EXH. RJR-30T
DOCKETS UE-170033/UG-170034
2017 PSE GENERAL RATE CASE
WITNESS: RONALD J. ROBERTS

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY,** **Respondent.**	**Docket UE-170033** **Docket UG-170034**

PREFILED REBUTTAL TESTIMONY (NONCONFIDENTIAL) OF

RONALD J. ROBERTS

ON BEHALF OF PUGET SOUND ENERGY

AUGUST 9, 2017

PUGET SOUND ENERGY

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PUGET SOUND ENERGY

PREFILED REBUTTAL TESTIMONY (NONCONFIDENTIAL) OF RONALD J. ROBERTS

I. INTRODUCTION

Q. Are you the same Ronald J. Roberts who submitted prefiled direct testimony on January 13, 2017, on behalf of Puget Sound Energy ("PSE") in this proceeding?

A. Yes.

Q. What is the purpose of your rebuttal testimony?

A. This rebuttal testimony addresses the following:

(i) mischaracterizations of the planned closure of Colstrip Units 1 and 2 as an "early retirement" of those units;

(ii) plans of Talen Montana to continue to serve as operator of each of the Colstrip units;

(iii) PSE intention to work with Talen Montana to create a plan that maintains the usefulness of Colstrip Units 1 and 2, ensures that Talen Montana continues to operate the units in a safe manner, and excludes work that would extend the life of Colstrip Units 1 and 2 beyond their identified retirement date;

(iv) reasons why the arguments of the Industrial Customers of Northwest Utilities ("ICNU") regarding the wet ash disposal system for Colstrip Units 1 and 2 are misplaced;

(v) PSE's intent to continue to be involved in the community of Colstrip, Montana for the foreseeable future; and

(vi) updates to PSE's production operation and maintenance ("O&M") costs.

II. COLSTRIP

A. Parties Mischaracterize the Planned Closure of Colstrip Units 1 and 2 as an "Early Retirement" of Those Units

Q. Are parties to this proceeding correct in characterizing the closure of Colstrip Units 1 and 2 no later than mid-2022 as "early retirement" of those units?

A. No. Parties to this proceeding have mischaracterized the closure of Colstrip Units 1 and 2 no later than mid-2022 as "early retirement" of those units.[1] Colstrip Units 1 and 2 began operations in 1975 and 1976, respectively, and a scheduled closure of units over forty-five years after they began operations is not an "early retirement".

It appears that parties use the phrase "early retirement" in relation to depreciation schedules for Colstrip Units 1 and 2 established in Docket UE-072300 ("2007 GRC"). In the 2007 GRC PSE recommended the use of depreciation schedules that projected service lives of the Colstrip units of between forty and forty-five years. Specifically, PSE's proposed depreciation schedule in the 2007 GRC projected that Colstrip Units 1 and 2 would retire in 2019, Colstrip Unit 3 would retire in 2024, and Colstrip Unit 4 would retire in 2026. PSE's recommended depreciation schedules in the 2007 GRC expressly took into

[1] *See, e.g.,* Hancock, CSH-1CT at 21:13 – 22:3; McGuire, Exh. CRM-1T at 16:13-21; Mullins, Exh. BGM-1CT at 4:1 – 25:22; Power, Exh. TMP-1T at 17:26 – 20:25.

consideration the physical condition, capital expenditures, fuel supply, and environmental and other regulations affecting the units. Although the settlement approved by the Washington Utilities and Transportation Commission ("Commission") in the 2007 GRC generally accepted the results of an updated depreciation study commissioned by PSE, the settlement reflected adjustments from the Company's rebuttal filing to reflect WUTC Staff's ("Staff") and Public Counsel's proposed Colstrip depreciable life of 60 years:

> Another significant feature of the overall settlement is the parties' agreement to accept the results of an updated depreciation study commissioned by PSE, with one adjustment, for purposes of resolving this case. The electric depreciation rates have been adjusted from the Company's rebuttal filing to reflect Staff's and Public Counsel's proposed Colstrip depreciable life of 60 years.

Since PSE identified a likely retirement date of 2019 for Colstrip Units 1 and 2 in the 2007 GRC, a number of additional factors have affected the economic lives of Colstrip Units 1 and 2.

