The backstory: What is truly motivating PSE to try to build Energize Eastside?

To: City staff and council

From: Rich Lauckhart

Introduction

As you may already know, I am an energy consultant who spent the bulk of my career working for Puget Power (PSE's predecessor) as vice president of Power Planning. It was my job to oversee the permitting and construction of many kinds of projects in the Puget Sound region including high voltage transmission lines and nuclear power plants.

What you may not know is that I also hold an M.B.A. in Finance. During my time at Puget Power as well as at other firms, I had great exposure to not only the technical side of power planning, but also to the business side of each project. I know that most customers assume that a company that provides a basic necessity such as electricity is just "trying to keep the lights on" and that there is a lot of inherent trust in power companies. However, both from my long experience in the industry and the multitude of news articles from across the country, it's no secret that privately-held, for profit power companies function just like any other for-profit business. They seek to turn a profit. This is not in and of itself a bad thing.

However, there are too many recent examples of when power companies across the U.S. have attempted to get an unnecessary project built in order to get the guaranteed profit from the state, and I feel that PSE's Energize Eastside is yet another example of this. In the case of Energize Eastside, it is the "perfect storm" for this type of attempt for four reasons. One, Washington state has very outdated regulations compared to other states that incentivize power companies to build big transmission projects rather than invest in smarter technologies currently being used across the U.S. Two, there is remarkably little oversight to PSE's major projects before they get built. In the case of Energize Eastside, this billion dollar, eighteen mile project has the potential to be built without any prior vetting or review by any state regulators - only a permit from four city councils. The project gets approved into the rate base after it is built. Three, Washington offers a generous rate of return of 9.8% on the lifetime of the project. In the case of Energize Eastside, that means over $1 billion for PSE's Canadian and Australian investors. This is a huge incentive. Lastly, both myself and CENSE.org have provided compelling evidence that Energize Eastside is not needed. Yet Puget Sound Energy (PSE) continues to push to build the project. Why would PSE want to build the Energize Eastside project if it is not needed?

This paper discusses these points.

Background

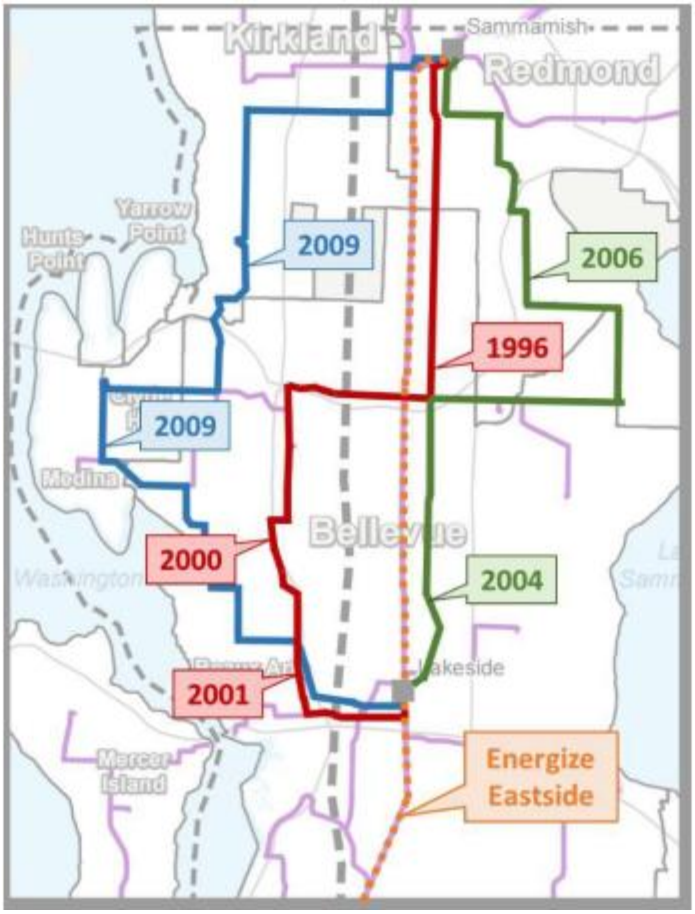
For most of its history, Puget Sound Energy (PSE) had publicly traded common stock. Shareholders elected representatives to serve on PSE's Board of Directors. The board members hired a CEO to run the company, and relied on the CEO to make day-to-day decisions. In this way, PSE was accountable to its shareholders, many of whom lived in PSE's service territory.

