



PATENTS ACT 1977

APPLICANT Fisher-Rosemount Systems Inc

ISSUE Whether patent application GB1403617.2 complies
with section 1(2) of the Patents Act 1977

HEARING OFFICER Phil Thorpe

DECISION

Introduction

- 1 Patent application GB1403617.2 was filed on 28th February 2014 claiming an earliest priority date of 15th March 2013 from United States application US 61792109. The application was published as GB 2513709 A on 5th November 2014.
- 2 Despite several rounds of correspondence between the examiner and the applicant's attorney, the applicant has been unable to satisfy the examiner that the application met the requirements of the Act. In particular, the examiner remains of the opinion that the claimed invention is excluded from patentability as a program for a computer and as a method of doing business.
- 3 The matter came before me at a hearing on 15th December 2020. The applicant was represented by Mr Russell Sessford of Forresters. In advance of the hearing Mr Sessford provided a helpful skeleton argument including an auxiliary claim for consideration should I find the existing claim excluded.

The compliance period

- 4 At the start of the hearing I confirmed with Mr Sessford that his request for a further extension of the compliance period would be granted. This takes the period to the 28th January 2021.

The patent application and the field of the invention

- 5 The patent application is a substantial document running to 129 pages. I understand the description has formed the basis of several applications. It sets out in some detail the field in which the invention lies. I will attempt to briefly summarise that in order to ensure the claimed invention is seen in its proper context.
- 6 The invention relates to a computer implemented method of managing a workflow in a process plant. Process control systems, like those used in chemical, petroleum or

other process plants, typically include one or more process controllers communicatively coupled to one or more field devices. The field devices, which may be, for example, valves, valve positioners, switches, and transmitters (e.g., temperature, pressure, level and flow rate sensors), are located within the process environment and generally perform physical or process control functions such as opening or closing valves, measuring process parameters, etc. to control one or more processes executing within the process plant or system.

- 7 The process controllers, which are also typically located within the plant environment, receive signals indicative of process measurements made by sensors and field devices and other information pertaining to the field devices and execute a controller application that runs, for example, different control modules that make process control decisions or generate control signals based on the received information. The control modules in the controller send the control signals over communication lines or links to the field devices to thereby control the operation of at least a portion of the process plant or system.
- 8 Information from the field devices and the controller is usually made available over a data highway to one or more other hardware devices, such as operator workstations, personal computers or computing devices or other centralised administrative computing devices that are typically placed in control rooms or other locations away from the harsher plant environment. Each of these hardware devices typically is centralised across the process plant or across a portion of the process plant. These hardware devices run applications that may, for example, enable an operator to perform functions with respect to controlling a process and/or operating the process plant, such as changing settings of the process control routine, modifying the operation of the control modules within the controllers or the field devices, viewing the current state of the process or viewing alarms generated by field devices and controllers. The data highway utilised by the hardware devices, controllers and field devices may include a wired communication path, a wireless communication path, or a combination of wired and wireless communication paths.
- 9 A computer implemented supervisor engine can be provided that monitors the process plant. If it detects a fault or a problem with the plant, then it can create a workflow to address the fault or problem. For example, it may determine that a valve is faulty and create a work item to replace that valve. Such work items are typically performed by technicians or other maintenance using mobile user-interfaces (UIs) to allow them to view and/or modify aspects of the process plant operation and configuration. It is to the management of those work items that the invention is targeted.

The invention

- 10 According to the invention the supervisor engine managing the workflow is able to determine that a maintenance worker carrying a UI device is in the vicinity of the particular equipment requiring work for example the aforesaid faulty valve. The supervisor engine is able to verify that the maintenance worker has the proper skill set to perform the work item, and if they do will provide permission tokens to allow them to access the plant and to perform the work item. The supervisor engine will provide details to the UI device display of the processes to be performed by the maintenance worker to complete the task. The invention is also able to automatically

interrogate the process plant to verify that the task, ie replacing the valve, has been completed and will then revoke the permission tokens. I discuss the invention in more detail when I construe the claim.

