

Slide 1



Links and transcriptions for 'The Many Faces of 'smart' Meters by: HaltMA smartMeters.org

See the 28 minute video or any 1 of the 7 segments at

<https://vimeo.com/user27578515>

Also, Watch for it on WCCA TV Chanel 13, Worcester

<http://wccatv.com/>

Slide 2



List of Resistance groups:

<http://www.takebackyourpower.net/directory/usa/>

Map of Resistance Groups:

https://mapsengine.google.com/map/edit?mid=z0Le6eEaMmvw.k_bIJTDTmmi8

https://mapsengine.google.com/map/u/0/edit?hl=en&authuser=0&mid=z0Le6eEaMmvw.k_bIJTDTmmi8

Shell Game (HarryAnderson)

<https://www.youtube.com/watch?v=w7YSXcp8tpc>

MUSIC: D. Michael Loveridge

Slide 3



Official City of Worcester Video (time references throughout):

<http://view.earthchannel.com/PlayerController.aspx?PGD=worcema&eld=118>

HMSM video:

<http://vimeo.com/92833176>

Worcester, MA City Council Public Service Committee Meeting: April 23, 2014

COUNCILORS, left to right: Moe Bergman, Chair Konnie Lukes & Gary Rosen (speaking)

ACROSS THE TABLE: William Jones, Director of National Grid 'smart' meter pilot

Karen Belliveau, abutter to proposed 90 'smart' data tower site

1:01:20: ROSEN: I'd be lax in my duties, in my responsibilities as a citizen, resident of Worcester and as District 5 City Councilor if I just ignored all these issues: the fires, the safety, the privacy, the security, the higher rates, the health issues, it goes on and on... the potential for hacking. I'd be foolish to ignore that as you as you people do. You ignore it all and you tell us that this is great stuff. I'm telling you I don't think it such great stuff. I don't think it's great stuff so I have to open my mouth and I have to speak up and that's what I'm doing.

SEGMENT 1: \$\$\$

"fund verb: to provide money for (something)"

<http://www.merriam-webster.com/dictionary/fund>

Slide 4



Slide 5



Official City of Worcester Video (time references throughout):

<http://view.earthchannel.com/PlayerController.aspx?PGD=worcema&eld=118>

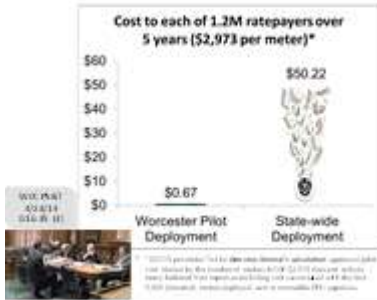
20:15 JONES: We have stated there is no cost

20:18 LUKES: So how is the program being funded?

20:20: JONES: The program is being funded through a DPU order. So...

20:30: LUKES: State funded?

20:31: JONES: Through our ratepayers, correct.



Official City of Worcester Video (time references throughout):

<http://view.earthchannel.com/PlayerController.aspx?PGD=worcema&eld=118>

[http://web1.env.state.ma.us/DPU/FileRoomAPI/api/Attachments/Get/?path=11-](http://web1.env.state.ma.us/DPU/FileRoomAPI/api/Attachments/Get/?path=11-129%2f53012aginbf.pdf)

[129%2f53012aginbf.pdf](#)

(PAGE 4 SCROLLING) The Company's proposed pilot program would encompass around 15,000 homes and businesses in the Worcester area with an estimated cost of \$44.6 million (or around \$2,973 per meter). As stated above, and as will be described more fully below, the Attorney General believes that the Department should not approve the Company's smart grid pilot proposal as filed.

(PAGE 9 SCROLLING)

IV. ARGUMENT A. THE COMPANY'S PILOT IS TOO LARGE AND EXPENSIVE

<http://web1.env.state.ma.us/DPU/FileRoomAPI/api/Attachments/Get/?path=11-129%2f2812agincm.pdf>

(PAGE 9 SCROLLING) The Company's proposed pilot program would encompass 15,000 homes and business in the Worcester area with an estimated cost of \$44.6 million (or \$2,973 per meter). As stated above, and as will be described more fully below, the Attorney General believes that the Department should not approve the Company's Pilot.