This all changed in 2009, when an Australian investment bank named Macquarie purchased all of the company's common stock. The total cost of the acquisition was $7.4 billion. It was and still is highly unusual for a foreign-owned company to own a U.S. utility. Upon purchase, Macquarie stated its intention was to invest an additional $5 billion in the company by building new infrastructure. In so doing, Macquarie planned to collect the guaranteed 9.8% rate of return on infrastructure investments that is allowed by PSE's regulator, the Washington Utilities and Transportation Commission (WUTC).

However, several unforeseen developments thwarted Macquarie's plans. First, shortly after the acquisition was announced in 2007, the recession reversed the trend of increasing energy consumption. Second, new technology and more focused conservation efforts continued to reduce electricity and natural gas consumption even as population growth and economic activity rebounded in the Puget Sound region. Third, a portion of PSE's service territory was converted to Public Utility District (PUD) ownership and service.

Like any profit driven corporation, Macquarie likely pondered what projects they could pursue to bolster PSE's sagging revenues. The 18-mile double circuit 230 KV transmission line running through the Eastside probably looked like a good candidate. For a number of years PSE had considered installing a new 230kV to 115 kV transformer at the Lakeside substation, which would have required building new 230kV lines between Talbot Hill and Lakeside and between Sammamish and Lakeside. However, every time this was studied it was determined that other less costly infrastructure projects were preferable to meet the growing loads on the Eastside.

But when Macquarie was looking for high cost new infrastructure projects, it appears that this older plan was picked up off the shelf and dusted off. The original two 115 kV lines were built almost 50 years ago, and I believe that PSE felt it would be easy to convince local city councils to support the new 230 kV plan by making it sound like a simple "upgrade" to an "old line" which is exactly the language they have chosen in their ads. The "Energize Eastside" project was born, ignoring the reality that the original twin eighteen mile 115 kV lines had been augmented with many new 115 kV lines in recent years (see figure below). In essence, the original twin 115 kV "backbone" lines have been turned into a robust "network" of 115 kV lines. The eighteen mile twin 115 kV line that follows the proposed path of Energize Eastside ceased being a "backbone" decades ago.



Normally, the technical need for a transmission line would be studied by PSE's in-house transmission experts. In my many years at Puget Power, we only used our own in house transmission experts since they knew our area's grid the best. However, PSE instead hired Quanta, a consulting firm based in North Carolina. I could not find any basis that Quanta has prior experience with the Northwest power grid, but they have done quite a bit of work for Macquarie in other areas of the country where Macquarie had made investments.

As I describe in detail in my other paper, "Setting the Record Straight on Energize Eastside's Technical Facts", I believe that In order to make the project data work in PSE's favor, Quanta made several changes to the core data that PSE reports to federal energy agencies and made a number of questionable assumptions that go beyond normal industry practice. As I also explained in my other paper, when I tried to duplicate Quanta's results and implement those same changes to the core data, I found that the Quanta's assumptions caused significant problems for the entire power grid, not just the Eastside. When asked about these problems, PSE refused to provide any data or technical explanation to refute my findings.

In the two decades that I worked for the company, PSE worked closely with the communities and did a good job of supplying reliable power to their customers. I never witnessed a project that put forth without a solid, demonstrated need. However, based on the facts surrounding PSE's highly questionable load flow study and the overall obvious lack of demonstrated technical need for this project, I believe that PSE's main goal with Energize Eastside is to increasing profits for its Australian and Canadian investors. There is simply no evidence of a technical need for this project. Energize Eastside will be extremely expensive for all of PSE's 1.1 million customers, it won't measurably increase reliability, and it will damage the environment. Again, as I mentioned at the outset of this paper, this is unfortunately not an unusual or isolated example in the present day U.S. power grid.