11 The latest claims were filed on 27th March 2020. Claim 1 reads as follows:

A computer-implemented, automated method of managing a work flow associated with process equipment in a process plant, the method comprising: creating a work item specifying a task associated with the process equipment to be performed in the process plant;

determining from the specified task a set of procedures for execution of the work item;

generating for each of the procedures in the set of procedures an associated display;

determining a user is at a target location proximate the process equipment during a suitable time for performing the task;

selecting the user to perform the task based upon information regarding the user, presence of the user at the target location, and information regarding the task;

assigning to the user a permission token associated with the task to enable the user to perform the task;

displaying on a mobile user interface device the set of associated displays sequentially in an order in which the set of procedures are to be performed; and

upon completion of the specified task, verifying completion of the set of procedures by automated communication with one or more process equipment components associated with the specified task and revoking the permission token.

12 There is another independent claim, claim 16. This has a very similar scope to claim 1 and will stand or fall with claim 1.

The law

13 The examiner has raised an objection under section 1(2) of the Patents Act 1977 that the invention is not patentable because it relates a category of excluded matter. The relevant provisions of this section of the Act are shown with added emphasis below:

1(2) It is hereby declared that the following (amongst other things) are not inventions for the purpose of the Act, that is to say, anything which consists of -

(c) a scheme, rule or method for ... doing business, or a program for a computer;

but the foregoing provisions shall prevent anything from being treated as an invention for the purposes of the Act only to the extent that a patent or application for a patent relates to that thing as such.

- 14 As explained in the notice published by the IPO on the 8th December 2008¹, the starting point for determining whether an invention falls within the exclusions of section 1(2) is the judgment of the Court of Appeal in *Aerotel/Macrossan*².
- 15 The interpretation of section 1(2) has been considered by the Court of Appeal in *Symbian*³. *Symbian* arose under the computer program exclusion, but as with its previous decision in *Aerotel* the Court gave general guidance on section 1(2). Although the Court approached the question of excluded matter primarily on the basis of whether there was a technical contribution, it nevertheless (at paragraph 59) considered its conclusion in the light of the *Aerotel* approach. The Court was quite clear (see paragraphs 8-15) that the structured four-step approach to the question in *Aerotel* was never intended to be a new departure in domestic law; that it remained bound by its previous decisions, particularly *Merrill Lynch*⁴ which rested on whether the contribution was technical; and that any differences in the two approaches should affect neither the applicable principles nor the outcome in any particular case.
- 16 Subject to the clarification provided by *Symbian*, it is therefore appropriate to proceed on the basis of the four-step approach explained at paragraphs 40–48 of *Aerotel* namely:
- 1) Properly construe the claim.
 - 2) Identify the actual contribution (although at the application stage this might have to be the alleged contribution).
 - 3) Ask whether it falls solely within the excluded matter.
 - 4) If the third step has not covered it, check whether the actual or alleged contribution is actually technical.

Applying the Aerotel test

Step 1 - Properly construe the claim

- 17 Mr Sessford was keen to highlight that the method is “automated” in the sense that the claimed features are handled by backend systems without human intervention. This does not mean that the entirely process of performing the task is automated. Indeed, it is the user that performs the task. In the embodiment described the user also accepts the task.
- 18 The step of determining that “*a user is at a target location proximate the process equipment during a suitable time for performing the task*” was briefly discussed at the hearing. Mr Sessford referred to the embodiments set out in the description for doing this involving GPS tracking in the mobile UI device or the use of beacons located around the plant and a transmitter in mobile UI device. The description also refers to the use of an inertia positioning system within the mobile UI device that can determine the distance and direction that the device has moved which when

¹ <http://www.ipo.gov.uk/pro-types/pro-patent/p-law/p-pn/p-pn-computer.htm>

² *Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application* [2006] EWCA Civ 1371; [2007] RPC 7

³ *Symbian Ltd v Comptroller-General of Patents*, [2009] RPC 1

⁴ *Merrill Lynch's Appn.* [1989] RPC 561

combined with a known position allows the position of the device to be determined even if the GPS or beacon signal is lost. In all of these examples it is the location of the device that is determined rather than the user although the latter can be inferred if for example they have logged on to the device. Mr Sessford did also refer to the possible use of a scheduled location of a user however I was not entirely persuaded that that “determined” the location of the user as required by the claim rather than simply assuming the location though nothing really turns on that so far as excluded matter is concerned.