The U.S. Environmental Protection Agency's Regional Haze Rule, which relies on the Best Available Retrofit Technology standard, has been applied and implemented in Montana. Analysis of the Regional Haze Rule suggest that the retirement of Colstrip Units 1 and 2 ensures that Colstrip Units 3 and 4 would meet future requirements, without costly emission control equipment additions.

Talen Montana and PSE also considered the federal Clean Power Plan compliance requirements (since stayed) when considering retirement dates for Colstrip Units 1 and 2. Additionally, the Coal Combustion Residuals Rule and the Administrative Order on Consent between all of the Colstrip owners and the

Montana Department of Environment Quality placed restrictions and obligations on Colstrip Units 1 and 2 that were not foreseen in 2007.

In deciding on a planned retirement date of mid-2022, PSE also took into account a myriad of other factors, such as (i) coal supply arrangements for Colstrip Units 1 and 2, (ii) overall energy markets, (iii) potential tax and policy changes by state and federal governments, (iv) future costs for water management; and (v) the commitment of Talen Montana to continued operations of Colstrip Units 1 and 2.

Additionally, it is important to note that the expected lives of Colstrip Units 1 and 2—first generation coal plants designed for lower quality Powder River Basin coal—was 25-30 years. Colstrip Units 1 and 2 have now reached over 40 years of service life, and the assumption that these units could continue to run for another two decades is optimistic, at best. It would be a mischaracterization to suggest that a planned retirement date of mid-2022 for Colstrip Units 1 and 2 is an "early retirement" of those units.

Much has changed in the electricity industry in the last decade with respect to coal-fired generating units. In agreeing to retire Colstrip Units 1 and 2 no later than mid-2022, PSE fulfilled its obligation to evaluate its generation portfolio and respond to market, legal, and regulatory pressures.

Q. Are the issues discussed above for Colstrip Units 1 and 2 pertinent to Colstrip Units 3 and 4?

A. Yes. The issues discussed above for Colstrip Units 1 and 2 are pertinent to Colstrip Units 3 and 4. Foremost, ever-changing market and economic forces affect Colstrip Units 3 and 4. PSE's 2013 Integrated Resource Plan identified three risk factors as influences on Colstrip – carbon pricing, coal combustion residuals disposal costs, and natural gas prices. Even in the absence of carbon pricing, low natural gas prices and increased penetration of renewable energy and periods of negative pricing have eroded some of the traditional cost advantage that Colstrip Units 3 and 4 enjoyed vis-à-vis wholesale electricity prices. Moreover, there have been numerous proposals to implement carbon pricing in Washington State, and PSE must continue to be vigilant in its evaluation of the value of Colstrip Units 3 and 4 in light of these changing circumstances.

Finally, policy decisions in other jurisdictions also could affect the economic lives of Colstrip Units 3 and 4. For example, the State of Oregon passed a legislative measure in 2016 that requires Oregon-serving utilities to remove coal-fired generation resources for their electric allocation by 2030. At this time, PSE does not know if or how this measure will affect the operations of other co-owners of Colstrip Units 3 and 4 affected by this Oregon legislation (i.e., Portland General Electric Company and PacifiCorp). Additionally, environmental regulations at federal and state levels continue to evolve that could affect Colstrip Units 3 and 4.

Q. Have any decisions been made regarding planned retirement of Colstrip Units 3 and 4?

A. No. No decisions have been made regarding planned retirement of Colstrip Units 3 and 4. Operational costs for Colstrip Units 1 and 2 are different than operating costs for Colstrip Units 3 and 4. Coal fuel costs for Colstrip Units 1 and

2 are higher than coal fuel costs for Colstrip Units 3 and 4 due to the mining area utilized for Colstrip Units 1 and 2 and the cost of coal transport. Also, Colstrip Units 1 and 2 are older than Colstrip Units 3 and 4, and the two sets of units have different generation and environmental technologies.

