How to obtain Feed in Tariff (FIT) payments for a grid connected Powerspout installation in England or Wales

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Context:
The legislation applicable to FIT accreditation for micro hydro in England and Wales has changed repeatedly and is likely to change further in the future.
As of 1 December 2012, the route to accreditation for hydro installations of all sizes was taken out of the Micro-generation Certification Scheme (MCS) and replaced by the ROOFIT (Renewables Obligation Order Feed in Tariff) mechanism.
This change meant that Powerspout turbines, which had never gained accreditation under MCS and were therefore formerly precluded from being eligible for FITs, no longer had to be accredited in this way to be eligible.
The change also meant that a Powerspout can now be installed by anybody, and does not have to be put in by an MCS accredited installer.
Most people putting in a Powerspout will be mindful that their installation ought to have permission for water abstraction from The Environment Agency (in England) or Natural Resources Wales (in Wales).
Additionally, most schemes will require Planning Permission (from the local council or National Park, if within one) even though no building to house the Powerspout is anticipated.
The thing to know about all these permissions is that at no point in the application process to Ofgem (Office of the Gas and Electricity Markets Authority) for accreditation for FITs do you have to say whether you have obtained planning approval or permission for water abstraction. Strange, but that's the way it is, at least at the date of writing. So if you choose to do your scheme "below the bureaucratic radar", you can still apply for FITs.

To do everything "above board", the following are the steps required, but they can be done retrospectively, after you have installed and commissioned your turbine, though you might be made to make alterations if what you have done does not meet their requirements:

1. Abstraction / water impoundment licence, including meeting fisheries conditions
2. Planning permission for abstraction site, pipeline and turbine site
3. Notification to the District Network Operator (DNO) within 28 days of connecting to the grid
4. Application to OFGEM for accreditation for FITS under the ROOFIT mechanism
5. Application to your chosen FIT licensee (usually the company supplying your grid energy) by providing them with the accreditation number given you by OFGEM.

The timing of these steps is: 1, 2 and 4 can be done concurrently, 3 MUST be done within the time scale given, for safety reasons for power line workers, and 5 can only be done when 4 has been granted.

So my "How to" steps for dealing with just the OFGEM stage are as follows, and these can be found hidden, mostly, in the official guidance, version 6, on the OFGEM website here

1. Set up your Ofgem account at https://www.renewablesandchp.ofgem.gov.uk/ At your first visit to the web site, don't bother to enter a username and password. Just click on "register" and you will be led through forms to enter your account details. Once you have registered, you can go to your account at any future time directly from the login page, using the username and password you set up when registering, then clicking on "go". Don't click on "register" again which is very near to "go".

2. You will now need to fill in multiple questions regarding your Powerspout installation by clicking on Accreditation > Apply for new accreditation. There are a lot to answer. You don't have to do it in one sitting. You can log out and come back to it. At each visit save what you have entered but

do not submit it until all the questions have been completed and you have ready for uploading all the information (as attachments) they request.

3. Most questions are self explanatory. TIC and DNC can however be confusing. For a Powerspout connecting to the grid via an inverter, which itself consumes some of the generated power, TIC (total installed capacity) is the power into the inverter. This will be the figure the EcoInnovation Powerspout calculator gave you for "power to your shed", - so long as your installation doesn't have too many inefficiencies to detract from the calculated figure, and so long as your figures entered to the calculator were correct.

4. DNC (declared net capacity) is the TIC less the power consumed by the inverter, so it is the power out from the inverter to the grid. The inverter display, whilst not being totally accurate, will give an acceptable figure for DNC. It will usually be 50 to 100 watts less than TIC. For my scheme the TIC was entered as 0.8 kW and the DNC as 0.75kW.

5. The figures for TIC and DNC are based on the electrical power generated at the maximum water flow you anticipate operating your Powerspout on continuously. Since you can actually make use of more water when it is available, simply by putting in bigger nozzles, deciding what is the maximum flow, and by extension what the TIC and DNC are, becomes a rather theoretical exercise of plucking a maximum flow figure from thin air. But you have to choose a figure, because TIC is a very important parameter for Ofgem. Choose a figure and stick with it. Don't lose sleep if it may not be the all time maximum you ever get continuously from your installation.

6. QF154 asks for the MPAN (Meter Point Administration Number) of your electricity meter. This, in its full form, is a 21 digit number but you only need to put in the terminal 13 digits. You can often find it on your electricity bill or if not there, ask your electricity supplier to give it to you.