- 19 Also discussed at the hearing was the use of the permission tokens. Mr Sessford noted that these tokens provide the user with the necessary access rights to perform the tasks. This he says is clearly brought out in the following part of description:

“[107] In embodiments, the permissions are created as tokens or entries in a database 312 stored in a memory associated with the supervisor engine 106. Each permission token defines the target function (e.g., wiring checkout), the target equipment, the ID(s) of the worker(s) assigned to the work item, and, optionally, the expiration time and date of the token. Permission tokens maybe required for all work items, for some work items, for work items associated with specific equipment or equipment types, with particular target functions (i.e., work item tasks), and the like. The permission token gives specific access rights to the mobile personnel assigned to the work item, and can be revoked by the system and at any time. In some embodiments, permission may also be dependent on external factors. For example, a permission token may specify that a mobile worker has permission to perform a target function during a particular time period, during a particular plant event (e.g., during a shutdown of an area of the plant), etc.”

- 20 The only other part of the claim whose construction was discussed in any length at the hearing was the final requirement that *“upon completion of the specified task, verifying completion of the set of procedures by automated communication with one or more process equipment components associated with the specified task and revoking the permission token.”*

- 21 Mr Sessford noted that the system does not take the user’s word that the task is complete but rather interrogates the equipment which was associated with the task to have that equipment confirm that the task is complete. This might be the equipment on which the task was performed or may be other process equipment which might have been impacted by the task and so can provide information as to whether the task is complete. The most relevant part of the description that Mr Sessford referred me to reads:

“[0112] As a mobile operator or technician performs the target tasks associated with a work item, the supervisor engine 106 and, specifically, a work item tracking module 318 may track the progress of the tasks associated with the work item. In some embodiments, the supervisor engine 106 cooperates with the mobile UI device 112 to guide the mobile operator through each step of the process or processes required to perform the work item. The guidance may include lockout procedures, shut-down procedures, device disassembly, device repair, maintenance steps such as calibration, lubrication, and the like, check-out and verification procedures, device re-assembly, stan-up procedures, unlock procedures, and any other steps of the process. The work item tracking module 318 may communicate with the mobile UI device 112 and, for example, receive indications as the mobile operator requests each subsequent instruction, step, or guide. As the work item tracking module 318 receives the indication that each subsequent instruction, step, or guide, is requested, the work item tracking module 318 may assume that the previous step is complete, thereby tracking the progress of the execution of the work item. In embodiments, the work item tracking module 318 maybe operative to communicate with the target equipment (i.e., the equipment that is

the subject of the work item), or equipment proximate or communicatively coupled to the target equipment, to verify that one or more of the steps is complete.”

- 22 The description does not go into detail as to how the system communicates with the target equipment or how that equipment determines whether the task being performed on it has been completed. Some of the tasks referred to in the description, for example an operator visually or audially checking a component would not lend themselves to automated verification by communication with any equipment component within the process plant and hence would be outside the scope of the claim.
- 23 Process plants of the type to which the invention is directed are as discussed extensively in the description of the application however heavily automated with multiple sensors throughout the plant monitoring all aspects of the plant and feeding back information to the controllers. Examples are given of the mobile UI device being able to receive via RFID communication unique identifiers identifying particular parts of the process plant. The example given relate to a unique identify for a boiler (paragraph [0086]) or a unique identifier from an NFC or RFTD tag on or near the pump (paragraph [0081]). There is, so far as I can see, no explicit reference in the description for example to reading the unique identifier of a replacement part to determine that it is in place and operating. Similarly, although the description alludes to the concept of identifying abnormal conditions by monitoring various process parameters, there is again no explicit disclosure that a determination of a return to normal condition of these parameters could be used to verify that the remedial task had been completed.
- 24 Whether the application discloses the invention in a manner which is clear enough and complete enough for the invention to be performed is however not a matter for me here and I make no finding in that respect. The only issue before me is that of excluded matter. That does require me to construe the claim which I have to my satisfaction done.

Step 2 Identify the actual contribution

- 25 Jacob LJ. addressed this step in *Aerotel/Macrossan* where he noted:

“43. The second step — identify the contribution — is said to be more problematical. How do you assess the contribution? Mr Birss submits the test is workable — it is an exercise in judgment probably involving the problem said to be solved, how the invention works, what its advantages are. What has the inventor really added to human knowledge perhaps best sums up the exercise.”

- 26 Jacob LJ. goes on to say that in the end:

“the test must be what contribution has actually been made, not what the inventor says he has made”.

