

**EXH. DAH-1T  
DOCKET PG-160924  
WITNESS: DUANE A. HENDERSON**

**BEFORE THE  
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION,**

**Complainant,**

**v.**

**PUGET SOUND ENERGY,**

**Respondent.**

**Docket PG-160924**

**PREFILED RESPONSE TESTIMONY (NONCONFIDENTIAL) OF  
DUANE A. HENDERSON  
ON BEHALF OF PUGET SOUND ENERGY**

**MAY 8, 2017**

**PUGET SOUND ENERGY**

**PREFILED RESPONSE TESTIMONY (NONCONFIDENTIAL) OF  
DUANE A. HENDERSON**

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1 **PUGET SOUND ENERGY**

2 **PREFILED RESPONSE TESTIMONY (NONCONFIDENTIAL) OF**  
3 **DUANE A. HENDERSON**

4 **I. INTRODUCTION**

5 **Q. Please state your name, business address, and position with Puget Sound**  
6 **Energy.**

7 A. My name is Duane A. Henderson. My business address is 10885 NE 4<sup>th</sup> Street,  
8 Bellevue, Washington, 98009-5591. I am Manager Gas System Integrity for  
9 Puget Sound Energy (“PSE”).

10 **Q. Have you prepared an exhibit describing your education, relevant**  
11 **employment experience, and other professional qualifications?**

12 A. Yes, I have. It is Exh. DAH-2.

13 **Q. What is the purpose of your Prefiled Response Testimony?**

14 A. This testimony responds to the Prefiled Direct Testimony of Sebastian Coppola,  
15 Exh. SC-1T, on behalf of Public Counsel. Specifically, I respond to Mr.  
16 Coppola’s recommendations to modify the Deactivated Gas Line Inspection and  
17 Remediation Program (“Inspection Program”) filed in support of the proposed  
18 Settlement Agreement. Mr. Coppola testifies that he generally accepts the  
19 Inspection Program as filed,<sup>1</sup> nonetheless he recommends that the Commission

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<sup>1</sup> See Exh. SC-1T at 9, lines 10-11.

1 make several modifications to the Plan. Mr. Coppola recommends (1) that the  
2 Inspection Program exclude reference to PSE’s contractor, Pilchuck Contractors,  
3 Inc. (“Pilchuck”), (2) the Inspection Program’s definitions be revised to expressly  
4 add businesses to the definition of High Occupancy Structures, (3) the confidence  
5 level for Populations 3 and 4 be revised to one percent, (4) PSE be required to  
6 maintain additional records and checklists, and (5) that the Commission  
7 “encourage or direct” PSE to remove above-ground services that have been  
8 inactive for at least twelve months. For the reasons I explain below, the  
9 Commission should reject all of Public Counsel’s proposed modifications. In  
10 addition to the above, I also refute several of the factual inaccuracies contained in  
11 Mr. Coppola’s testimony.

12 **II. PSE’S RESPONSE TO PUBLIC COUNSEL’S**  
13 **PROPOSED REVISIONS TO THE INSPECTION PROGRAM**

14 **Q. Why does PSE oppose Public Counsel’s proposed revisions?**

15 A. PSE opposes Public Counsel’s revisions to the Inspection Program both because  
16 of their substance and because of how the recommendations were made. PSE,  
17 Commission Staff and Public Counsel each participated in multiple, lengthy  
18 settlement discussions. Public Counsel, and specifically Mr. Coppola,  
19 participated in these discussions. During the negotiations, based on the nature of  
20 his questions, comments, and assumptions, it became apparent that Mr. Coppola  
21 does not have an understanding of gas safety operations, PSE’s gas system and  
22 processes, or the Commission’s enforcement policies. The recommendations

1 proposed by Mr. Coppola are therefore not based on a knowledge of gas system  
2 safety; rather they appear to be cosmetic modifications that will disrupt the  
3 carefully-crafted Inspection Program without creating any meaningful  
4 improvement to it.