Until PSE provides real, technical evidence in the form of the load flow data that shows why Energize Eastside is necessary, I must conclude that it is not.

New Ownership of PSE in 2009

In 2009 a consortium formed by Macquarie Infrastructure, the Canada Pension Plan Investment Board, the British Columbia Investment Management Corp. purchased all of the common stock of PSE.[1]

Who makes the decisions for PSE after this purchase?

That answer can be found in a filing made in 2007 with the Washington Utilities and Transportation Commission (WUTC) and in a filing made in 2016 with the Federal Energy Regulatory Commission (FERC).

- In the December 2007 filing with the WUTC, the ownership and control of PSE under Macquarie's coordinated purchase of PSE stock, a very complicated picture of ownership and control of PSE was presented. See attachment 1. However, for all practical purposes, it is Macquarie who makes decisions for PSE.
- In the 2016 filing with FERC, Macquarie Energy stated that Macquarie Group Limited ("MGL") maintains ownership and control of PSE.[2]

The important result of the 2009 change in ownership and control of PSE is that for all practical purposes, since 2009, Macquarie makes the decisions on PSE matters.

Why did Macquarie (and partner investment firms) want to purchase all of the stock of PSE?

That answer can be found in a statement made by Christopher Leslie, chief executive of Macquarie Infrastructure Partners. He stated:

> "*We don't have employees. We're not the neighboring utility. Combining work forces and eliminating redundancies is not the story.* ***Our interest is to grow the business.***"[3]

These investors have access to significant funding that they planned on using to "grow PSE's business." In fact, the investors stated they were committed to investing $5 billion in new PSE infrastructure. This is no small amount given that the total price paid by the investment group to purchase PSE was $7.4

[1] http://www.pugetenergy.com/pages/news/011609.html
[2] See July 14, 2016 filing at FREC made by Macquarie Energy in Docket No. ER16-2198
[3] http://www.mi-reporter.com/news/35017809.html

billion dollars.[4]

In this paper I will use the term "Macquarie" to indicate the entity that has ownership and control of PSE.

Why would this investment group want to invest $5 billion in new infrastructure in PSE's system?

It is standard practice that investment firms like Macquarie are trying to find investments that give them a good rate of return. In the case of PSE, the WUTC grants a 9.8% return on new investments. This 9.8% return is a very attractive rate of return compared to the return that the investment firms could get elsewhere. So, investing $5 billion at a 9.8% rate of return is a great investment opportunity. The only catch is that investors only get this return if they can find infrastructure projects that can be shown needed to meet reliability criteria. This determination is made by the WUTC after the project is built.

But what if there is no justification for making $5 billion of new investment in PSE?

As mentioned earlier in this document, there is ample evidence of utilities across the U.S. attempting to build infrastructure projects that, in the end, cannot be justified. Time and time again, the ultimate goal was to get the generous rate of return offered by the state. They will often go to great lengths to get their projects justified.

Why are transmission lines the most lucrative form of investment for PSE?

Washington State has regulations for utilities that offer the 9.8% rate of return on large scale transmission projects. By contrast, new investments in generation (new power plants) or Demand Side Management (DSM, which are programs that reduce the load and/or increase conservation at the customer level) are somewhat problematic for Macquarie's and PSE's goal of achieving a guaranteed profit. This is because the WUTC competitive bidding rule requires PSE to go out for competitive bids for third party entities that can provide the needed generation or DSM for PSE. The WUTC closely monitors this competitive bid activity to be sure that PSE selects the cheapest option. If a third party entity is chosen, then that party makes the investments needed and PSE will generally pay the third party an ongoing fee. By doing this, PSE is not allowed to include these new projects in the PSE rate base and there is no ability to make the desired 9.8% return on investment. <u>However, there is no competitive bidding process for new **transmission and distribution** projects.</u>

Another reason why Macquarie and PSE are so focused on building transmission lines is that Washington's regulations have not been updated much since the 1960s and do not provide anywhere near as generous of an incentive for smarter, 21st century technologies. Many other states, including Oregon, California, Texas, and New York have updated their regulations to incentivize utilities to invest in smarter technologies such as demand side management, more aggressive conservation, and efficiency. Washington is lagging behind the times in this respect.