- 27 Despite the passage of nearly six years since the application was filed, no search has yet been performed. The courts⁵ have however consistently found that it is not always necessary for the office to perform a search prior to objecting to excluded

⁵ See for example *Lenovo (Singapore) PTE Ltd v Comptroller General of Patents* [2020] EWHC 1706 (Pat)

matter. In some cases, it may be clear that no reference to prior art at all is needed to see that the subject matter is unpatentable. In others there may be features that are so notorious that a formal search is not necessary. In this instance however I think the application would have benefitted from a search to help identify the actual contribution. That has however not happened and so I must reach a conclusion on the contribution on the basis of the material before me.

- 28 In the course of his examination, the examiner has indicated that certain aspects of the claimed invention do not in his opinion form part of the contribution on the basis that they are conventional or, based on a lack of detailed explanation in the application, considered to be known. For example, the examiner suggests that computer generated “permission tokens” must be known since the description does not discuss them in any detail. The examiner goes on to argue that no advance has been made with regards to “granting/revoking access permission”. Mr Sessford takes some issue with this noting that the examiner has cited no prior art to show that the use of permission tokens in the manner described is known. I agree but in fairness to the examiner, and indeed as later recognised by Mr Sessford, the examiner is not actually suggesting that the use of tokens in the method does not form part of the contribution but rather that there is nothing special in the particular tokens used or in how permission is granted and then revoked using the tokens. If there was something special, then that would be expected to be set out in the description and incorporated in the claims which it is not. I agree with that though I would observe that in claims such as the one in issue here, it is the combination of a number of steps, some of which may be known, that contributes to the overall effect of the invention.
- 29 The examiner in their last communication suggests that the contribution is:
- “An automated process of managing tasks based on work flow data in a process plant: selecting a user based on user information, task location and user location; displaying on a mobile device details of the procedures to be carried out in order to complete a task, wherein confirmation that the task is complete is obtained and access to the relevant system is granted to the user for the duration of the task before being revoked.”
- 30 Mr Sessford suggests that the examiner has erred by disassociating the granting of access to the user using the tokens and the verification of the completion of the task from the function of the system. He goes on to suggest that the contribution is best described as:
- “The provision of a system/method for ensuring that tasks within a process plant are completed: efficiently and by appropriately skilled people; with accurate verification of their completion (improving safety and efficiency of the plant); and in a safer environment, these are achieved by, respectively, the organisation aspects of the invention, the system confirming with the process equipment that the task is complete, and the use of task enabling permission tokens.”
- 31 I think Mr Sessford has focussed a little too much on the aims and advantages of the invention and not enough on precisely how they are achieved by the claimed invention. The examiner on the other hand has I believe better captured the

contribution however they have not given enough recognition to the way that the claimed invention interacts with the process plant to control the access of the user to the plant. Hence, I believe that the contribution can be best expressed as:

“An computer implemented process of managing tasks within a process plant based on work flow data involving selecting a user based on user information, task location and user location; displaying on a mobile device to be used by the user details of the procedures to be carried out in order to complete a task and wherein the user is assigned a permission token associated with the task to enable the user to perform the task and verifying completion of the task by automated communication with one or more process equipment components associated with the specified task and revoking the permission upon confirmation that the task is complete.”

Steps 3 and 4 Ask whether it falls solely within the excluded matter and check whether the actual or alleged contribution is actually technical.

- 32 I will consider steps 3 and 4 together.
- 33 Mr Sessford argues that in *Landmark Graphics*⁶ the Hearing Officer concluded that one can step back from the actual advance over the state of the art and identify the field of endeavour when considering what the inventor has added to the stock of human knowledge. If that field of endeavour is a technical one, as in *Haliburton*⁷, then the invention may be a patentable one under section 1(2). Mr Sessford argues that further support for this can be found in the later Comptroller’s decision in *Fisher-Rosemount Systems Inc*⁸.
- 34 He notes that for this application, the field of endeavour may be considered to be providing a safer process plant which is undoubtedly a technical field of endeavour. He compares it aircraft safety which has been held by the Comptroller to be patentable⁹. He suggests that there is little doubt that both aircraft and process plants are essentially large technical systems in which problem can cause significant property damage or loss of life.
- 35 I accept that aircraft and process plants are technical systems however that does not mean that any claim directed to a method of maintaining an aircraft or for managing a process plant necessarily relates to patentable subject matter. Indeed, I do not believe Birss J. is saying in *Haliburton* that every claim to a method of designing a drill bit is patentable. Rather it is still necessary to follow the *Aerotel* approach in construing the claim and then identifying the actual contribution of the claimed invention. This Birss J. does in paragraph 67 where he accepts the Hearing Officer’s identification of the contribution albeit clarified that it is a computer implemented method. He then went on to find:

⁶ [Landmark Graphics BL O/112/18](#)

⁷ *Haliburton Energy Services Inc's Patent Application* [2012] R.P.C. 12

⁸ [Fisher-Rosemount Systems Inc BL O/148/19](#)

⁹ [The Boeing Company BL O/312/15](#)

“70. The claimed method cannot be performed by purely mental means and that is the end of the matter. Put another way, the contribution is a computer implemented method and as such cannot fall within the mental act exclusion.

36 In discussing the computer program exclusion, he states in paragraph 71 that in escaping the mental act exclusion the claimed method is not “necessarily immune from the computer program exclusion”. He then considers whether the contribution provided by the claimed invention is caught by the exclusion finding that:

“Is it more than a computer program as such? The answer is plainly yes. It is a method of designing a drill bit. Such methods are not excluded from patentability by Art.52 s.1(2) and the contribution does not fall solely within the excluded territory. Drill bit design is not a business method, nor a scheme for playing a game nor (as I have held) is this claim a scheme for performing a mental act.”

37 Finally, he considers step 4 of Aerotel in paragraphs 74 and 75 which read:

74. This is not a case in which the cross-check at step 4 presents any difficulties. Designing drill bits is obviously a highly technical process, capable of being applied industrially. Drill bit designers are, I am sure, highly skilled engineers. The detailed problems to be solved with wear and ability to cut rock and so on are technical problems with technical solutions. Accordingly finding a better way of designing drilling bits in general is itself a technical problem. This invention is a better way of carrying that out. Moreover the detailed way in which this method works—the use of finite element analysis —is also highly technical.

75. It is clear that Pumfrey J. regarded the method of designing drill bits in the case before him in *Halliburton v Smith* as “freighted with the technical effect that is needed for patentability” (see para.217). His concern was not with the technical contribution as a matter of substance—which he did not doubt—but with the form of the claims (para.218). It seems to me that there is no difference between that case and this one in this crucial aspect.

38 As noted, I do not take that Birss J. is making any generalising statement here that any claim directed at a method of designing a drill bit is patentable. The field of drill bit design is undoubtedly technical however a claim directed to a method of designing a drill bit that is characterised from known methods by a non-technical feature may still be excluded.

39 Hence, I am not persuaded to do what Mr Sessford suggests which is take a step back from the actual advance provided by the claimed invention and identify the field of endeavour and then consider whether that field of endeavour is a technical one. Instead I will focus on the contribution as I have identified it and decide if that provides a technical contribution.

40 Lewison J. (as he then was) set out five signposts *AT&T/CVON*¹⁰ that he considered to be helpful when considering whether a computer program makes a technical contribution. In *HTC*¹¹ the signposts were reformulated slightly in light of the decision in *Gemstar*¹². Mr Sessford relies essentially only on signpost i) which is:

¹⁰ *AT&T Knowledge Venture/CVON Innovations v Comptroller General of Patents* [2009] EWHC 343 (Pat); [2009] FSR 19

¹¹ *HTC v Apple* [2013] EWCA Civ 451

¹² *Gemstar-TV Guide International Inc v Virgin Media Ltd* [2009] EWHC 3068 (Pat); [2010] RPC 10

- i. Whether the claimed technical effect has a technical effect on a process which is carried on outside the computer.

41 It is important to stress that the signposts are just that. They are not barriers or hurdles that need to be individually or collectively overcome by the applicant. They are rather a non-exhaustive list of some of the factors that can indicate in some cases whether a particular contribution may be technical.