5 PSE also opposes Public Counsel's recommendations because they amount to last  
6 minute interjections after Public Counsel approved of the Inspection Program as it  
7 was filed. Commission Staff and PSE reached a settlement agreement and the  
8 Inspection Program is an integral part of the agreement. Settlement negotiations  
9 have concluded and, while one or more of Public Counsel's proposals may seem  
10 minor, even a minor revision may impair the Inspection Program and result in  
11 Commission Staff or PSE rejecting the Settlement Agreement.

12 **Q. Why does PSE oppose removing "Pilchuck" from the Inspection Program, as**  
13 **Public Counsel recommends?**

14 A. Mr. Coppola's first recommendation is to delete the name "Pilchuck" from page 2  
15 of the Inspection Program. Public Counsel justifies the proposed revision by  
16 claiming that limiting inspections to services retired only by Pilchuck would leave  
17 an inspection gap where services retired between 2000 and 2010 by other  
18 contractors or by PSE employees would not be inspected. While this  
19 modification would appear to broaden the scope of gas services to be sampled, it  
20 actually would do no such thing. Pilchuck performed virtually all gas service  
21 retirements in PSE's system between 2000 and 2010. As a result, PSE did not  
22 distinguish between who performed the retirement work when determining the

1 locations to be included in Population 2. Public Counsel’s proposed revision is  
2 unnecessary because the Inspection Program as filed already obligates PSE to  
3 inspect all services retired between 2000 and 2010. Therefore, there is no  
4 inspection gap, and the deletion of Pilchuck from page 2 of the Inspection  
5 Program would create no benefit to the Plan.

6 **Q. Why does PSE oppose changing the definition of High Occupancy Structures**  
7 **to expressly include businesses?**

8 A. Mr. Coppola’s second recommendation is to clarify the definition of “High  
9 Occupancy Structures” to include businesses. The current definition of High  
10 Occupancy Structures is:

11 A building or an outside area (such as a playground, recreation  
12 area, outdoor theater, or other place of public assembly) that is  
13 occupied by 20 or more persons on at least 5 days a week for 10  
14 weeks in any 12-month period. (The days and weeks need not be  
15 consecutive.)

16 The meaning of High Occupancy Structure was not created by the parties, it is  
17 defined in WAC 480-93-005(14). Mr. Coppola’s recommendation to change the  
18 Commission’s definition of High Occupancy Structure underscores his  
19 unfamiliarity with the Commission’s gas safety regulations. Further, as with  
20 Public Counsel’s first recommendation, changing the definition of High  
21 Occupancy Structures to include businesses would not be a meaningful change to  
22 the Inspection Program. The definition of High Occupancy Structures already  
23 includes businesses if a business satisfies the occupancy threshold. Expressly  
24 including the word “businesses” in the definition of High Occupancy Structures

1 would not change the scope of the definition. Rather, it would add confusion if it  
2 is not clear that a particular business meets the occupancy threshold. Further, it  
3 would potentially diminish or change the purpose behind the meaning of High  
4 Occupancy Structures if the definition's focus shifted from a building's  
5 occupancy to its use. This is not what the parties, nor the Commission, intended.

6 **Q. Why does PSE oppose Public Counsel's recommendation to change the**  
7 **sample sizes outlined in sample populations 2 and 3?**

8 A. Mr. Coppola's third recommendation is regarding the sampling size for initial  
9 inspections in three sample populations. Population 2 involves inspections of  
10 sample populations that are considered a higher priority than Population 3, which  
11 is a higher priority than Population 4. The initial inspection size for Population 2  
12 covers services retired during the years 2000-2010, with initial inspections at  
13 locations with a confidence level of 99 percent, a population percentage of 50  
14 percent and precision or confidence interval of one percent. Population 3 samples  
15 services retired prior to 2000, with initial inspections involving those locations  
16 with a confidence level of 99 percent, a population percentage of 50 percent and  
17 precision or confidence interval of two percent. Population 4 samples locations  
18 retired after 2010 that have a confidence level of 99 percent, a population  
19 percentage of 50 percent and precision or confidence interval of two percent. Mr.  
20 Coppola requests that Populations 3 and 4 increase sample locations to include  
21 those locations with a confidence interval of one percent. Mr. Coppola testifies  
22 that such modification should be made simply for consistency. "There is no valid