Each of PSE and Talen Montana has an undivided 50 percent ownership of Colstrip Units 1 and 2. Therefore, any disagreement between PSE (a regulated utility) and Talen Montana (a merchant generator) would result in a deadlock between two entities with different business obligations. Talen Montana and PSE are wholly different business models. Talen Energy is a merchant generator, running plants to sell energy into the open market. Talen Montana makes money when the cost of production of Colstrip Units 1 and 2 is lower than prevailing wholesale electricity prices. PSE is a regulated utility with an obligation to serve customers. Therefore, PSE places a greater value on reliability and capacity than would a merchant generator, while also valuing low-cost production.

The ownership structure of Colstrip Units 3 and 4 is significantly different than the ownership structure of Colstrip Units 1 and 2. For example, each of PSE and Talen Montana has an undivided 50 percent ownership of Colstrip Units 1 and 2. Therefore, any disagreement between PSE (a regulated utility) and Talen Montana (a merchant generator) would result in a deadlock between two entities with different business obligations. Colstrip Units 3 and 4, however, are predominately owned by five regulated utilities with obligations to serve their customers and a merchant generator.

In short, Colstrip Units 3 and 4 owners must make a consensus decision to seek a retirement date for those units, and no decision has been made on a future retirement date.

B. Talen Montana Will Serve as Operator of Each of Colstrip Units 1 and 2 and Colstrip Units 3 and 4 and Has Indicated Intentions to Maintain Operations at Colstrip Units 1 and 2 Until the Scheduled Retirement Date in Mid-2022

Q. Can you provide an update on the ownership of Talen Montana?

A. Riverstone Holdings LLC ("Riverstone") acquired Talen Energy (the parent company of Talen Montana) in December 2016. Since that time, Riverstone has been familiarizing itself with the assets that came with Talen Energy, including the interests of Talen Montana in Colstrip Units 1 and 2 and Colstrip Units 3 and 4. Additionally, Riverstone has made significant changes in the management structure of Talen Energy. Riverstone has changed the executive team that had been overseeing Talen Montana, and a new executive team is now addressing Talen Montana's interests in the Colstrip units.

Q. Can you provide an update on the role of Talen Montana as operator of each of Colstrip Units 1 and 2 and Colstrip Units 3 and 4?

A. By letter dated June 19, 2017, Talen Montana provided the other owners of Colstrip Units 3 and 4 with notice of withdrawal of Talen Montana's prior resignation as operator of those units.[2] In July 2017, the owners of Colstrip

[2] *See* Smith, Exh. RCS-10C at 19-20.

Units 3 and 4 considered and accepted the withdrawal of Talen Montana's prior resignation as operator of those units. Furthermore, Talen Montana has also recently indicated intentions to seek new customers for generation from its share of Colstrip Units 1 and 2 and to maintain operations at Colstrip Units 1 and 2 until the scheduled retirement date in mid-2022.

Q. Has any party to this proceeding made a recommendation regarding the recovery of costs incurred by PSE in response to Talen Montana's prior notice of withdrawal as operator of the Colstrip units?

A. Yes. Public Counsel's testimony recommends that PSE remove all of its out-of-pocket costs related to efforts to transition to a new operator of the Colstrip units from the revenue requirement in the current rate case and to collect those costs from Talen Montana.[3] This recommendation results from an offer for reimbursement by Talen Montana in the letter dated June 19, 2017:

> Additionally, as a gesture of good faith and to remedy the financial impacts resulting from the notice of intent to resign, Talen Montana is prepared to reimburse the other owners for their reasonable out-of-pocket costs incurred to date related to the effort to transition to a new operator, including the fees paid to the Owners' joint legal counsel, up to $225,000 in the aggregate.[4]

PSE will be working with the other co-owners of Colstrip Units 3 and 4 to seek reimbursement from Talen Montana for costs associated with pursuing a new operator for the Colstrip units. PSE would note that the majority of external costs

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3 Smith, Exh. RCS-1CT at 75:2-6.

4 Smith, Exh. RCS-10C at 20.

associated with the work to transition the role of operator of the Colstrip units began after September 30, 2016, and are not included in the revenue requirement in this proceeding.

C. PSE Will Work with Talen Montana to Create a Plan that Maintains the Usefulness of Colstrip Units 1 and 2, Ensures that Talen Montana Continues to Operate the Units in a Safe Manner, and Excludes Work that Would Extend the Life of Colstrip Units 1 and 2 Beyond Their Identified Retirement Date

Q. Will operating and capital costs for Colstrip Units 1 and 2 change between present day and the retirement of those units?