42 Mr Sessford refers me in respect of signpost i). to Lewison J's summary of *Vicom* in paragraphs 17 to 20 of *AT&T* which read:

"17. *Vicom* (T 0208/84) concerned the digital processing of images. The application was rejected by the Examining Division on the ground that it claimed a mathematical method and a computer program as such. On appeal to the Board the appellant argued that a novel technical feature clearly existed in not only the hardware, but also in the method recited in the claims. The invention conferred a technical benefit namely a substantial increase in processing speed compared with the prior art. Digital filtering in general and digital image processing in particular are "real world" activities that start in the real world (with a picture) and end in the real world (with a picture). What goes on in between is not an abstract process, but the physical manipulation of electrical signals representing the picture in accordance with the procedures defined in the claims. Thus the claimed technical benefit was an increase in processing speed. The Board first dealt with whether the claimed invention was susceptible of industrial application. It was in that context that they made the observations quoted by Lord Neuberger in §37 of *Symbian*. They then went on to consider whether the claim was excluded as being a mathematical method as such; and concluded that it was not because the mathematical method which underlay the invention was being used in a technical process which was carried out on a physical entity by technical means. Turning to the computer program exclusion they said (§12): "The Board is of the opinion that a claim directed to a technical process which process is carried out under the control of a program (be this implemented in hardware or in software), cannot be regarded as relating to a computer program as such within the meaning of Article 52(3) EPC, as it is the application of the program for determining the sequence of steps in the process for which in effect protection is sought. Consequently, such a claim is allowable under Article 52(2)(c) and (3) EPC."

18. The point which I think the Board are making is that what was claimed was not the computer program at all, but the process of manipulating the images. That process was a technical process and hence made a technical contribution. It is, I think, the same point that they make in the other extract quoted by Lord Neuberger (§ 15): "Generally claims which can be considered as being directed to a computer set up to operate in accordance with a specified program (whether by means of hardware or software) for controlling or carrying out a technical process cannot be regarded as relating to a computer program as such and thus are not objectionable under Article 52(2)(c) and (3) EPC."

19. The Board continued (§ 16): "Generally speaking, an invention which would be patentable in accordance with conventional patentability criteria should not be excluded from protection by the mere fact that for its implementation modern technical means in the form of a computer program are used. Decisive is what technical contribution the invention as defined in the claim when considered as a whole makes to the known art."

20. What the Board are saying in this paragraph is, I think, that you assess the patentability of a claimed invention ignoring the fact that it operates through a computer program. If, ignoring the computer program, it would be patentable, then the fact that a computer drives the invention does not deprive it of patentability."

43 Mr Sessford argues that as a matter of substance the contribution here ensures "particular advantageous effects in the completion of tasks in a process plant". These include improved safety and efficiency, and these are technical benefits. That they

are achieved through the use of a computer does not he argue detract from the technical nature of these benefits. I agree with this last point but the effects and benefits of the invention in this case require more consideration in particular as to whether they are realised by a technical contribution. I say that because there may be ways of enhancing safety, including undertaking tasks in a process such as in issue here, that do not provide a technical contribution. For example providing additional training to maintenance staff may improve the quality of their work and hence safety however a patent claim directed at that is unlikely to involve a technical contribution.

- 44 In this case however the enhancements to the safety are provided by technical means. There is an interaction between the claimed invention and the process plant in terms of allowing and restricting access to the plant that contributes to the safety of the operation. This is as noted above achieved using permissions tokens. The examiner has highlighted the lack of detail in the description about these tokens however again as I have noted it is not the precise details of these tokens that is important but rather that they are used to enable and disable access to the plant by the user. That access is also disabled by the invention verifying automatically that the task is completed by the technical step of communicating with the plant itself. All of these steps are technical steps that in the words of *Vicom* are carried out under the control of a program. They have a technical effect outside of the computer which takes the invention outside of the computer program exclusion.
- 45 I would add for completeness that the claimed invention is also not excluded as a method of doing method. Given that I have found the claims as currently filed as not excluded I do not need to go on and consider the auxiliary claims.

Next Steps

- 46 Having found that the application is not excluded as a computer program or business method I refer the case back to the examiner for completion of their work. This will involve performing a search on the claimed invention. I am conscious that the compliance period expired on the 28th January 2021. I will allow a further two-month extension to the compliance period provided the applicant files the required Form 52 by no later than 28th March 2021. The applicant may be advised to file a further Form 52 after that for a further discretionary extension which I would expect the examiner to look favourably on. I would note that the fee associated with Form 52 is currently zero and will remain so until 31st March 2021.

Phil Thorpe

Deputy Director, acting for the Comptroller