1 reason to differentiate between the three population groups. ...The Commission  
2 should set the confidence level (sic) at one percent for Population 3 and 4 to be  
3 consistent with Population 2.”<sup>2</sup> The Commission should reject Mr. Coppola’s  
4 recommendation because it is an arbitrary modification that would create no other  
5 benefit than “consistency,” but which would substantively modify the plan,  
6 increase the number of initial inspections, and remove any prioritization among  
7 the populations. Considering Mr. Coppola’s consistency argument, it actually  
8 makes more sense to change one population’s confidence interval, Population 2,  
9 to two percent, rather than change two populations confidence levels to one  
10 percent.

11 Also, Mr. Coppola’s claim that there is no valid reason to differentiate between  
12 the three population groups is incorrect. As stated previously, the Inspection  
13 Program was the subject of lengthy, multiple settlement discussions. Both PSE  
14 and Commission Staff agreed on the population structure after much debate and  
15 examination into PSE’s data analysis, and both parties have their independent  
16 reasons for distinguishing the four population groups in the manner reflected in  
17 the Plan. To make a blanket statement that “there is no valid reason to  
18 differentiate between the three population groups” is incorrect. Mr. Coppola’s  
19 disagreement or misunderstanding of the reasons for the distinction does not mean  
20 there is no reason. The Inspection Program was designed to methodically inspect  
21 PSE’s gas facilities in sequence in order to prioritize the facilities the parties

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<sup>2</sup> Exh. SC-1T at 34, lines 18-19, 20-22.



1 determined should be inspected first. To change this would unnecessarily alter  
2 the Inspection Program.

3 **Q. Why does PSE oppose Public Counsel’s recommendation to require**  
4 **additional documentation?**

5 A. Mr. Coppola’s fourth recommendation is to require additional data collection and  
6 recordkeeping, including a new checklist requirement to verify work performed.  
7 Mr. Coppola’s recommendation should be rejected because it is unnecessary and  
8 unclear. It is unnecessary because PSE is already required to maintain  
9 comprehensive records of work performed on its gas system. Additionally,  
10 documentation and recordkeeping was specifically considered by the parties in  
11 settlement negotiations and is included in the Inspection Program in Section 4.  
12 Mr. Coppola provides the unsupported claim that without additional requirements,  
13 “there is a significant risk of a repeat incident similar to what occurred at 8409  
14 Greenwood North.”<sup>3</sup> Mr. Coppola’s fears are not credible.

15 Public Counsel’s recommendation for more recordkeeping should also be rejected  
16 because it is unclear. Public Counsel calls for “a comprehensive quality  
17 inspection and record keeping program,”<sup>4</sup> yet it describes no such program. It is  
18 even unclear whether Public Counsel recommends additional recordkeeping to  
19 apply to PSE’s general operations or to the Plan itself. PSE is not opposed to  
20 additional recordkeeping that adds value to its gas safety operations, but a blanket

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<sup>3</sup> Exh. SC-1T at 35, lines 6-8.

<sup>4</sup> Exh. SC-1T at 35, line 6.

1 statement that PSE just needs to do more is not constructive and should be  
2 rejected.

3 Mr. Coppola's last proposed modification to the Inspection Program is to require  
4 PSE to remove all aboveground services that have been inactive for at least  
5 twelve months unless there is an agreement with the property owner that service  
6 will resume "relatively soon."<sup>5</sup> PSE estimates that it has 4,381 unmetered  
7 services. These services may extend more than 100 feet in length. Mr. Coppola's  
8 recommendation would require PSE to significantly increase its field and  
9 administrative resources, but Mr. Coppola provides no evidence that removal of  
10 the services would provide more benefit than PSE's current procedures and those  
11 called for in the Inspection Program.

