| Patents Act 1977 | Opinion Number | 24/21 |

OPINION UNDER SECTION 74A

Patent	GB2538504
Proprietor(s)	SA EXEL INDUSTRIES
Exclusive Licensee	
Requester	Meissner Bolte (UK) Limited
Observer(s)	
Date Opinion issued	02 March 2022

The Request

1.   The comptroller has been requested by Meissner Bolte (UK) Limited to issue an opinion as to whether GB2538504 (the patent) is invalid on the grounds of lack of novelty and inventive step. The request was filed on 21st December 2021 and was accompanied by a statement making the request. The statement refers to a number of non-patent literature documents NPL1-NPL5, and patent documents US20080058995A (PL4), WO2004080161A (D1) and US20130035774A (D11). Documents NPL1-NPL5 all relate to a sprinkler system called "OpenSprinkler".

2.   More specifically, the requester asserts that the OpenSprinkler system as described by NPL1-NPL5 shows that independent claims 1, 4, 7, 8, 9, 11, 12, 14 and 18 are not new. They also assert that the dependent claims 2, 3, 5, 6, 10, 13, 15, 16 and 17 are not inventive in light of various combinations of common general knowledge or the disclosure in PL4, D1 or D11 with the OpenSprinkler system.

3.   They further assert that claims 1 and 2 lack novelty in light of PL4 as a stand-alone document.

Observations and Observations received in reply

4.   No observations were received.

The evidence

5.   A digital archive of the World Wide Web, "Wayback machine" has been used to demonstrate that the documents NPL1-NPL5 predate the application. The Manual of Patent Practice used by the UKIPO sets out, in section 18.09.3, that evidence from Wayback Machine may provide justification that there is little doubt about the publication date of the disclosure. I am happy to accept the evidence submitted in the form of NPL1-NPL5 and the disclosure dates accorded to them by the requester.

6.   The requester argues that NPL1-NPL5 do not represent different prior art but are merely different online sources pointing to the same prior art. I agree that they all refer to the same OpenSprinkler system and are intended to be read together to establish all the necessary information about the device. Thus, when I refer to NPL1-NPL5 I intend them to be read as a single disclosure.

The Patent

7.   The patent is entitled "Garden Watering Controllers". It relates to a control system for controlling the supply of water into a garden watering arrangement, such as a garden sprinkler. Referring to figure 1 of the patent below, a controller 1 receives wireless data signals and operates a valve in dependence on the received data signals. The unit can store programming data and operate the valve in dependence on a stored watering schedule.
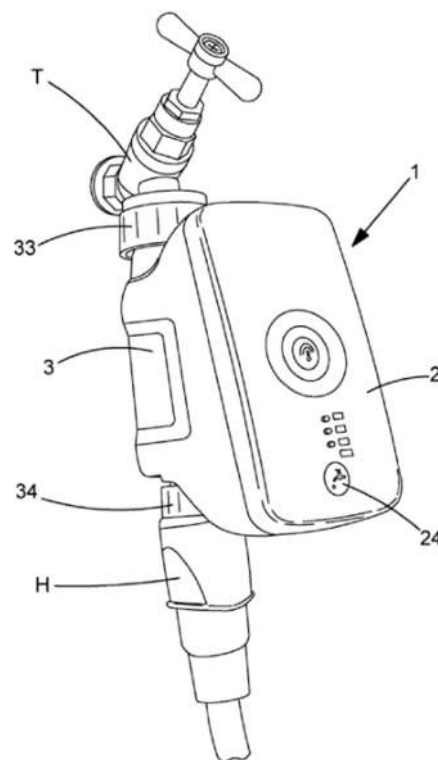

Figure 1

8.   Figure 3 of the patent below shows that a stored schedule 301 can be held in the controller memory, but that a "water override" 303 can be applied wirelessly via an interface – in this case an app on a client device. Alternatively, an "adjust override" 305 can be applied wirelessly via the app.
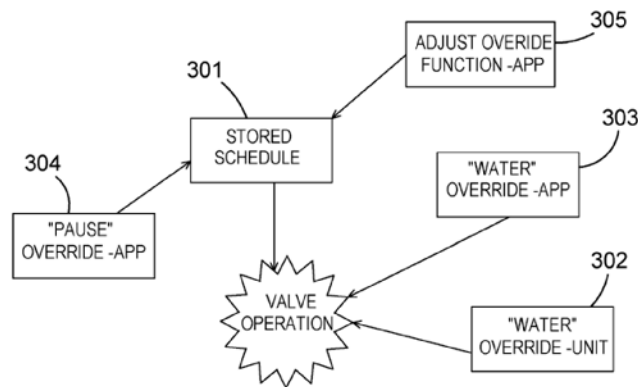
FIG.3

Opensprinkler

9.   Documents NPL1-NPL5 refer to a garden watering controller system known as "OpenSprinkler". This is an opensource, web-based sprinkler controller as shown below. It includes a controller that can replace a conventional sprinkler controller that does not have web connectivity. It has remote access and provides smart weather-based sprinkler control. It can be wirelessly connected to a router to receive control signals and watering programs. A client device such as a computer or mobile device is used to access a controller interface.