\$2,973 DOES NOT INCLUDE, AMONG OTHERS, the 'early field trial' meters (supposedly donated, but many expenses anyway), thousands of DPU man hours, and DPU expenses, Raab Associates, Attorney General's office, etc. Also, it seems that Grafton deployment was not accounted for, nor all the legal, etc and re-engineering for Tatnuck towers, etc.

Slide 6

Slide 7



Official City of Worcester Video (time references throughout):

<http://view.earthchannel.com/PlayerController.aspx?PGD=worcema&eld=118>

48:33: ROSEN: I've grown kind of fond of that meter. So what's wrong with the meter that we have to replace it?

48:35: JONES: So first off we always look at are replacement cycles for assets. So at some point we have to replace assets out there.

rosen... edited out

49:12: JONES: I was just speaking generally about assets lifecycles and the fact that all of our meters, and our meters are considered an asset, do have a lifecycle. So in particular, it could be twenty years. At twenty years you need to replace it. The key here is that it's most cost effective for our customers if we're replacing assets at their full life cycle. So at any point in time when you're looking at asset lifecycles, and in particular the meters, you try to figure out at what point, if I need to replace a particular asset, do I replace it in kind? Or do I consider what I need for the next twenty years?

<http://web1.env.state.ma.us/DPU/FileRoomAPI/api/Attachments/Get/?path=11-129%2f53012aginbf.pdf>

(PAGE 26 SCROLLING): a. Meter Investment

The Company already recovers the costs of meters from its customers through its base rates. Exh. AG-4-8, Attachment 4-8-1 at 36. The AMR meters in service on the Company's system have an average service life of approximately 29 years and an average remaining life of 20 years according to its last depreciation study. Id. at 44. The Company's depreciation accrual rates also assume that there will be a twenty percent negative net salvage cost to the meters at their retirement. Id.

SEGMENT 2: Original Design vs. Current Deployment

Slide 8



Official City of Worcester Video (time references throughout):

<http://view.earthchannel.com/PlayerController.aspx?PGD=worcema&eld=118>

42:01: JONES: ...But at this time, it is a pilot and our expectation is that we will continue to move forward under its original design.

Slide 9



Slide 10



APPROVED MAP: <http://web1.env.state.ma.us/DPU/FileRoomAPI/api/Attachments/Get/?path=11-129%2f122311ngptam.pdf>

Sent to City of Worcester many times, one time lately was in August 2013 is at <http://www4.ci.worcester.ma.us/weblink7/DocView.aspx?id=399575&searchhandle=15568>

Hundreds of pages can be found at <http://www.worcesterma.gov/agendas-minutes/city-council/2013/20130820.htm> but the system to see/save is not very user friendly.

Slide 11



Base stations: <http://haltmasmartmeters.org/wp-content/uploads/2013/08/0425-1b-various-75pages-attachment.pdf> (Note, you can also access this doc with difficulty through WorcesterMA.gov)

HMSM mapped base stations on Google Maps:

<https://mapsengine.google.com/map/edit?mid=z0Le6eEaMmvw.kh1j3vNYju-g>

PURPLE & GREEN MAP: magrid.raabassociates.org/Articles/NGRID_SG_Pilot.ppt (Must open PowerPoint)

Other presentations with same purple/green map:

http://assets.fiercemarkets.com/public/sites/energy/reports/20131021_Ed_White_Smart_Meters.pdf

http://www.eei.org/about/meetings/Meeting_Documents/2012Sep-TDM-Kelly.pdf

Drill Down Maps: <http://web1.env.state.ma.us/DPU/FileRoomAPI/api/Attachments/Get/?path=11-129%2f42612ngrd8.pdf>

Official City of Worcester Video (time references throughout):

<http://view.earthchannel.com/PlayerController.aspx?PGD=worcema&eld=118>

40:19: BERGMAN: What about the meters themselves?