### 12 III. PUBLIC COUNSEL'S ERRORS OF FACT

13 **Q. Do you have any other observations regarding Public Counsel's testimony?**

14 A. Yes. The Prefiled Response Testimony of Catherine A. Koch, Exh. CAK-1T,  
15 responds to Public Counsel's request for additional penalties, and I support her  
16 conclusion that Mr. Coppola's testimony should be given no weight because he  
17 was not involved in the investigation, has limited gas operations expertise, and  
18 provides no insight or information that has not already been considered by  
19 Commission Staff. However, Mr. Coppola also makes several errors of fact that I  
20 am compelled to correct here.

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<sup>5</sup> Exh. SC-1T at 35, line 22.

1 **Q. What factual errors are in Mr. Coppola's testimony?**

2 A. Mr. Coppola makes several factual allegations against PSE that are incorrect and  
3 reflect a fundamental misunderstanding of the factual information in this case.  
4 Perhaps most significantly, Mr. Coppola's suggestion that he has identified  
5 "additional failures"<sup>6</sup> relating to PSE's actions relating to the service line at issue  
6 contains numerous factual errors and should be disregarded.

7 **Q. Do you have a response to Mr. Coppola's allegation that the D-4 Form was**  
8 **incorrectly filled out?**

9 A. Yes. Mr. Coppola's testimony that the D-4 Form for the service line at issue was  
10 filled out incorrectly is wrong and misrepresents PSE's Gas Operating Standard  
11 2500.1800. Mr. Coppola states that the D-4 Form was filled out incorrectly  
12 because the Form "was not signed by the Pilchuck crew member who completed  
13 the work but instead by the crew foreman"<sup>7</sup> and that this violated "Section  
14 3.12.2.7 of the Company's Gas Operating Standard 2500.1800, which requires  
15 that the name of the fitter performing the work be shown in the back of the D-4  
16 Form."<sup>8</sup> As stated by Mr. Coppola himself, Operating Standard 2500.1800 does  
17 not require the fitter to sign the Form; rather, it requires the fitter to be identified.  
18 Thus, Mr. Coppola's suggestion that "[b]y allowing the crew foreman to sign the

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<sup>6</sup> Exh. SC-1T at 17, line 18.

<sup>7</sup> Exh. SC-1T at 17, lines 21-22.

<sup>8</sup> Exh. SC-1T at 17, lines 23-25.

1 D-4 card, PSE or its agent undermines the separation of duties and the quality  
2 assurance program”<sup>9</sup> is baseless and should be ignored.

3 **Q. How do you respond to Mr. Coppola’s allegations surrounding PSE’s quality**  
4 **control program?**

5 A. Mr. Coppola has again misrepresented the information available to him in this  
6 case. As explained to Public Counsel, PSE’s quality assurance efforts are robust  
7 and require verification on several independent levels. First, all work performed  
8 by contractors are required to be inspected by the project foreman. The foreman’s  
9 approval of the work completed is verified in writing by the specific project  
10 records which for this case, were provided to Public Counsel for the service line  
11 at issue. Second, all contractors are required to have their own independent  
12 quality control program. Third, PSE then audits work completed by contractors  
13 by inspecting a sampling of projects. For Pilchuck in particular, PSE’s records  
14 indicate that audits completed of Pilchuck’s work dating back to 2004 reflect over  
15 90 percent satisfaction of Pilchuck’s work, and in many cases the satisfaction  
16 level exceeded 95 percent. These records were all provided to Public Counsel yet  
17 were not referenced in Mr. Coppola’s testimony. PSE acknowledges that in this  
18 instance, it appears Pilchuck failed to inspect the work performed and this project  
19 was not selected for audit by PSE. This project, however, with its unique factual  
20 circumstances, is the exception, not the norm. The overwhelming majority of

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<sup>9</sup> Exh. SC-1T at 17, line 26, to 18, line 2.