10.   Documents NPL1-NPL5 are detailed below:

NPL1 is a user manual for the web interface for OpenSprinkler archived 30/03/2014

NPL2 is a video showing someone using a mobile app to program and control the OpenSprinkler system archived 14/12/2013

NPL3 is a user manual for the controller firmware v. 2.1.0 archived 21/03/2015

NPL4 is a history of software updates for the mobile app used with OpenSprinkler archived 28/04/2015

NPL5 is a blog post on a website which posts informal updates about new features of OpenSprinkler archived 15/03/2015

11.   It is clear to me that these documents relate to a single system, and that the OpenSprinkler system itself is the prior art being relied upon. All of the documents pre-date the filing date of the application. I agree that the OpenSprinkler system was capable of being operated as described by the documents above prior to the filing of the patent application, provided it was running the latest firmware 2.1.0.

12.   In paragraph of 6.4. of the request, the requester makes further observations regarding the product "OpenSprinkler DIY Kit v2.1u". This kit comprises the garden watering controller which can be controlled via the OpenSprinkler mobile app (NPL5, page 13, bottom left picture). There is also evidence of the blogger himself holding the product inside a store (NPL5, page 13, bottom right picture). Page 10 of this blog states that this controller is eligible to upgrade to the firmware v2.1.0 which is detailed in NPL3. This satisfies me that the OpenSprinkler system with all of the features set out in the various documents provided was available to the public for prior use.

PL4

13.   The requester also refers to the disclosure in PL4 – which is published US patent application US20080058995 A1. This application is directed to a solar-powered irrigation control device. It can be connected to one or more irrigation devices in an irrigation system, and it can receive operational signals wirelessly from a handset. The invention is concerned with the efficient use of energy so that a small photovoltaic power module can be used as the only power source. One way that the power is conserved is by having inactive periods to reduce transceiver power requirements. Figure 1 of PL4 is reproduced below.
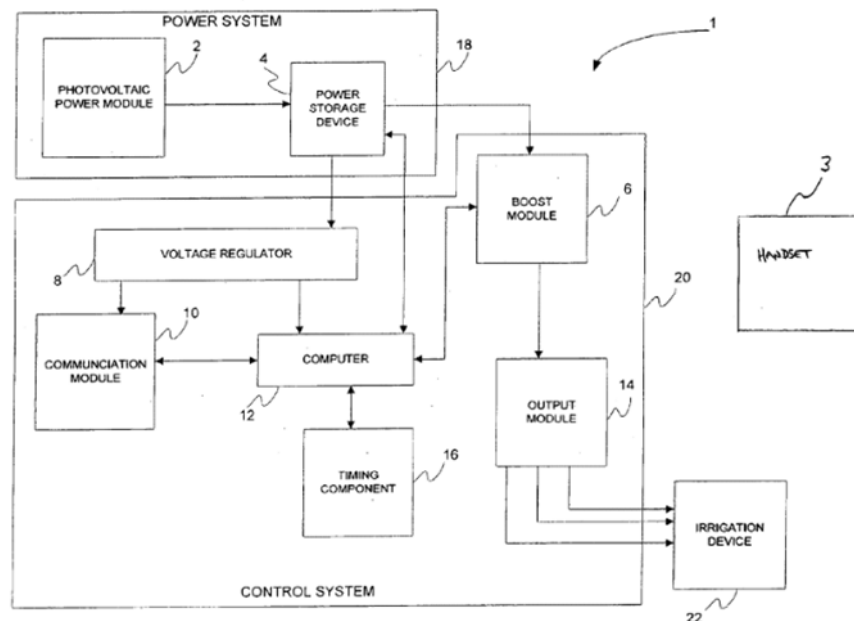
Claim construction

14. Before I can determine an opinion as to the validity of the patent, I must first construe the claims. This means interpreting the claims in the light of the description and drawings as instructed by section 125(1) of the Patents Act. In doing so I must interpret the claims in context through the eyes of the person skilled in the art. Ultimately the question is what the person skilled in the art would have understood the patentee to be using the language of the claims to mean. This approach has been confirmed in the decisions of the High Court in *Mylan v Yeda*[1] and the Court of Appeal in *Actavis v ICOS*[2]:

125.-(1) For the purposes of this Act an invention for a patent for which an application has been made or for which a patent has been granted shall, unless the context otherwise requires, be taken to be that specified in a claim of the specification of the application or patent, as the case may be, as interpreted by the description and any drawings contained in that specification, and the extent of the protection conferred by a patent or application for a patent shall be determined accordingly.