40:20: JONES: So the meters themselves will remain there. The meters have been out there and operating for well over a year...

42:01: JONES: ...our expectation is that we will continue to move forward under its original design.

39:43: JONES: ... But at the end of the day the expectation is that the equipment that we're installing will operate. In fact it's been operating for several months, now. Much of it has already been installed or constructed throughout the city.

Slide 12



Slide 13



Slide 14



Green on Green map that shows Grafton: <http://haltmasmartmeters.org/wp-content/uploads/2013/08/0425-1b-various-75pages-attachment.pdf>
 Worcester Telegram (T&G) map/article no Grafton shown:
<http://www.telegram.com/article/20140209/NEWS/302099987/-1/business21>



This document is available, with difficulty on the City of Worcester site but for convenience:
<http://haltmasmartmeters.org/wp-content/uploads/2013/08/0425-1b-various-75pages-attachment.pdf>



Slide 15

Official City of Worcester Video (time references throughout):

<http://view.earthchannel.com/PlayerController.aspx?PGD=worcema&eld=118>

THIS EXCHANGE WAS NOT INCLUDED IN THE VIDEO BUT IS RELEVANT:

1:12:07 LUKES: What happens if you don't get 15,000, if YOU only get 5,000 people participating in this pilot program, what happens to the program?

1:12:17: JONES: It continues for its two year period and we file with the DPU the final report.

1:12:20: LUKES: So it doesn't matter if you get 5 or 15,000 people involved?

1:12:28: JONES: No, we've achieved the milestone...

Lukes: You have 15,000 people signed on?

Jones: we have roughly just under 14,800 meters.

1:12:45: LUKES: And if they opted out tomorrow, if a third of them opted out tomorrow it wouldn't make any difference.

1:12:40: JONES: NO, because that's their choice and WE'VE ALLOWED customers to have choice.



Slide 16

50:27: ROSEN: Are those public locations? Am I able to find out where those meters are in Worcester?

50:42: JONES: ... No we can't just provide that information. Our customers can provide you that information, that's their choice but we're not allowed to provide customer-specific information.

https://www1.nationalgridus.com/PowerOutageMap-RI-RES?section_id=111

– Must zoom in for detail

If you require the screenshots please contact HaltMAsmartMeters@gmail.com

SEGMENT 3: NStar Quotes after their 'smart' pilot



Slide 17

Official City of Worcester Video (time references throughout):

<http://view.earthchannel.com/PlayerController.aspx?PGD=worcema&eld=118>

38:43: JONES: Other IOU's such as NStar, who operate in the state, Unitil have also had to do the same... submit pilots. Basically, whatever they did... that's their customers. For us it's just the 15,000 HERE IN WORCESTER.



Slide 18

Slide 24



See slide 6 above for links.

Section 85 prescribes a minimum size of 0.25% of customers. The Company's pilot, funded by ratepayers, will exceed the minimum number of customers (3,000 [1,175,000 x 0.0025]) required by more than 12,000 customers. Not only does the Company's proposed pilot exceed the statutory minimum, but it saddles National Grid's Massachusetts ratepayers with needlessly high costs that will probably not yield results that are any different than those from other pilots conducted around the country.

Slide 25



Official City of Worcester Video (time references throughout):

<http://view.earthchannel.com/PlayerController.aspx?PGD=worcema&eld=118>

0:18:30 JONES: So if you're in the smart grid program you will receive an A – M – I meter -- LUKES: Which is ... what does it look like, how large is it, where does it go? JONES: It looks no different than the standard meters that have been out there... electric meters... on the outside of the house.

Slide 26



Official City of Worcester Video (time references throughout):

<http://view.earthchannel.com/PlayerController.aspx?PGD=worcema&eld=118>

18:30 JONES: So if you're in the smart grid program you will receive an AMI meter

18:32 LUKES: Which is ... what does it look like, how large is it, where does it go?