[4] http://www.pugetenergy.com/pages/news/011609.html

As a result, Macquarie and PSE closely monitor their service territory to see what investments may make sense. Does this mean that every new, major transmission project is unfounded? Not necessarily. But it does mean that from a business perspective, PSE's first choice is a project that will achieve the greatest rate of return and enhance the profitability of their investment fund. It's simple business math.

How and when did Energize Eastside come to be?

Approximately 4 years ago (2013), Macquarie decided to see if a new, double circuit 230kV transmission line and substation (i.e. Energize Eastside) "EE" could be justified on the Eastside. Such a project would contribute significantly to Macquarie's goal of making $5 billion of new investment in PSE.

Who did Macquarie choose to investigate to see if Energize Eastside could be justified?

Macquarie decided not have PSE's internal transmission planning employees do the analysis. Instead, Macquarie decided to have the load flow work performed by an outside company (Quanta Technologies) rather than by PSE's in house load flow experts. Quanta does a lot of work for Macquarie in areas outside of the Pacific Northwest. Quanta Technology, LLC is headquartered in Raleigh, NC with offices in Boston, MA; Chicago, IL; Oakland, CA; Toronto, Ontario and Ecuador in South America. There is no evidence that Quanta Technology has expertise in Northwest transmission and power supply matters.

A load flow study is the critical study used in the industry to test the reliability of the power grid. A load flow study is also used to justify the need for a new transmission project. The Federal Energy Regulatory Commission (FERC)/NERC also require each utility to develop a Base Case load flow study to show there is at least one mix of load, generation and transmission infrastructure that can be shown to reliably serve load in a future year. Generally, utilities provide FERC with several Base Cases reflecting peak loading periods of several different years in the future. FERC then requires utilities such as PSE to file Base Case studies each year so that third parties (such as myself) can utilize the database in each of these Base Case load flow studies to perform our own load flow studies to investigate whether a project proposed by a utility is really needed or not. PSE filed their Base Case studies with FERC and I obtained PSE's base case from FERC to perform my load flow study, with written permission from FERC .

Did Quanta use the FERC Base Case to perform its load flow study?

No. Macquarie did not have Quanta do its load flow study using the same assumptions in the Base Cases PSE filed with FERC. Instead, Macquarie asked Quanta to make significant changes to that Base Case. For example, Quanta was told to assume a 1,500 MW flow to Canada (rather than the 500 MW included in PSE's Base Case) and to assume that 1,400 MW of gas fired generators in the Puget Sound area would not be running during an extreme cold winter peak day (rather than the assumption in PSE's Base Case that all these generators would be running during a winter peak day).

Was I able to modify the PSE Base Case in this manner?

When I, along with transmission expert Roger Schiffman, performed my own load flow study (see paper entitled "Setting the Record Straight on Energize Eastside's Technical Facts" for more details), I obtained

PSE's Base Cases from FERC. I then tested these non-standard assumptions as described above. The Lauckhart-Schiffman load flow study demonstrates that making these two major changes to the PSE Base Case will result in the model failing to find a solution. The problem is that the lines carrying power across the Cascades from the Columbia River region to the Puget Sound region and then north to Canada are not capable of moving all this power without causing unacceptably low voltage on the grid in the greater Puget Sound area. Yet Quanta failed to disclose this problem.

Was Quanta able to resolve this cross-Cascades problem?