7. QF528 asks about how exported electricity will be measured. You will be unlikely to have an export meter (you will just have a generation meter) so the answer is "it will be deemed". Later on when you apply to your FIT licensee (the company who actually pays you) the accepted rate for hydro deeming is 75% of total generation. This is very good news because a Powerspout's output will always be so low that almost all you generate will be used in the house, but nevertheless you'll get paid export tariff (in addition to the generation tariff) for 75% of what you produce.

8. QI100 asks you to provide a single line, schematic drawing of the generating station. This should conform to the specification laid out on page 22 of the G83/2 document found here, and this will have been the same diagram you will have needed to submit to your DNO (District Network Operator) informing them that you have connected to their grid. You will also have to display this diagram in your utilities meter box so their workers are informed that there is an SSEG (small scale embedded generator) at this address.

9. After you have finally completed all the questions and attached any supporting documents to be uploaded with the completed questionnaire, you can submit it. Within 24 hours you will get back a "**Receipt of accreditation application"** by email. This will confirm the date you entered under QF461, your eligibility (sometimes called effective) date. It is the date which, when your application is finally successful some 6 months down the line, marks the start of when you can claim FITs payments from. You will have entered under QF460 what your meter reading was on this date, so no matter how long OFGEM take to process your application, when it comes through, you will get paid from that date.

10. Ofgem operates a 3 stage review process and it takes time. You will receive 'queries' about your application as it moves through the stages and you are notified of these by email but you have to log in to your Ofgem account to deal with them. For me they asked for independent confirmation of TIC. After some to-ing and fro-ing, they eventually found satisfaction in my

submitting a copy of EcoInnovation's Calculator for my site, which had to have the site name referenced at the top, and a supporting email from Michael Lawley, as the manufacturer, confirming the accuracy / truth of the figures.

11. They may also ask for a copy of the G83 test figures obtained by the installer at the time of commissioning. If you installed and commissioned the scheme yourself, this request can appear daunting as you will not have done these tests. But the question has been asked because the Ofgem reviewer has not properly understood the kind of hydro a Powerspout is, and that is because there are not many of them around. These G83 tests really only apply to hydro sites which generate at mains voltage and connect directly to the grid (Type B installations in G83 parlance). Since a Powerspout generates a dc voltage and interfaces with the grid via an inverter (Type A installations), the G83 regulations only require that the test results for the inverter be supplied. Inverters are allowed to be "type tested" in factory and it is sufficient to supply Ofgem with the signed and dated type test certificate for your inverter. For an SMA SunnyBoy 1200 inverter, this is available here. Essentially, the legislation surrounding the commissioning of a Powerspout is no different from that for photo voltaic installations, except that PV FITs applications pass through the MCS route, not the ROOFIT route. But take note that this similarity to PV will mean that you must have a qualified electrician to do the final wiring and sign off your grid connection as being compliant with Regs 4 & 7 of the Building Regs 2010 for England and Wales. Any electrician who regularly does PV grid connections can do this for you. The certificate he supplies will be one of the documents you will have to upload to Ofgem as an attachment.

12. A word about G83 regulations because they are changing. G83 is the industry standard which defines the requirements of electrical equipment that interfaces an SSEG (small scale embedded generator) with the grid. The original document, G83/1, which was amended in June 2008 to become G83/1-1, has been superceded now by G83/2. This was issued in December 2012 but only comes into force fully on 1 March 2014. This 'grace period' was in recognition that equipment manufacturers require time to implement the changes incorporated in G83/2. What it does mean, if you are installing your Powerspout after 1 March 2014, is that you must have an inverter which is G83/2 compliant, not just G83/1-1 compliant. Beware suppliers off-loading old stock cheaply which you will not legally be able to use. You can read about the essential differences between G83/1-1 and G83/2 here. Full details of G83/2 can be found under the link in 7 above.

13. The process of applying for Ofgem accreditation can be exasperating. They are not quick. Sending a polite enquiry asking where your application has got to in their system seemed to get results each time I did it, - but I needed to do it repeatedly. Applying for planning permission and an abstraction licence at the same time as your Ofgem accreditation can make you go bananas. But stick at it. Bureaucracy is there to be defeated and it is great when you win through ! You will get an email headed "**Confirmation of FIT accreditation".** Open a bottle !