15. The requester has not put forward any arguments regarding the construction of the claims, and there have been no observations filed. The requester has helpfully broken claim 1 down into its constituent features and labelled them as follows:

M0101 A garden watering controller for operating a valve for controlling

---

[1] *Generics UK Ltd (t/a Mylan) v Yeda Research and Dev. Co. Ltd & Anor* [2017] EWHC 2629 (Pat)

[2] *Actavis Group & Ors v ICOS Corp & Eli Lilly & Co.* [2017] EWCA Civ 1671

supply of water into a garden watering arrangement,

M0102 the controller comprising wireless receiver means for wirelessly receiving programming data signals, and

M0103 [the controller comprising] a central unit for outputting control signals for operating the valve in dependence on the received programming data signals, wherein

M0104 the central unit is arranged to store a watering schedule received via the programming data signals and

M0105 [the central unit is] arranged to operate the valve in dependence on the stored watering schedule; and

M0106 the controller is arranged to:

M0107 a) receive user override control signals wirelessly as part of the programming data signals such as to cause immediate watering for a user selected period before the controller reverts to a state for operating the valve in dependence on the initially stored watering schedule; and/or

M0108 b) receive user override control signals wirelessly as part of the programming data signals such as to adjust a selected duration of watering specified in the schedule for a user selected period before the controller reverts to a state for operating the valve in dependence on the initially stored watering schedule.

15.   The requester does not set out who they consider the person skilled in the art to be. In my opinion they will be a designer or user of remote-controlled irrigation systems.

16.   It can be seen that within claim 1 features M0107 and M0108 are possible alternatives, or they may both be present. I will consider disclosure of either of these features, together with the features M0101-M0106, to show that the claim is anticipated.

17.   Features M0107 and M0108 each require that the controller *"reverts to a state for operating the valve in dependence on the initially stored schedule"* after they have performed the override operation. I consider the skilled person would understand this to mean that the system automatically reverts to the previous schedule at the end of the override action without any action by the user.

Novelty

18.   Section 1(1) of the Act reads:

A patent may be granted only for an invention in respect of the following conditions are satisfied, that is to say –
(a) the invention is new;

(b) it involves an inventive step…

Claim 1

19.   NPL1-NPL5 disclose a controller and at least one valve (sprinkler station) meeting M0101, and they describe how the controller can be connected wirelessly to a client device via a home router, thus disclosing M0102.

20.   The interface described in NPL1 allows a user to set program schedules (NPL1, page 6) and the controller outputs signals to the sprinkler valves to operate them in dependence on the set schedule, thus disclosing M0103 and M0105. NPL1 page 5-page 6 explains how the programs are stored in the controller memory as required M0104. In addition, the controller is also arranged to receive override control signals M0106 such as the "Run-Once" program described on page 8 of NPL1.

21.   Further, the discussion of the "Run-Once" program on page 8 of NPL1 describes how *"the normal program schedules will be temporarily interrupted until the Run-Once program finishes, at which point the controller will return back to the normal program mode"*. That is, the sprinklers will be wirelessly instructed to override the programmed schedule and cause immediate watering of the garden for the specified duration of time. It is further clarified on page 9 of NPL1 that if you want to run an ad-hoc program and would like the controller to automatically return back to program mode, the Run-Once feature should be used. This discloses feature M0107, one of the alternative options in claim 1. As such I consider NPL1 to show a lack of novelty in claim 1.

22.   The requester also points to the disclosure in NPL3. This shows that various sprinkler valves are wirelessly controlled from a client device such as a computer or mobile device. Each station can be programmed and edited using the client device (see page 9 – "Programs"). The controller then outputs signals at the appropriate time to open or close the chosen sprinkler valve(s) (NPL3, page 10). Thus M0101-M0106 are disclosed in NPL3.

23.   The "Run-Once" program is outlined in part 6 of the user manual, on page 8 of NPL3. As outlined above when discussing NPL1, this override allows programmed schedules to be terminated while a one-off watering takes place. This function allows a user to manually edit the duration of the run-once watering for each station. NPL3 specifically says that any existing program already running will be "terminated immediately" while the Run-Once function is used (page 8, line 7). Parts M0107 and M0108 of claim 1 each require that the controller "reverts to a state for operating the valve in dependence on the initially stored watering schedule". Although NPL3 clearly sets out that any existing programs which are running will be terminated, it is not clear from this document that the original watering schedule will be reinstated when the Run-Once program is finished. However this feature is clearly referenced in NPL1, page 8 so I am satisfied that it is a feature of the OpenSprinker system.