A. As operator, Talen Montana provides the budget for of Colstrip Units 1 and 2 operations. Given the settlement agreement that fixes a retirement date for Colstrip Units 1 and 2 of not later than July 1, 2022, the adopted budget for 2017 reflects reductions in capital spending.

Q. Have Talen Montana and PSE discussed the need to evaluate budgeting in light of the planned retirement of Colstrip Units 1 and 2?

A. Yes. Talen and PSE have discussed the need to evaluate budgeting in light of the planned retirement of Colstrip Units 1 and 2. Although Talen Montana and PSE will evaluate budgets with the future retirement in mind, they will not pursue cost measures that could sacrifice safety. Indeed, Talen Montana must operate Colstrip Units 1 and 2 in a manner that puts the safety of workers as the top priority. PSE will work with Talen Montana to create a plan that (i) ensures that Talen Montana continues to operate Colstrip Units 1 and 2 in a safe manner; (ii) maintains the usefulness of Colstrip Units 1 and 2; and (iii) excludes work that would extend the life of Colstrip Units 1 and 2 beyond their identified retirement date.

Q. Does any party make any recommendations regarding future capital spending for Colstrip Units 1 and 2?

A. Yes. ICNU's testimony suggests that PSE accrue any additional capital expenditures at Colstrip Units 1 and 2 into an unrecovered investment balance, subject to review by the Commission.[5] Please see the Prefiled Rebuttal Testimony of Katherine J. Barnard, Exh. KJB-17T, for PSE's response to the ICNU proposal.

D. ICNU's Arguments Regarding the Wet Ash Disposal System for Colstrip Units 1 and 2 Are Misplaced

Q. Why was a wet ash disposal system selected in lieu of a dry ash disposal system for Colstrip Units 1 and 2?

A. Colstrip Units 1 and 2 were designed to burn low-sulfur, subbituminous coal from the adjacent Rosebud coal mine. Yet even with the low sulfur coal, Colstrip Units 1 and 2 needed to install additional pollution control technology to meet the NSPS Subpart D requirements. The owners of Colstrip Units 1 and 2 chose a then-state-of-the art wet Venturi scrubber as an integrated system to control sulfur dioxide and particulate matter to levels well below that required by the Clean Air Act. The system used the naturally high alkalinity of the fly ash created by coal combustion to assist in the removal of sulfur dioxide.

[5] Mullins, Exh. BGM-1CT at 22:4-13.

At the time of development of Colstrip Units 1 and 2, wet scrubbing technology was the primary control option available to reduce sulfur dioxide from flue gas. By using each unit's own fly ash to control sulfur dioxide, the system was able to significantly reduce sulfur dioxide without the need for lime or other additives.

Q. Were dry ash disposal systems commercially available at the time of the development of Colstrip Units 1 and 2?

A. No. Dry scrubbing was not commercially available at the time of the development of Colstrip Units 1 and 2. Indeed, even by mid-1979, the U.S. Environmental Protection Agency described dry scrubbing as an emerging technology, and noted that there were no full scale dry scrubbers in operation at any utility plant.[6] The wet scrubbers at Colstrip Units 1 and 2 substantially exceeded their design specifications and were able to reduce emissions to levels well below required amounts. Over the forty years that Colstrip Units 1 and 2 have been in operation, the wet scrubbers have continued to maintain the units in compliance with the Clean Air Act's requirements and have aided in Montana's compliance with ambient air quality standards.

[6] New Stationary Source Performance Standards: Electric Utility Steam Generating. Units, 44 Fed. Reg. 33,580, 33,594 (June 11, 1979).

Q. Could the owners of Colstrip Units 1 and 2 elected to install a dry ash disposal system at the time of the development of Colstrip Units 1 and 2?

A. No. Although ICNU criticizes the use of wet ash disposal system selected in lieu of a dry ash disposal system at Colstrip Units 1 and 2,[7] it would have been impossible for PSE to foresee and approve a more expensive, emerging technology versus a lower-cost, proven and commercially available technology at the time of the development of Colstrip Units 1 and 2 in the late 1960s.

