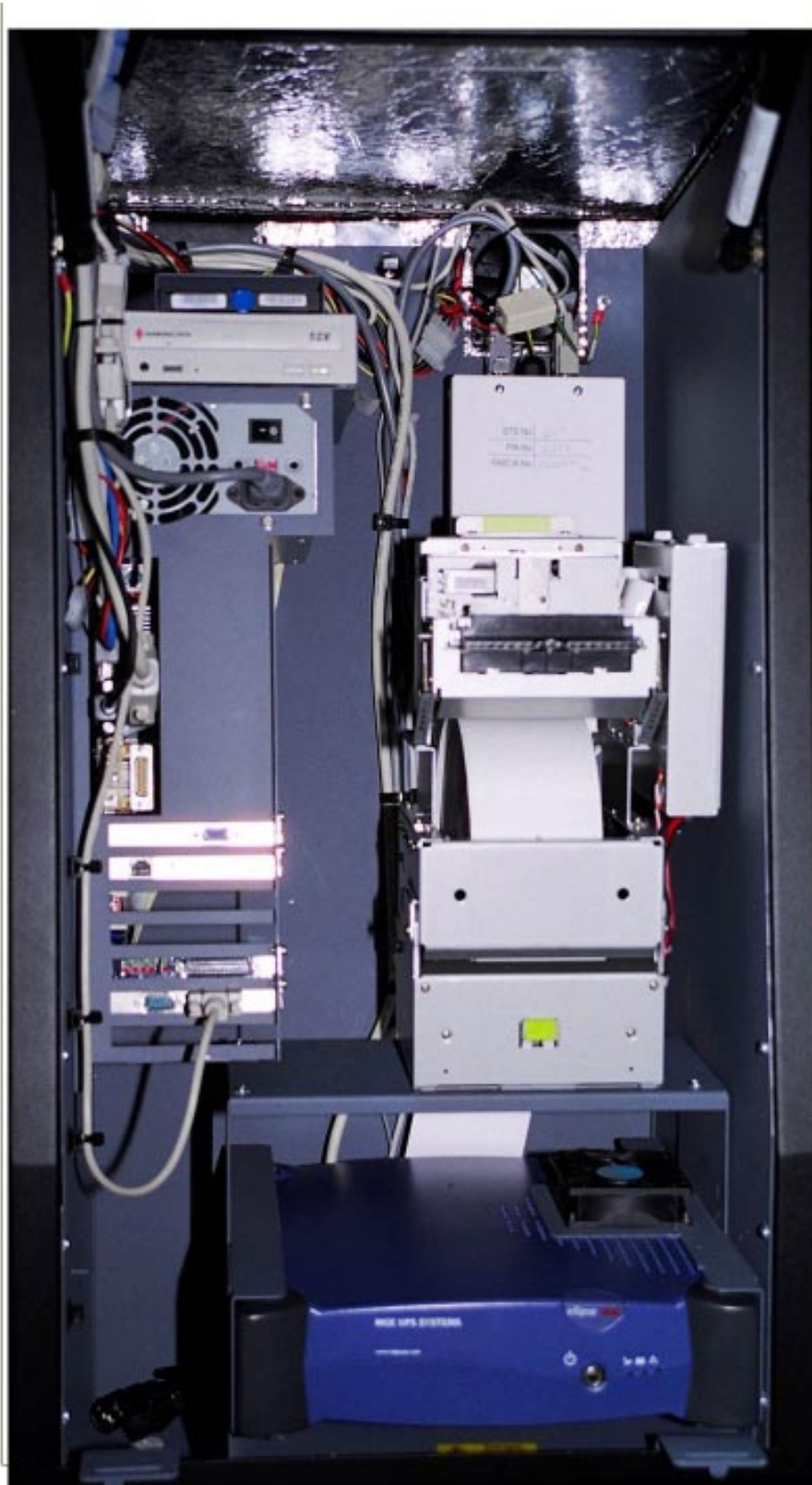
FIGURE S411 – 1



Shell Model DCA1 Control Console

S411  
20 January 2004

FIGURE S411 – 2



Internal View of Shell Model DCA1 Control Console