24.   NPL3 discloses on page 8, paragraph 1, that as part of the run-once operation, the watering time for each station can be manually edited. The requester asserts that this adjusting of a selected duration of watering time meets feature

M0108 of claim 1 and I agree.

25.   The requester also asserts that claim 1 lacks novelty with regards to the disclosure in PL4. PL4 relates to a solar power irrigation control system, which may comprise one or more solenoid-controlled irrigation valves (paragraph 0040). The irrigation controller is described in paragraph 0035 as including *"a microprocessor configured to control internal program operations, and a radio transceiver to receive programming instructions and provide data to a corresponding communication device (e.g. a wireless handset) operated by a user"*. Thus features M0101, M0102 are disclosed. Figure 15, step 310 sets out how the controller may open or close the irrigation valve in dependence on a received programming signal, so feature M0103 is also disclosed. Paragraph 0036 describes how the controller may operate the valves in accordance with a programmed irrigation schedule, so features M0104 and M0105 are disclosed.
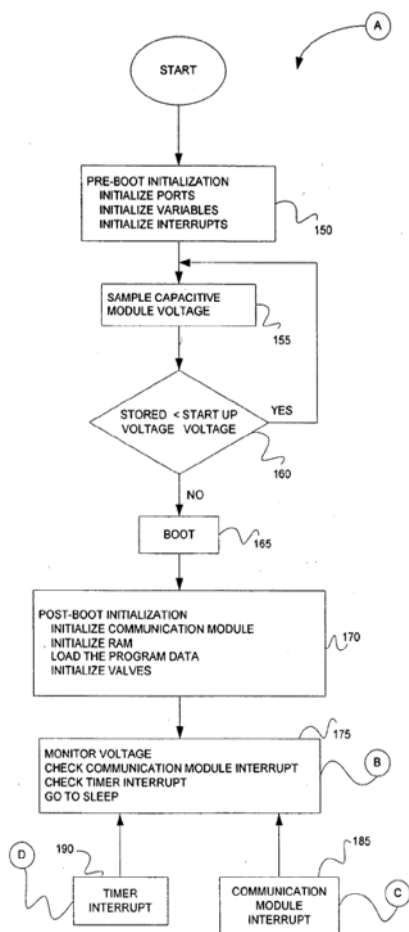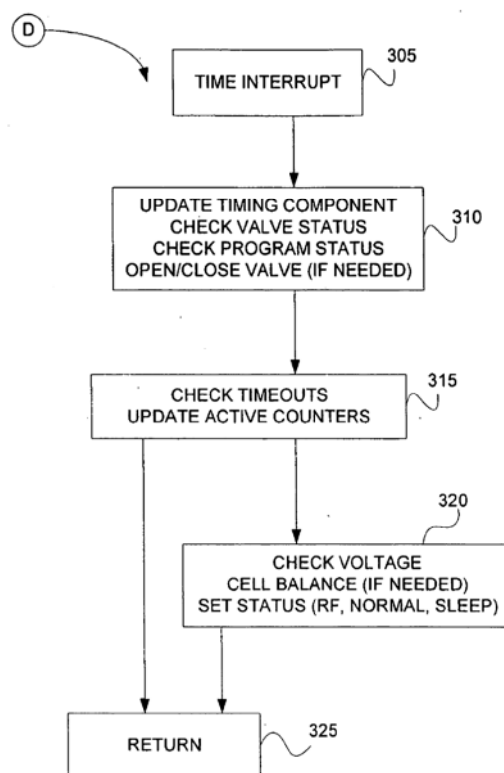

FIG. 12

FIG. 15

26.   Override control signals may be received by the controller (paragraph 0036) to start immediate watering or to water at a time which was not previously scheduled. The requester points to paragraph 0079 where reference is made to a "Manual Run counter (temporarily run for XX minutes)" to demonstrate that the override causes

immediate watering for a user selected period which is monitored by the counter described in paragraph 0079. Figure 15 sets out the process that is run by the controller when checking the counters for actions that may need to be taken or stopped in accordance with the programmed schedule or override. Paragraph 0079 sets out that if there are no actions to be taken the controller returns to process A, set out in figure 12.

27.   The requester suggests that the step of returning to program A where the controller is checking for a timer interrupt signifies that the valve returns to the initially stored program schedule. In particular they point me to box 170, where the instruction is given to "load the program data". I agree that figure 12 shows that the program data has been loaded by the communication module and is stored in the controller. The timer interrupt process 190 of figure 15 will be intermittently carried out after the program data has been stored by the controller and will include checking program status and carrying out actions (open/closing valves) as necessary (paragraph 0078). If one of those actions relates to the override manual run function then the counter will activate and the action will continue until it rides down to zero. This checking of the program for actions occurs every time a timer interrupt occurs and there is no indication that running the override stops that happening. As such I am of the opinion that PL4 does describe returning to the state for operating the valve in accordance with the initially stored watering program. Feature M0107 is disclosed by PL4.