It is unclear how Quanta resolved this problem because PSE has refused to share the load flow study. It is also unclear why Quanta decided to make these major changes to the PSE Base Cases. One can only assume that Macquarie gave Quanta the directive to make these changes to the Base Case in order to produce a load flow study that justified the need for Energize Eastside. <u>Macquarie and PSE have refused to make public the load flow studies that Quanta performed and which PSE claims justify the Energize Eastside line</u>. I must therefore conclude, based on the above, that the load flow study that Macquarie/PSE/Quanta have performed in an attempt to justify the need for Energize Eastside has been artificially/inappropriately adjusted. I believe that if Macquarie/PSE had utilized their own internal transmission experts to run this load flow study, the project would have never progressed to its current status because their internal transmission experts would know that these changes to the Base Case are senseless and incorrect.

<u>Conclusion</u>

My goal in writing this paper was to illustrate that when it comes to utilities and profits, and PSE in particular, there is more going on than meets the eye. It appears that Macquarie and PSE, like some other utilities across the U.S., are pushing heavily for a project with no real basis in order to enhance their profits. The factual basis for this project simply does not add up.

PSE will likely respond by saying that I do not understand or that things are different now compared to when I worked for Puget Power. That is not the case. The burden of proof lies on them, not me. They are not being transparent and have not furnished sufficient material evidence that justifies the need for this project. Instead, they hope to gain permitting of a billion dollar project through the vote of city councils. Furthermore, Macquarie has a history of transactions that were deceptive in nature (see attachment 2).

Attachment 1

WUTC Proceedings[5]

WUTC PROCEEDINGS: On December 17, 2007 Puget Holdings LLC (Puget Holdings) and Puget Sound Energy, Inc. (PSE or Company) filed with the Washington Utilities and Transportation Commission (Commission) a joint application for an order authorizing the proposed transfer of ownership and control of Puget Energy, Inc. (Puget Energy), and its wholly owned subsidiary, PSE, to Puget Holdings. Puget Holdings is a Delaware limited liability company, with its principal offices in New York, formed expressly for the purpose of acquiring, through wholly owned subsidiaries, all of the outstanding shares of common stock issued by Puget Energy. The proposed transfer of ownership is one step in a financial transaction that would ultimately result in Puget Energy no longer being a publicly traded company. Puget Energy and PSE would be privately owned by Puget Holdings, which is an "Investor Consortium" (Consortium) comprised of several private equity investment companies and several government pension fund managers, all of which maintain portfolios of investments, including infrastructure investments, in the U.S., Canada, and several other nations.

December 30, 2008 WUTC Order Synopsis: The Washington Utilities and Transportation Commission, approving and adopting subject to conditions a Settlement Stipulation proposed by all parties except Public Counsel, authorizes Puget Holdings LLC (Puget Holdings) to acquire Puget Energy, Inc. (Puget Energy), and its wholly-owned subsidiary Puget Sound Energy, Inc. (PSE).

The WUTC Order included a number of statements about the sale of Puget Sound Energy

Decision Making for PSE under the new ownership arrangement:

The proposed change in Puget Energy and PSE's ownership would mean that Puget Energy would no longer be a publicly traded company. Thus, the numerous investors who currently benefit from the utility's success and bear the risks of any lack of success will no longer have direct voting rights on matters that must be approved by shareholders. Instead, decision making power will be exercised by the members of the Consortium. Therefore, in evaluating the merits of this transaction it is important to consider carefully the nature of these investors, their plans as owners of Puget Energy and PSE, and the governance structure of their holding company, Puget Holdings.

Puget Holdings is a consortium of six primary investors who own the following percentages:

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[5] https://www.sec.gov/Archives/edgar/data/81100/000119312509000402/dex991.htm

- Macquarie Infrastructure Partners, which is comprised of three limited partnerships (i.e., Macquarie Infrastructure Partners A, L.P.; Macquarie Infrastructure Partners International, L.P.; and Macquarie Infrastructure Partners Canada, L.P.) who will indirectly invest in Puget Holdings, holds the largest single minority ownership interest at 31.8 percent.

- Canada Pension Plan Investment Board holds 28.1 percent.