Furthermore, the ICNU testimony fails to consider other environmental regulations that Colstrip Units 1 and 2 must meet, such as air pollution standards. At the time of the construction of Colstrip Units 1 and 2, the Venturi (with alkali chemical) system was state of the art scrubber technology. In the application for a Construction Permit to the Montana Department of Health and Environmental Services for Colstrip Units 1 and 2, the gas scrubbing system specification are listed, and the note in Item II of the document states:

> This equipment will be guaranteed to limit particulate emissions to .018 grains per actual cubic foot and to limit sulfur oxide emissions to 1.0 lbs per million Btu input over the entire operating range of the power plant.

Please see the First Exhibit to the Prefiled Rebuttal Testimony of Ronald J. Roberts, Exh. RJR-31, for a copy of the application for a Construction Permit to the Montana Department of Health and Environmental Services for Colstrip Units 1 and 2.

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[7] Mullins, Exh. BCM-1CT at 17:12 – 19:10.

In short, the wet ash disposal system ensured that Colstrip Units 1 and 2 would meet the then-existing Clean Air Act performance standards.

Q. Could the owners of Colstrip Units 1 and 2 subsequently elected to install a dry ash disposal system?

A. It may be that the ICNU testimony argues that the owners of Colstrip Units 1 and 2 could have elected to install a dry ash disposal system for the second stage of the ponds. The Study of Alternate Ash Disposal Methods For Colstrip Units No. 1 and No. 2, issued by The Montana Power Company in February 1985, clearly states in section 4.2 that the wet ash disposal system was the superior choice at that time:

> The choice of which of the two main disposal methods the Company should pursue was made fairly simple due to the magnitude of the cost differential between them. The pond method is less expensive on a levelized annual basis by a margin ranging from $283,000 per year to as much as $1,907,000 per year. This difference amounts to millions of dollars over the 25-year life of the project. It was determined, therefore, that this cost advantage of the pond method far outweighed the disadvantages associated with it. Only if the levelized annual costs were nearly equal, would there be a need to assign an importance level to each advantage and disadvantage and make an evaluation based on such weighting.[8]

Please see the Second Exhibit to the Prefiled Rebuttal Testimony of Ronald J. Roberts, Exh. RJR-32, for a copy of the Study of Alternate Ash Disposal Methods For Colstrip Units No. 1 and No. 2, issued by The Montana Power Company in February 1985. Furthermore, the report also states in addressing the advantages

[8] Roberts, Exh. RJR-32 at 72-73.

and disadvantages of each system that “the differences (e.g. permitting) are difficult to quantity [sic] and are quite subjective.”[9]

Finally, the ICNU testimony adds its own qualifier in stating that the wet disposal option carried a “significant risk of groundwater contamination.”[10] This is a mischaracterization of the report’s ultimate conclusions and takes certain areas out of context regarding groundwater. Although the report acknowledges pond seepage and groundwater as environmental considerations, it ultimately recommends pond construction (i.e., wet disposal) and groundwater monitoring programs. Further, the report makes no in-depth comparison between the risks of groundwater contamination and associated costs of installing a wet versus dry disposal system. The report simply states that wet (pond) disposal has a “Greater potential for groundwater impacts” while dry disposal has “Less potential for groundwater impacts.”[11] Overall, the report recommends wet ash disposal, and there is no basis to suggest that the owners of Colstrip Units 1 and 2 should have elected a dry ash disposal system at the time the second stage ponds were developed.

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9 Roberts, Exh. RJR-32 at 71.

10 Mullins, Exh. BCM-1CT at 17:1.

11 Roberts, Exh. RJR-32 at 72.

E. PSE Will Continue to be Involved in the Community of Colstrip, Montana for the Foreseeable Future

Q. How does PSE see its future involvement in the community of Colstrip, Montana?

A. As pointed out in the testimony of NW Energy Coalition, Renewable Northwest, and Natural Resources Defense Council,[12] PSE has been a long-standing business partner in the community of Colstrip, Montana. Over the past four decades, PSE has provided the financial support for the construction and operation of Colstrip Units 1 through 4 over four decades. At the time of the design and construction of Colstrip Units 1 and 2, the coal mining operations in Colstrip, Montana, had been shuttered for more than a decade. Colstrip Units 1 and 2 gave the area a renewed economic opportunity, also linked to coal. PSE recognizes that Colstrip Units 1 and 2 have been a significant contributor to the direct and indirect tax base in Montana and provided good family wage jobs for Colstrip, Montana.