28.   Thus in my opinion both OpenSprinkler and PL4 show that claim 1 lacks novelty.

29.   The requester goes on to assert a lack of novelty in a number of the dependent claims and I will now consider them in order.

Claim 2

30.   Claim 2 refers to the controller having a sleep mode in which it does not conduct wireless communication, and a wireless communication mode in which it looks for programming data signals. The interval between the respective wireless communication modes is referred to as the "wakeup interval". Claim 2 also sets out that this interval is variable depending upon predetermined conditions.

31.   PL 4 describes in paragraph 0054 how the transceiver which receives wireless communication signals may be *"generally in an inactive state, and "wake-up" to an active state once every 10 seconds, for a duration of about 200msec, to determine if there is a message to be received".* Thus it discloses the wakeup interval of claim 2. Paragraph 0054 goes on to state that the time of inactivity can be *"predetermined, or it can be dynamically determined based, for example, the probability of receiving a signal".* Thus I agree that the features of claim 2 are disclosed in PL4.

Claim 4

32.   Claim 4 relates to a controller where the watering schedule stored or created is dependent on sunrise and/or sunset times determined by the controller in

dependence on "geo-location data". The skilled person would understand "geo-location data" to be location data that is automatically established by means of the IP address. Page 15, paragraph 4 of the description states that *"the server is arranged under software to acquire geo-location data from the hub 4 during a set-up process"*. The requester refers to the blog in NPL5 which describes a watering schedule dependent on sunrise and sunset times. NPL5, page 9, paragraph 3 details that the controller can receive *"real-time weather data"*, and that the timezone can be automatically determined based on location. However, it clearly says that this takes place *"once you set your location"*, which implies some sort of action taken by the user to input the location. There is no clear disclosure of the sunset and/or sunrise times being automatically determined from *geo-location data*, rather it is determined from a location input by the user. As such, I do not consider NPL5 to show a lack of novelty of claim 4.

Claim 7

33.   Claim 7 relates to a controller system comprising a server arranged under control of software for communicating via a network with the garden controller, and a client device for communicating via network with the controller and accepting user inputs. The requester suggests that NPL1 refers, on page 2, last paragraph, to a mobile device which can be connected to the web homepage by typing in an IP address. This demonstrates the existence of a server, client device which accepts inputs (e.g. control buttons, page 3 of NPL1), and a network. I agree with the requester that claim 7 lacks novelty in light of NPL1.

Claim 8

34.   Claim 8 is directed to the client device arranged under the control of software to control the garden watering controller to carry out the functions set out in claim 1. The requester directs me to NPL1, page 2, last paragraphs, where it describes a client device in the form of a computer or a mobile device. It is clear from NPL1 that this device communicates via a network with the controller. Page 3 of NP1 describes control buttons via which the user can input control instructions. As set out in my analysis of the novelty of claim 1, these instructions include immediate watering of a garden by the controller for a selected period before reverting back to an initially stored schedule (NPL1, page 8). Thus claim 8 is disclosed in NPL1.

35.   The requester also asserts that claim 8 is not novel in light of NPL3. As stated above in relation to claim 1, it is my opinion that NPL3 does not clearly state that the controller reverts back to the programmed watering schedule after the run-once program. However this is clearly stated in NPL1 so I consider claim 8 to lack novelty in light of the OpenSprinkler system described by NPL3 when read as part of NPL1-NPL5.

Claim 9

36.   Claim 9 relates to a client device which can accept user inputs to generate a watering schedule for the program controller. As argued by the requester, this is clearly shown in NPL1, pages 5 and 6, which detail the steps taken by a user to program or adapt the schedule using the "add a New Program" button or "Modify"

button. As stated with regards to previous claims, the client device may be a computer or a mobile device. Claim 9 is not novel in light of NPL1.

Claim 11

37.   Claim 11 relates to a client device arranged to accept a user input for creating a watering schedule which is dependent on sunrise/ and or sunset times determined in dependence on the geolocation data. This claim has a significant overlap with claim 4 so I refer to my reasoning there. The requester refers to the blog post in NPL5 which discusses creating a watering schedule based on sunrise/sunset times. I consider that the skilled person would understand "geo-location data" to be location data that is automatically established. There is no clear disclosure in NPL5 of the sunset and/or sunrise times being automatically determined, rather it is determined from a location input by the user. As such, I do not consider NPL5 to show a lack of novelty of claim 11.

