Quinn, Laura

From: Sent: To: Cc:	Mussatti, Daniel Friday, December 03, 2010 9:15 AM Fringer, John Purdie, Michael; Ron Kolpa; 'Bjornstad, David J.'; 'Scott, Michael J'; Muir, Jessie; Bruner, Douglas; Willingham, Michael; Vokoun, Patricia; Quinn, Laura
Subject:	Technical supporting documentation for Summer, STP, Calvert Cliffs, Levy, and Comanche Peak Need For Power
Follow Up Flag: Flag Status:	Follow up Flagged
Categories:	Blue Category

Thanks, John. This is what we need for verification of a widely accepted approach to estimating baseload needs from an observable peak load value. To the extent this information adds value to your analyses, please feel free to use it. I expect this email to be added to the record so we can cite to it or the documents it references.

Dan'l

From: Fringer, John
Sent: Thursday, December 02, 2010 4:49 PM
To: Mussatti, Daniel
Cc: Purdie, Michael; Ron Kolpa
Subject: RE: Article by Dr. Cordaro
Importance: High

Dan,

Just talked to Dr. Cordaro. He said that rule of thumb estimate was mainly based on 40 years of experience in the power industry, and that often it's closer to 40% rather than 35%. (That may correspond to whether the customer base in an area is industrial [where the percentage would be higher] vs. residential per my 11/29/10 phoncon with Dave Nevius of NERC.) He asked if I'd checked his references in the back of the article. I said I had, but that most of the web links were broken. He suggested I check with Edison Electric Institute and NYISO. I checked those websites as well as those referenced in his article—and where the links were broken, I went to the homepage and searched:

Renewable Energy World http://www.renewableenergyworld.com/rea/news/reinsider/story?id=52157 Energy Information Association www.eia.doe.gov http://www.eia.doe.gov/neic/brochure/electricity/electricity.html http://www.eia.doe.gov/conf pdfs/Tuesday/JOSKOW.pdf World Nuclear Association www.worldnuclear.org http://www.worldnuclear.org/info/electricity_cars_inf120.html?terms=base+load http://www.worldnuclear.org/info/inf10.html New York Independent System Operators www.nyiso.com http://www.nyiso.com/public/webdocs/newsroom/press releases/2008/2008 Comprensive Reliability Plan Final Repor t 07152008.pdf The Public Service Commission of Wisconsin http://psc.wi.gov/thelibrary/publications/electric/electric04.pdf

I didn't find any reference to the 35-40% rule of thumb. However, these articles/references all cite it:

http://powerelectrical.blogspot.com/2007 04 01 archive.html http://www.harrisgroup.com/glossary (see "Base-Load Power Plant") http://www.ireference.ca/search/base%20load%20power%20plant/ http://www.blurbwire.com/topics/base_load_power_plant http://www.worldlingo.com/ma/enwiki/en/Base_load_power_plant http://www.glossary.com/reference.php?g=Base+power

Because it seems to be widely used according to the six citations above, and because Dr. Cordaro stated that it is still accurate, and Dave Nexius also validated it, my conclusion is that the rule of thumb is valid and reliable.

John

From: Mussatti, Daniel Sent: Thursday, December 02, 2010 11:46 AM To: Fringer, John; Purdie, Michael Subject: RE: Article by Dr. Cordaro

I don't think I need to be in on the call and Mike is in training. The reason we need to get a bit more "comfort" with the 35-40% estimate is that Mike Scott haws uses a much lower estimate at STP but there was not a lot of support for that lower rate. In order for us to be able to rely upon Dr. Cordaro's numbers, we need something more than just a fact sheet. If he can help you get that additional corroboration, email it to me and we can start the process of getting it in shape for us to rely upon it.

Please and thank you.

Dan'l

Daniel Charles Mussatti Senior Economist

From: Fringer, John Sent: Thursday, December 02, 2010 11:31 AM To: Mussatti, Daniel; Purdie, Michael Subject: RE: Article by Dr. Cordaro Importance: High

I have his phone # so we can get on a 3-way call if you like.

From: Fringer, John Sent: Thursday, December 02, 2010 11:27 AM To: Mussatti, Daniel; Purdie, Michael Subject: RE: Article by Dr. Cordaro Importance: High You mean, how much we can rely on the Rule of Thumb that base load power is 35-40% of the maximum, or peak, load during the year?

From: Mussatti, Daniel Sent: Thursday, December 02, 2010 11:19 AM To: Fringer, John; Purdie, Michael Subject: RE: Article by Dr. Cordaro

John, can you push back on Cardero and find out how much we can rely on this? It is getting close to being needed.

Daniel Charles Mussatti Senior Economist

From: Fringer, John Sent: Monday, November 29, 2010 1:45 PM To: Mussatti, Daniel; Purdie, Michael Subject: FW: Article by Dr. Cordaro Importance: High

f.y.i.

From: Dave Nevius [mailto:Dave.Nevius@nerc.net]
Sent: Monday, November 29, 2010 1:34 PM
To: Fringer, John
Cc: John Moura; John Seelke; Miller, Kenn
Subject: Article by Dr. Cordaro

John I believe this is the paper you were referring to.

http://www.area-alliance.org/documents/base%20load%20power.pdf

Dr. Cordaro is correct when he states (on page 2) "For a typical power system, the rule of thumb is that base load power (which Dr. Cordaro defines as the MINIMUM load during the year, (probably during the Spring or Fall months) is usually 35–40 percent of the maximum load during the year (which usually occurs in the Summer or Winter months, depending on whether the area is a Summer or Winter peaking area)." Thus, comparing a Spring or Fall minimum to a Summer or Winter peak load somewhat distorts the picture.

The annual AVERAGE load is closer to 60% of the annual maximum load, indicating that some value greater than 35-40% of total generating capacity is needed to meet "base load" requirements throughout the year. Left out of this discussion is that fact that all generating plants have some down time during the year – in part due to unplanned deratings or outages and in part due to planned maintenance and/or refueling outages, which are typically schedule in the Spring or Fall months.

Hope this helps.

Dave

David R. Nevius Senior Vice President NERC (609) 524-7037 office direct dial (609) 915-3062 cell

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