18:36: JONES: It looks no different than the standard meters that have been out there. (18:40)

National Grid pilot Itron Centron Open Way spec sheet (5 to 60 minute intervals):

<https://itron.com/na/PublishedContent/OpenWay%20Centron%20Meter.pdf>

Nest generation Itron Centron Open Way spec sheet (60 second to 60 minute intervals):

<https://itron.com/na/PublishedContent/CENTRON%20II%20C1219.pdf>

ASIDE: NOT INLCUED IN VIDEO: Watch Ed White of National Grid tell Senator Harriette Chandler that pilot meters can only collect 15 minute increments: <http://www.wccatv.com/video/beacon-hill-chat/beaconhillchat149>

12:20 HC: One of the things my constituents are concerned about is you're really starting to interfere with their privacy...

12:46 EW: Yeaaa, there's, and, and I would say there's a lot of, ahhm misinformation out there about **how granular the meters can get.**

12:55 HC: **How granular can it get, can they get?**

12:57 EW: Fifteen minute intervals. So every fifteen minutes it says you are using 'x' number of electrons.

Slide 27



Cell relay repeaters
British Columbia

http://www.stopsmartmetersbc.ca/html/wp-content/uploads/2012/08/BCHYDRO_ITRON_Routers-1024x658.jpg

http://www.stopsmartmetersbc.ca/html/?page_id=338

<http://stopsmartmetersirvine.files.wordpress.com/2012/02/p10100192.jpg>

The photo was 'lifted' from a BC site but it seems it may be a California meter:

<http://stopsmartmetersirvine.com/2012/03/03/medusa-collector-smart-meter-ladera-heights-california-and-dead-bees-on-walkway-near-smart-meter-irvine-california/>

San Diego Gas and Electric

SEGMENT 5: Increased Security Risk

Slide 28



<http://dictionary.reference.com/browse/secure>
se-cure [si-kyoor] adjective free from or not exposed to danger or harm; safe.

Slide 29



Official City of Worcester Video (time references throughout):

<http://view.earthchannel.com/PlayerController.aspx?PGD=worcema&eld=118>

21:10: LUKES: Where does the data collected by that meter get transmitted to?"

21:16: JONES: Back to our secured data center facilities where we store all our customer data

Slide 30



Official City of Worcester Video (time references throughout):

<http://view.earthchannel.com/PlayerController.aspx?PGD=worcema&eld=118>

21:10: LUKES: Where does the data collected by that meter get transmitted to?"

12:16: JONES: Back to our secured data center facilities where we store all our customer data

Panetta

<http://www.youtube.com/watch?v=bZmbI4MmZF8>

http://www.washingtonpost.com/business/on-it/cyber-firms-look-to-move-the-electrical-grid/2014/04/27/4e3163f2-cb06-11e3-93eb-6c0037dde2ad_story.html

<http://www.bostonglobe.com/business/2013/05/31/smart-meter-opponents-raise-concerns-over-health-security-privacy/ih0mDiFujPrF8ygAeJ2DeO/story.html>

SEE SLIDE 6 FOR AG LINKS AND SLIDE 19 FOR NSTAR LINK:

- Additionally, the Company's proposed pilot lacks important safeguards with respect to customer privacy and cyber-security.
- I think virtually everybody I know outside of industry who understands the threat to industrial control systems, SCADA systems and so forth really has a sense of doom, almost, here. It's very sobering stuff.
- The Company claimed that it will not turn off customers remotely, during the Pilot. Tr. at 282. This claim and the Department's regulations, however, do not protect the customers or the Company's system from cyber-attacks, since the capability for shut off and the attendant software will still reside in the new AMI meter. The Department should not approve the Pilot as filed unless the shutoff mechanism in the AMI meters is physically disconnected from the internal software and controls of the new meters.