Claim 12

38.   Claim 12 refers to a client device arranged to indicate to the user the current weather conditions at the location of the garden watering controller determined in dependence on acquired weather information. The requester references NPL3, page 6, point 4, which clearly sets out that the location input into the system is used to obtain weather data online. Page 14, paragraph 9 clarifies that this may be real-time weather data. Page 5 of NPL3 shows a weather icon indicating the current weather conditions. I consider claim 12 to lack novelty in light of the OpenSprinkler system.

Claim 14

39.   Claim 14 relates to a server arranged under the control of software for communication via a network with a client device which accepts inputs and a controller which carries out the functions of claim 1. As argued by the requester, NPL1 clearly describes a control device which communicates via a network with the client device. Thus the server of claim 14 is considered to be disclosed.

Claim 18

40.   Claim 18 relates to a computer program comprising code which when loaded causes the computer to operate as a server as claimed in claim 14 or a client device as claimed in claim 8. Since I consider the relevant server and client device to have been disclosed in NPL1, I also consider the computer program or code which runs on these devices and causes them to operated in the stated way to be implicitly disclosed. Claim 18 is not novel in light of NPL1.

Inventive Step

41.   The requester also asserts that several dependent claims are not inventive.

42.   The requester does not set out who they consider the person skilled in the art to be. In my opinion they will be a designer or user of remotely controlled irrigation systems.

43.   The requester considers that the common general knowledge of the skilled person will include that it is favourable for electronic devices to be operated independently of a wired power supply by making them battery operated. They assert that the skilled person would seek to improve battery life of a battery-operated device. They also consider that it is part of the skilled person's common general knowledge that battery life can be extended with the help of a periodically paused operation cycle.

44.   I do not agree that a skilled person would automatically feel it is *favourable* to adapt a mains operated device to make it battery operated instead. This may mean that it can be used where there is no mains power, but the very issue of battery life is one that can easily be avoided by using mains power where possible. I agree that energy conservation, which may involve turning off certain components for periods of time, would be an obvious consideration for the skilled person if they were presented with a battery powered controller. However, I do not agree that the skilled person would be motivated to adapt mains powered devices to have such energy conservation features. In PL4, where electrical energy is stored in a capacitive module, it is stated in paragraph 0004 *"In systems with a wired AC or DC power source, the energy efficiency of the irrigation controller is usually not a concern"*.

Claims 2 and 3

45.   Since claim 3 is dependent on claim 2 and claim 2 is considered to be anticipated by PL4, I will also consider whether claim 3 is inventive in light of PL4 plus common general knowledge of the skilled person.

46.   Claim 3 requires the wakeup interval to be decreased if user override signals are received. PL4 discloses that the wakeup interval can be *"dynamically determined, based on, for example, the probability of receiving a signal"*. Thus, it is clear from PL4 that the wakeup interval may change when the system is more likely to receive another signal. If the system had recently received override control signals it would be obvious to a skilled person that the probability of receiving another signal is increased. As such they would consider arranging the system so that it has a reduced wake-up interval in these circumstances. Claim 3 does not contain an inventive step in light of PL4 plus common general knowledge.

Claim 5

47.   Claim 5 refers to a controller which comprises a "manual override control that is arranged to operate the valve to allow immediate watering for a user selected period". It can be understood from the description on page 11 and figure 1 that the manual override control 24 is a means of operating the controller by directly manually interacting with it, rather than by sending wireless signals from a client device. The requester refers to NPL3 (page 4, bottom table) which discloses a button on the controller which is used to manually start "an existing program or a test program". NPL3 does not disclose that the button starts a manual override function. They also point to paragraph 0052 of PL4, which states that the communication module 10, which is part of the controller, can accept operational signals from a user, for example by means of buttons. They suggest that these buttons can be used to

operate the valve to provide immediate watering, although this is not explicitly stated. Thus, they assert that it would be obvious for a skilled person to add a manual override control feature which does not depend on an additional client. I agree it is clear that manual control at the controller itself is envisaged by NPL3 and PL4. I also agree that the skilled person would be aware from their common general knowledge that wireless override functions are known in the field, as demonstrated by PL4 and NPL1. They would also understand that this is a possible function that could be ascribed to the manual buttons present on the controller of NPL3 or PL4 and that it would be advantageous to do so. As such I agree that claim 5 does not involve an inventive step in light of a combination of NPL3 and PL4, or common general knowledge.