In creating the Coal Severance Tax Fund to provide ongoing financial resources for the state and its citizens, Montanans foresaw the day when coal use would decline or the resource would be depleted. The time for declining coal use has come, pushed by lower natural gas costs, increased use of renewable generation, changing public opinion change on coal usage, and environmental regulation applicable to coal-burning facilities. The Coal Severance Tax Fund relies on the 15 percent coal severance tax which is paid though each ton of coal the owners

[12] *See generally* Powers, Exh. TMP-1T.

supply to the Colstrip units. This coal tax helps support Montana now and will for years to come.

As the operator of Colstrip Units 1 through 4, Talen Montana provides a safe and productive work environment to its employees. When Colstrip Units 1 and 2 retire, approximately a third of the current capacity of the Colstrip units will be shuttered. Talen Montana has agreed with PSE's position that, as an integrated workforce, Talen Montana must provide a worker transition plan that respects long-standing employees and maintains a successful operation of Colstrip Units 3 and 4. Talen will be managing Colstrip Units 3 and 4 to provide as little disruption to employees as possible.

As the nation transitions away from coal generation, the federal government has recognized the impact that closure of coal units can have on communities. Montana Governor Steve Bullock recently announced a $4.6 million dollar grant obtain through the POWER program at the U.S. Department of Labor. The grant is targeted to help with work-force training in communities affected by coal industry decline. This grant may be helpful to those in the community of Colstrip. Montana, who choose to train for a future time when coal jobs in general are in shorter supply.

Economic diversification will be important for the long term future of Colstrip, Montana. The community has taken on this work seriously. The city and the Southeastern Montana Development Corporation have already produced a Colstrip Economic Diversification Strategy. The plan is an organic document that received the input of the residents and workers in the area and takes into account what they see in their future. PSE looks forward to supporting this effort and others to support Colstrip, Montana.

III. PRODUCTION O&M

Q. Are you proposing any changes to production O&M in this rebuttal?

A. Yes. PSE is proposing two adjustments to production O&M. These adjustments reduce production O&M from $147.0 million in the initial filing to $145.4 million in the rebuttal filing. This results in a reduction of $1.6 million.

Q. What is the nature of these reductions?

A. The first adjustment is a reduction to amortization associated with major maintenance for Colstrip Units 1 and 2. The amortization period for the 2017 outage for Colstrip Unit 1 has been extended from 36 months to 60 months. The amortization period for the 2018 outage for Colstrip Unit 2 has been extended from 36 months to 48 months. The amortization period for both of these events now extend to the projected closing date in mid-2022.

Q. What is nature of the second adjustment?

A. The second adjustment is a reduction of hydroelectric license O&M from $3.495 million to $2.903 million; a reduction of $0.591 million. The initial filing was based on rate year budgeted license O&M. Hydroelectric license O&M in the rebuttal is based on test year actual license O&M.

Q. Why is PSE reducing hydroelectric license O&M from the amount you presented in your prefiled direct testimony?

A. Staff recommends that the Commission adjust PSE's O&M amounts related to licensing activities for PSE's Baker and Snoqualmie Hydroelectric Projects because these projects have experienced a history of significant swings in budget to actual expenses. Therefore, as Staff explains, PSE should eliminate forecasted rate year licensing expenses for the Baker and Snoqualmie Hydroelectric Projects because, in Staff's opinion, they are not sufficiently known and measurable.[13]

Although PSE believes that its budgeted hydroelectric licensing expenses are sufficiently known and measurable, and although PSE's process is consistent with the ratemaking treatment that has been approved by the Commission in past rate proceedings, PSE finds Staff's recommendation reasonable in light of the historic swings in budget versus actual expenses for these hydroelectric projects.

IV. CONCLUSION

Q. Does this conclude your rebuttal testimony?

A. Yes.

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[13] Gomez, Exh. DCG-1CT at 11:5 – 13:12.