<http://www.c-span.org/video/?310843-1/secretary-panetta-defense-priorities>

Slide 31



http://www.smartgridnews.com/artman/uploads/2/Cybersecurity_Electric_Grid_BPC.pdf

<http://www.elp.com/articles/2014/04/connecticut-power-grid-hacked-no-power-outages.html>

<http://www.nationaldefensemagazine.org/archive/2014/April/Pages/ReportPondersWhatFollowsaCyberAttackonElectricGrid.aspx>

Slide 32



SEGMENT 6: Towers & Infrastructure

Slide 33



Slide 34



Official City of Worcester Video (time references throughout):

<http://view.earthchannel.com/PlayerController.aspx?PGD=worcema&eld=118>

21:46: JONES: ... We do have a petition before the Zoning Board. Originally we were seeking Cooks Pond because there is an existing 55-foot structure there and we just needed it to ahhhm, be heightened bit in order for us to be able to use it.

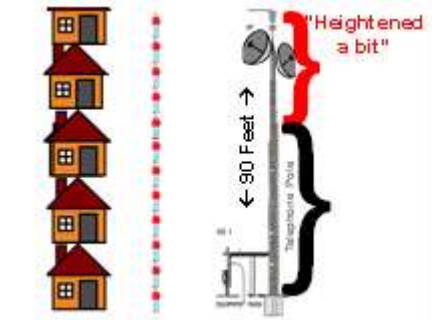
22:11: LUKES: When you say "heightened a bit", how much is bit?

22:15: JONES: 55-foot to an 80-foot structure

22:20: LUKES: As I recall, I heard ninety feet for Tory Fort Lane. Where did that number come from?

22:23: JONES: So, 90-foot includes with the antenna attached to the top.

Slide 35



See National Grid's Zoning application for Cooks Pond aka 30 Tory Fort Lane, one of the two Tatnuck data towers (the other is 597 Mill Street/ CVS): http://haltmasmartmeters.org/wp-content/uploads/2013/10/ZBA_TORY-FORT201310181358.pdf this doc includes image of the tower used in the video, though HMSM added the microwave antennas as they were not on the application.

Note the long-awaited Worcester City Solicitor's 5/5/ opinion that the Telecommunications Act of 1996, used to gag residents and fast track approval of three base stations in May 2013 DOES NOT APPLY TO National Grid pilot infrastructure and most specifically NOT to Tory Fort Lane:

"Without preemption of the TCA (Telecommunications Act of 1996), because the Tory Fort Lane location is in the Rs-7 zoning district, the use as currently proposed is not allowed."

Slide 36



39:43: JONES: ... But at the end of the day the expectation is that the equipment that we're installing will operate. In fact it's been operating for several months, now. Much of it has already been installed or constructed throughout the city.

1:04:00: JONES: So the towers are actually for the, as you would refer it to, the smart grid part. ... And in the Cooks Pond, what we'll call in the Tatnuck area, up in that area we have many devices already installed up there we're excited and want to get enabled ...

<http://www.wccatv.com/video/activate-worcester/activateworcester74>

Slide



Slide 38



JOHN DICK: What I remember of our June (10TH) 2013 meeting with National Grid up at the Tatnuck School was that they told us at one point in the proceedings that if we didn't get the tower we weren't going to be able to get smart meter coverage in our neighborhood. There were about 40 people in the room and I think it was pretty unanimous that we were all in agreement that that was quite fine with us.

TIM SULLIVAN: What I remember about the meeting at Tatnuck meeting at the Tatnuck School, a question was asked from the audience: what if you didn't have the tower, and the reply from the National Grid spokesman was that if we don't have the tower we won't have the coverage for this area of the neighborhood which was greeted by a round of applause by the whole audience.

Slide



Slide 40



http://haltmasmartmeters.org/wp-content/uploads/2013/10/ZBA_TORY-fORT201310181358.pdf

Tory Fort Lane/Cooks Pond zoning application:

"Back and forth to customers"

can be found in paragraph that begins on page 17 (scrolling) to page 18.

Slide 41



Official City of Worcester Video (time references throughout):

<http://view.earthchannel.com/PlayerController.aspx?PGD=worcema&eld=118>

27:52: LUKES: We don't really have any sense of how to predict values being impacted

27:56: ROSEN: Can we hear his point of view? He must have an opinion on that. Don't you?