Claim 6

48.   The requester argues that claim 6 is not inventive with regards to NPL1-NPL5 in combination with D1. Claim 6 refers to the feature of a tap mountable controller unit which controls the supply of water from a tap into a garden watering arrangement. D1 is PCT patent application WO2004080161 A1. This application clearly describes a remote-controlled tap mountable garden watering controller unit. The requester argues that having a garden watering controller and a valve in a single housing reduces installation effort for a user. They also argue that it is favourable to have a second redundant means of controlling the water flow independently of a garden water controller (i.e. the tap), so it is obvious to mount the controller directly at this upstream element. I agree that a second redundant means of controlling the water flow would be useful, but the tap will still exist regardless of where the controller is. I do not agree that a skilled person would necessarily consider the controller and the tap best placed next to each other. In terms of wireless communication from a router, it is often easier and more effective to have the controller based inside within good wifi range and not disrupted by external walls. However, the location of the controller is not something that would require inventive thinking, it would depend on where was most convenient for the user. The skilled person would use their common general knowledge and knowledge of the environment to decide where this might be. Also, NPL3, page 3, line 3 states that the controller should be placed in a waterproof enclosure if it is to be used outdoors, so outdoor placement is clearly contemplated. Given that it is contemplated for the controller to be used outdoors, I agree with the requester that it would be obvious to place the OpenSprinkler controller of NPL1-NPL5 outside at the tap. Claim 6 lacks an inventive step with regards to NPL1-NPL5 combined with D1 and the common general knowledge of the skilled person.

Claim 10

49.   The requester argues that claim 10 is not inventive with regards to the disclosure in NPL1 combined with PL4.

50.   Claim 10 refers to a "wake up interval" of the garden controller. This feature is also present in claim 2. Claim 10 further requires a client device which receives a user input for adjusting the wake-up interval. The requester refers to PL4, which they assert shows a client device for receiving user commands for adjusting the wake-up interval. They refer to paragraph 0070 of PL4 for this disclosure. Paragraph 0070

refs to the sleep time being *"set to be periodic for a predetermined amount of time, or it can be dynamically set based on, for example, the volume of operational signals being received or sent, the time of day, the date, the diagnostic conditions of the irrigation controller or other conditions present in the controller"*. It does not clearly state that it is set using a client device which accepts a user input.

51.   The requester then refers to NPL1, which describes using a client device for communicating in a network with a garden controller. The device in NPL1 is not battery operated. However, the requester argues that because the controller has a "real-time clock" built in to allow time keeping even when the power is lost, they would try to achieve further independent operation of the controller without relying on a wired power supply. They consider it obvious for a skilled person, in light of PL4 set out above, to modify the controller of NPL1 to be battery operated, modify the battery operated controller to have an sleep mode to conserve battery power, modify the sleep mode to have adjustable wake up intervals, and finally, to allow a user to use the client device to adjust the wake up interval. PL4 has a solar powered controller which has a dynamic wake up interval to reduce energy use and to find a balance between responsive behaviour and energy-saving behaviour. Although PL4 discloses a variable sleep interval, it does not clearly disclose a client device arranged to accept a user input for adjusting the wake up interval - it could be that the controller is pre-programmed with instructions for how the sleep interval may be varied depending on other conditions.

52.   I agree that energy conservation, which may involve turning off certain components for periods of time, would be an obvious consideration for the skilled person if they were presented with a battery powered controller. However, NPL1 is not a battery-powered controller, so in my opinion the skilled person would not be motivated to adapt it to have such energy conservation features without using hindsight. In PL4, where electrical energy is stored in a capacitive module, it is stated in paragraph 0004 *"In systems with a wired AC or DC power source, the energy efficiency of the irrigation controller is usually not a concern"*. Even if the skilled person did feel that using a battery powered device would be an improvement to OpenSprinkler, and that having an inactive period for the controller would achieve better battery life, it is not, in my opinion, obvious to then also provide a wakeup period which is adjustable using an input of a client device without using hindsight.

Claim 13

53.   Claim 13 relates to a client device which indicates to a user if a weather change indication signal is issued in dependence on acquired weather information. The requester considers that NPL1-NPL5 show the features of claim 1 and also the current weather conditions. They also refer to D11, US patent application US20130035774. This application describes a remote-controlled sprinkler system controller which reacts to local weather data. Reference is made to paragraph 0060 of D11 which states that a user can "manage and monitor" the sprinkler system using a remote device – i.e. a client device. Paragraph 0046 is also referenced, which explains how the system can react to past, current or future weather data and adjust settings in the system. I accept that in order for a user to "monitor" the system the remote device must display information about it to the user. I do not agree that this necessarily discloses indicating to the user that the weather has changed, although

D11 does show how that system looks for weather change data. The requester considers that a skilled person would find it obvious to modify the weather icon shown in video NPL2 and the user manual NPL3, which indicate the current weather conditions, to indicate a weather change. In my opinion a skilled person would be aware, as part of their common general knowledge, that local weather data would be acquired over time and they would be aware that changes in this information would be useful when making decisions about watering a garden. They would also be aware that the client device is used for providing the user with information about the sprinkler system as well as instructing it. As such I consider that it would not be inventive to indicate to a user that a weather change has happened. Claim 13 lacks an inventive step in light of a combination of NPL1-NPL5 and D11 with common general knowledge.