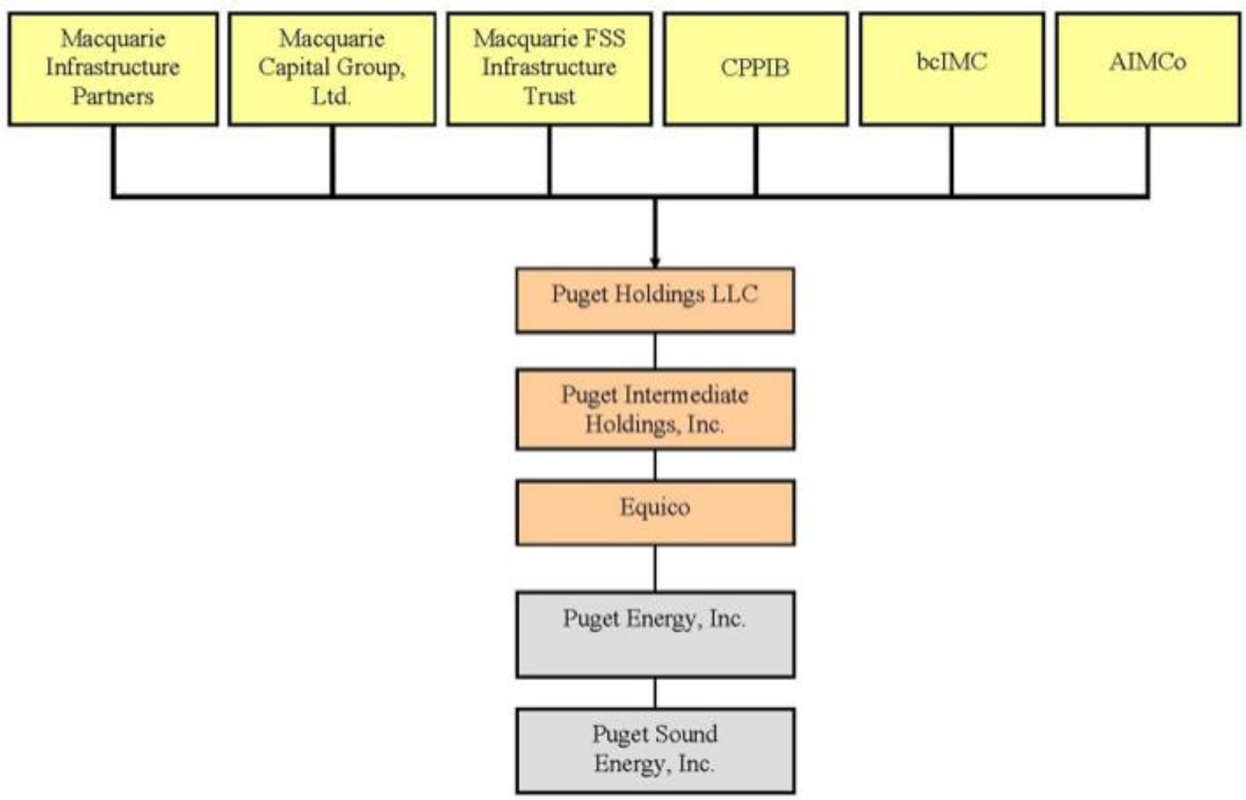
- Macquarie Capital Group Ltd holds 15.9 percent.

- British Columbia Investment Management Corporation holds 14.1 percent.
- Alberta Investment Management holds 6.3 percent.

- Macquarie-FSS Infrastructure Trust holds 3.7 percent.

Although the three Macquarie entities collectively own 51.4 percent of Puget Holdings, this is not a controlling share under Puget Holdings' governance structure, which requires a vote of 55 percent of the shares to support any action and a vote of 80 percent or more of the shares for certain significant corporate decisions.