28:00: JONES: Actually, I don't have an opinion but what I will say is that when I read the report I though, who was this, the City Assessor did a fairly balanced assessment of what's going on out there, granted it states in there there's not a lot of information to that effect but I think his basic points are right en pointe, and al lot of is less about, is more on optics. I thought it was a decent report, it was short, to the point. I don't think there is anything we would argue. (28:35)

Slide 42



Slide 43



Slide 44



Slide 45



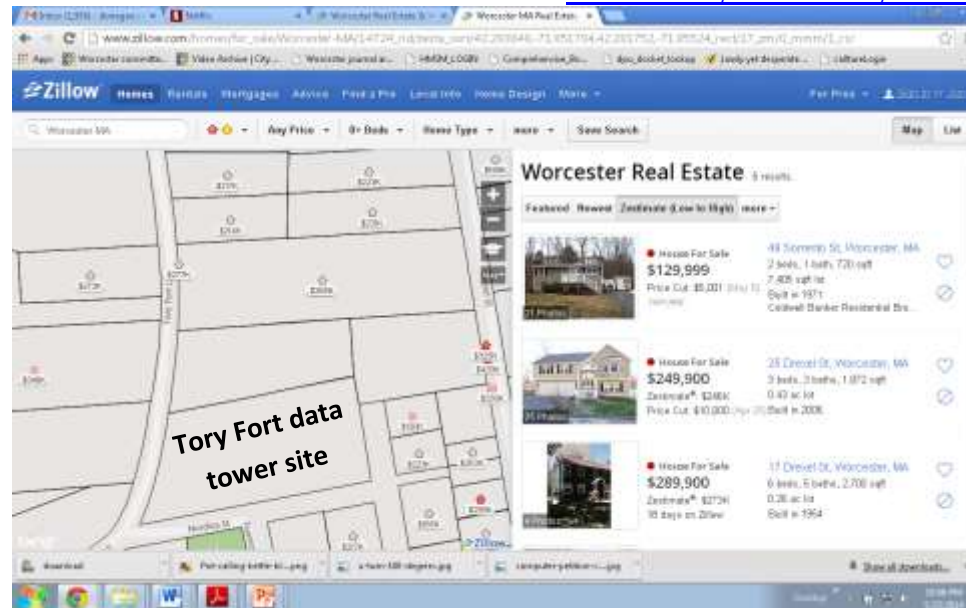
Official City of Worcester Video (time references throughout):

<http://view.earthchannel.com/PlayerController.aspx?PGD=worcema&eld=118>

28:00: JONES: ...the City Assessor did a fairly balanced assessment of what's going on out there...

<http://haltmSMARTmeters.org/wp-content/uploads/2013/08/0425-1a-propertyvalues-7pages-attachment.pdf>

http://www.zillow.com/homes/for_sale/Worcester-MA/14724_rid/zesta_sort/42.283848,-71.851704,42.281752,-71.85524_rect/17_zm/0_mmm/1_rs/



SEGMENT 7: In a Nutshell (Wrap-up)

Slide 46



Slide 47



Official City of Worcester Video (time references throughout):

<http://view.earthchannel.com/PlayerController.aspx?PGD=worcema&eld=118>

1:01:51 JONES: To the Councilor through the Chair. First off we don't ignore all those things, they are very important to our customers. And just so you are aware I am a customer, an employee and a shareholder of National Grid; I care about all those key points. Alright? Everything I do is to the interests and the benefit of customers.

1:02:14: ROSEN: All these points I made... none of them are valid?

1:02:14: JONES: All those points you made, we have looked at the information that's been put in front of us, alright, and if there was any validity we would have addressed it.

Slide 48



http://comments.telegram.com/assets/article_comments_html/304309861_ZA1.html

APRIL 29TH CITY COUNCIL MEETING VIDEO:

<http://view.earthchannel.com/PlayerController.aspx?PGD=worcema&eld=121>

Slide 49



<http://www.wccatv.com/video/activate-worcester/activateworcester74>