

From: [Andrew Breyer](#)
To: [O'Connor, Kevin](#)
Cc: [Mitchell, Lori](#); [Struyk, Zachary](#); [Benabente, Julie](#); [Paul Dunne](#); [Barry Flynn](#); [Mike Keller](#); [Doug Boccignone](#); [Nathanael Miksis](#); [Cindy Muller](#); [Russell Carr](#)
Subject: Re: FW: Single Line Diagrams
Date: Wednesday, January 15, 2020 10:17:46 AM

[External Email]

Hello Kevin,

Our electrical consultant Russ at Arup had a review of the diagrams and provided his comments below. Please let us know if you have any questions. Cindy will get back to the group in a few days regarding the MOU pathway.

Thanks,

1. Diagram 1- A full buildout of an envisioned switching station and customer substation which led to a PG&E definition of the land Google should dedicate for electric substation infrastructure to supply the envisioned Google Project assuming GIS technology.

This diagram looks like it could be developed to include eventual replacement of San Jose A. It's an 8 bay arrangement and more than what is needed just for Google. Also I'm not sure this 8 bay arrangement would fit in the footprint we have allowed. We have allowed for 2 bay day 1 (breaker and a half), extendable to 4 bay footprint. We have only allowed space for GIS equipment only in the breaker and a half arrangement. We have also allowed space for the necessary control items. There is no space for future PG&E transformers.

The customer substation shown in red also seems a little large. We have allowed for up to two transformers, each capable for serving the 40MW load. We have not allowed for room to add a third transformer. With two transformers providing power to the development and a bus tie at 12kV as shown, this is adequate resilience for the type of loads that will be served.

2. Diagram 2- The initial switching station that Google would pay for but would be owned and operated by PG&E.

The PG&E substation is correct.

The Google substation is correct. The second transformer could be deferred in day 1 depending on how much capital was available.

On Mon, Jan 13, 2020 at 8:19 AM O'Connor, Kevin <Kevin.Oconnor@sanjoseca.gov> wrote:
Hi Andrew,

Please find attached the two single line diagrams that Flynn RCI developed based upon their interpretation of information Google had provided earlier. It would be helpful if Google would comment on whether the two diagrams represent:

1. Diagram 1- A full buildout of an envisioned switching station and customer substation which led to a PG&E definition of the land Google should dedicate for electric substation infrastructure to supply the envisioned Google Project assuming GIS technology.
2. Diagram 2- The initial switching station that Google would pay for but would be owned and operated by PG&E.

An early response to our questions would be appreciated.

Thank you, Kevin

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