<u>Organizational Chart governing Puget Sound Energy (PSE):</u>



Macquarie Infrastructure Partners. Macquarie Infrastructure Partners is a diversified, unlisted investment fund that is headquartered in New York. It focuses on infrastructure investments in the United States and Canada. The majority of its investors are US and Canadian institutions such as government pension funds, corporate pension funds, endowments, foundations and labor unions. Macquarie Infrastructure Partners currently has eleven infrastructure investments in the utility, toll road, ports and communications sectors

Macquarie Capital Group Ltd. Macquarie Capital Group Ltd. is a wholly owned subsidiary of the Australian-listed Macquarie Group Limited and the operating company for Macquarie Group Limited's non-banking operations. Macquarie Capital Group Ltd. often invests alongside Macquarie Group-managed funds in investments of this kind in an underwriting capacity. This is the case for Puget Holdings, and Macquarie Capital Group Ltd. expects to sell down its minority position to other Macquarie Group-managed funds or other like-minded third party investors prior to financial close or shortly thereafter.

Macquarie-FSS Infrastructure Trust. Macquarie-FSS Infrastructure Trust is an unlisted Australian infrastructure trust managed by Macquarie Specialized Asset Management Limited. The investment objective of Macquarie-FSS Infrastructure Trust is to make investments in a diversified range of infrastructure and related assets. It currently holds interests in five assets across sectors including communications infrastructure, vehicle inspection, utilities, and water infrastructure in three countries: the United States, Spain, and the U.K.

CPPIB -The Canada Plan Pension Investment Board (CPPIB)

bcIMC - British Columbia Investment Management Corporation (bcIMC)

AIMCo - The Alberta Investment Management Corporation (AIMCo)

Equico - following closing of the Proposed Transaction, all of the common stock of Puget Energy will be owned by "Equico," which will be a new Washington limited liability company. "Equico" will be a wholly-owned subsidiary of Puget Intermediate. "Equico" is expected to be established as a bankruptcy-remote special purpose entity, and shall not have debt.

Puget Holdings, which is an "Investor Consortium" (Consortium) comprised of several private equity investment companies and several government pension fund managers, all of which maintain portfolios of investments, including infrastructure investments, in the U.S., Canada, and several other nations.

Puget Intermediate Holdings - PSE's customers will be held harmless from the liabilities of any non-regulated activity of PSE or Puget Holdings. In any proceeding before the Commission involving rates of PSE, the fair rate of return for PSE will be determined without regard to any adverse consequences that are demonstrated to be attributable to the non-regulated activities. Any new non-regulated subsidiary will be established as a subsidiary of either Puget Holdings or Puget Intermediate Holdings Inc., rather than as a subsidiary of PSE.

Attachment 2

Examples of other transactions involving Macquarie that were deceptive

1. According to a Wikipedia write up on the Macquarie Group,[6] "Macquarie Group through its subsidiary Macquarie Equipment Rentals has allegedly been perpetrating a Telco finance scam. Macquarie Equipment Rentals has sued over 300 victims of the scam which involves bundling a finance equipment contract with a contract from a small telecommunications company, often obscuring that the finance contract exists.
   The scam involves the telecommunications company promising free equipment such as Plasma TVs, while offering a lower cost phone deal that offsets the cost of the equipment. The victim is then tricked into signing two contracts with the true costs often hidden, whilst being verbally promised that they will be free. The telecommunications company is paid an upfront fee by the finance company, and sometime later disappears. The victim is then left with an inflated finance company lease that requires the victim to pay often tens of thousands of dollars for equipment that in reality costs a fraction of the price."
2. Macquarie Capital was the lead underwriter on a secondary public stock offering in 2010 by Puda Coal, which traded on the New York Stock Exchange at the time and purported to own a coal company in the People's Republic of China (PRC). In the offering documents, Puda Coal falsely told investors that it held a 90-percent ownership stake in the Chinese coal company. Macquarie Capital repeated those statements in its marketing materials for the offering despite obtaining a report from Kroll showing that Puda Coal did not own any part of the coal company.[7]

[6] https://en.wikipedia.org/wiki/Macquarie_Group#Criticism
[7] https://www.sec.gov/news/pressrelease/2015-51.html