

# **EXHIBIT 53**

# EXHIBIT 5

**INITIAL QUERIES FOR M. ENG. FABIO PENON AS TO  
MEASUREMENTS OF 1 MW PLANT  
(at 7861 NW 46<sup>th</sup> Street, Doral, Florida; February 16-17, 2016)**

M. Eng. Fabio Penon:

I wanted to raise with you, and I was hoping you would address, several issues that surfaced during the time we were in Doral at the location of the 1 MW Plant. This is not an exhaustive list of the issues I identified or that we discussed, but they do represent some of the more glaring concerns that were identified.

1. *The flow meter used.*

The turbine flow meter used for your measurements was manufactured by Apator PoWoGaz. The model number is MWN130-80-NC.

The Apator PoWoGaz's device label clearly states that the unit has a minimum operational flow rate of 1.6 m<sup>3</sup>/hour. That is a minimum of 38.4 m<sup>3</sup>/day. Using 977.8 kg/m<sup>3</sup> as the density of water at 70° C, the minimum operational mass flow rate measurable with this sensor is 37,548 kg/day. With few exceptions, your daily valuation reports reflect a flow rate clearly below this level. How can the measurements of the flow meter be valid when they are consistently below the minimum operating value?

The flow meter requires that the entire pipe volume be full of liquid to function properly, as described in the Apator PoWoGaz Operating Instructions [section 6.6 in document I-EN-2-003/2013, Operating Instructions, Flange water meters DN40 - 500]. The visible iron stain waterline marks on the static vanes indicate that the pipe was not continuously full of liquid, as required by the manufacturer's specifications, but rather had a substantial portion free of liquid. *See Exhibit A.* How can the measurements of the flow meter be valid when the pipe volume was far less than full?

2. *The consistency of the reported flow rate statistics.*

At different points in time during the assumed 350 operational days of the "test" you were measuring, a number of the reactors were turned off (apparently for repair). At even more points in time, different units within the reactors were either turned off or simply disabled. Yet there does not appear to be any impact on the mass flow rate in the system. How is that a credible outcome?

In fact, from June 30, 2015 through July 27, 2015, the effective flowed water in the unit was, according to your daily valuation report for that period, *36,000 Kg/d on each and every day*, without deviation. *See Exhibit B.* How is that plausible? It should be virtually impossible to have that level of consistency even over just a one-week period, let alone a one-month period.

3. *The number of reactor units in operation varied substantially over time.*

As discussed on February 16, 2016 while at the location, 21 of the 64 units in the 4 large reactors had clearly been disabled, leaving only 43 of those 64 units that may have been operational. Also, all 51 of the smaller units were disabled. *See Exhibit C* (examples).

Similarly, at the time you completed the “MW1-USA electrical measurement” chart on October 13, 2015, out of operation were all 51 of the smaller units, one of the large reactors (containing 16 units), and 17 of the 48 units in the remaining 3 large reactors. That means only 31 units were operational. In contrast, according to your February 2015 report, 111 units were operational at the beginning of the “test.”

Your reports do not account for these substantial variations. There is no explanation as to how the energy output at times increased or stayed constant during periods when a substantial number of the units were inoperable and/or the average power supply into the system was decreased. There is also no explanation as to how other variables, such as the flow rate, were not impacted in an expected manner by changes in the number of operating units.

4. *System alterations on the night of February 16 or the morning of February 17.*

As reflected in the images shown in the last two exhibits, the system was altered after you and we left the location on February 16. The water level in the reservoir tank is clearly different as between (a) late in the afternoon of February 16, after you had instructed that the system be shut down, and (b) on the morning of February 17, when you continued to conduct your measurements and you collected your measurement equipment. *See Exhibit D*. Also, the pump water lines in the reactor compartment contained biofoul in the lines on the afternoon of February 16, but those lines were flushed sometime thereafter and were clean as of the morning of February 17. *See Exhibit E*. How can you opine as to your measurements of the system when the environment was altered during your measurement period?

5. *The flow of steam through the pipe to J.M. Products.*

You stated that the pressure of the steam that was available to J.M. Products (JMP) was nominally atmospheric pressure (0 kilo Pascals gauge (kPaG) or 14.7 psia). The steam passed through a stretch of insulated pipe that was at least 6 meters long before entering the JMP space. (Presumably there was additional steam pipe on the JMP side.) According to the data you have reported, the conserved mass flow rate of the system from February to November 2015 was on average 33,558 kg/day (1398 kg/h) and the temperature of the water and steam were on average 68.7° C and 102.8° C, respectively. The steam pressure was reported (for the entire period) to be 0 kPaG and the piping is DN40.

For steam to flow, a pressure differential is required to overcome the losses in the pipe. Given the foregoing, this would require that the pressure on the JMP side of the building was significantly below atmospheric (vacuum) and that the steam would flow at extraordinary velocity. But this was obviously not the situation present at the location.

Given your reported measurements, how do you account for the lack of an adequate pressure differential to provide for the flow of steam?

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As I noted above, the questions above are not all of the questions I have from my visit to the 1 MW Plant location, but if you can address these, it would be a good start to me better understanding what you were measuring and how you were measuring it in connection with the 1 MW Plant. (Just to be clear, I am not asking you, and I do not plan to ask you, about the license agreement or whether you are an ERV under the agreement. I am trying to focus just on the test and its measurement.)