Claim 15

54.   Claim 15 refers to a server as set out in claim 14, which communicates with a controller as claimed in claims 1-5, wherein the server can determine sunrise and/or sunset times in dependence on geo-location data. The requester refers to the blog post in NPL5 which discusses creating a watering schedule based on sunrise/sunset times. Reference is made at page 9, paragraph 3 to a mobile interface, and I accept that this discloses an interface on a mobile client device such as a mobile phone. Page 1 of NPL5 also states that sunrise/sunset times can be used in program settings. As set out in my discussions of claim 4 and claim 11, I consider the skilled person would understand "geo-location data" to be location data that is automatically established. There is no clear disclosure in NPL5 of the sunset and/or sunrise times being automatically determined, rather it is determined from a location input by the user (NPL5, page 9, paragraph 3) "once you set your location, the firmware can automatically determine your time zone and DST".

55.   Using geo-location data to establish someone's whereabouts or to provide them with information is commonly known across many technologies. In my opinion a skilled person would understand that the same data could be obtained by either acquiring it using geo-location data or by inputting a location. As such, although I considered claims 4 and 12 which have similar features to be novel, I think it would be obvious to use geo-location data rather than to set a location. I do not consider the use of geo-location to add an inventive step to claim 15.

Claim 16

56.   Claim 16 relates to a server which acquires weather information in dependence on geo-location data. The requester refers to NPL3 and also to their arguments with regards to claim 13. Claim 13 does not require the use of geo-location data. NPL3, as accepted with regards to claim 13, does indicate the current weather data to the user, and it acquires this weather data dependent on the user's location (see NPL3, page 6, part 4). This can be real-time weather data – see NPL3, page 14, paragraph 9. It seems from page 6, part 4, bullet 1 that the information regarding location is input by the user as this part of NPL3 sets out various input methods. There is no disclosure in NPL1-NPL5 of using acquired geo-location data to obtain real time weather data. However, as explained above, I consider a skilled person to be well aware of both methods using location to acquire data so using geo-

location acquired data rather than input location data would be an obvious modification for a skilled person to make. As such, I consider claim 16 to lack an inventive step with regards to NPL3.

57.   Claim 17 is dependent on claim 16. It requires a server (when arranged to communicate with a controller of claim 1) to analyse weather conditions at the location of the controller and output a weather change signal if predetermined conditions are met. The requester has argued that analysing the weather data to see if it has rained, for example, and not watering the garden if it has, would be obvious to the skilled person. I agree with the requester that if claim 16 is considered obvious then it follows that the analysis of the acquired data would also be an obvious step for a skilled person who wanted to make use of it. Claim 17 is not inventive.

Opinion

58.   In my opinion, based on the arguments presented by the requester, claims 1, 7, 8, 9, 12, 14 and 18 lack novelty in light of OpenSprinkler, as evidenced by NPL1-NPL5. I also consider claims 1 and 2 to lack novelty in light of the disclosure in PL4. Thus patent GB2538504 is not valid.

59.   I consider claim 3 to lack an inventive step in light of PL4 and the common general knowledge of the skilled person.

60.   I consider claim 5 to lack an inventive step in light of the OpenSprinkler system as evidenced by NPL1-NPL5 plus PL4 or common general knowledge.

61.   I consider claim 6 to lack an inventive step with regards to the OpenSprinkler system combined with D1 and common general knowledge.

62.   It is my opinion that claim 13 lacks an inventive step in light of the OpenSprinkler system as evidenced by documents NPL1-NPL5 in combination with D11 and common general knowledge.

63.   Claims 15, 16 and 17 are also considered to lack an inventive step in light of the OpenSprinkler system combined with common general knowledge.

64.   I have considered claims 4 and 11 and the requester's comments regarding these claims. I consider them to be novel. I have not been asked to consider whether they contain an inventive step.

65.   I have considered claim 10 with regards to the arguments set out by the requester. I do not consider these particular arguments to show that claim 10 lacks an inventive step.

Application for review

66.   Under section 74B and rule 98, the proprietor may, within three months of the date of issue of this opinion, apply to the comptroller for a review of the opinion.

Emma Tonner
Examiner

_____

NOTE

This opinion is not based on the outcome of fully litigated proceedings. Rather, it is based on whatever material the persons requesting the opinion and filing observations have chosen to put before the Office.