1 Pilchuck's work as audited by PSE was performed correctly. And, as noted  
2 above, contrary to Mr. Coppola's suggestion, there are written records of  
3 inspection and audits performed of work performed by contractors on behalf of  
4 PSE. Since 2004, PSE has also made changes to its audit program to strengthen  
5 the quality assurance processes in verifying work performed by contractors.  
6 Thus, Mr. Coppola's allegations regarding PSE's quality assurance processes are  
7 inaccurate and should be disregarded.

8 **Q. Are PSE's records of the status of Greenwood main gas line at issue correct?**

9 A. Yes. Mr. Coppola inaccurately assumes that the main along Greenwood Avenue  
10 was incorrectly designated as "Deactivated" at the time of the incident.<sup>10</sup> Mr.  
11 Coppola misunderstands the records provided in response to the data request.<sup>11</sup>  
12 The records PSE provided to Public Counsel represent the status of the gas main  
13 as of the date of the data request. At that time, the Greenwood Avenue main was  
14 "Deactivated" and PSE's records reflect that. Prior to the Greenwood incident,  
15 however, the gas main was active. Thus, PSE's records for the main were not  
16 incorrect and in no way reflect "poor record keeping."<sup>12</sup> Based on Mr. Coppola's  
17 misunderstanding of the records provided to him, Mr. Coppola then erroneously  
18 concludes that the "incorrect designation contributed to the six-hour lapsed time  
19 between when the explosion occurred and when the gas was ultimately shut-

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<sup>10</sup> Exh. SC-1T at 19, line 16.

<sup>11</sup> Public Counsel's Data Request No. 006 requested "a list of all natural gas pipelines in Puget Sound Energy's natural gas distribution system that have been abandoned between January 1, 2004, and present." PSE provided a spreadsheet containing the records requested.

<sup>12</sup> Exh. SC-1T at 20, lines 18-20.

1 off.”<sup>13</sup> Mr. Coppola provides no evidence for this assertion and there is no  
2 connection whatsoever to these records and PSE’s shut-off processes following  
3 the incident. Below I provide a detailed explanation of PSE’s shut-off processes  
4 following the incident and why it took the time it did.

5 **Q. Can you explain PSE’s processes for shutting-off gas flow following the**  
6 **explosion?**

7 A. Mr. Coppola states that PSE’s response in shutting off the gas was delayed, and  
8 such delay justifies more severe penalties, but Mr. Coppola’s testimony  
9 demonstrates his misunderstanding of gas supply operations.

10 **Q. How so?**

11 A. Mr. Coppola’s description ignores several contingencies at the incident scene that  
12 factored into PSE’s process for shutting off the gas supply. By the time PSE  
13 arrived at the incident scene, the explosion had already occurred. The cause of  
14 the incident was still unknown and shutting off the flow of gas was a priority, but  
15 there was no longer an imminent risk of an additional explosion. PSE quickly  
16 determined that there was not a spread of unignited gas and the firefighters on site  
17 had the fire under control to the extent that it was no longer a threat to adjacent  
18 buildings. PSE initially considered shutting off the flow of gas to the entire  
19 neighborhood by shutting off all the emergency section valves for the area. This,  
20 however, would have been extremely disruptive because it would have shut off

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<sup>13</sup> Exh. SC-1T at 20, lines 13-15.

1 gas to approximately 40,000 PSE gas customers, impacting customers far beyond  
2 the Greenwood area. Instead, because the fire was under control, PSE attempted  
3 to quickly turn off the gas in a systematic manner that targeted the specific area at  
4 issue without unnecessarily disrupting the surrounding community.

5 **Q. Why did it take the time period it did to shut off the valves?**

6 A. The gas main that provided service to the buildings that were affected by the  
7 incident were located in the alleyway behind the buildings. Therefore, PSE's first  
8 action was to close the service valves to the buildings fed by the main in the  
9 alleyway. When that did not stop the flow of gas, PSE decided to stop the flow of  
10 gas from the main in the alleyway that fed the service lines. This required PSE to  
11 excavate into the road at the alley entrance to close the main. When that did not  
12 eliminate the flow of gas to the fire, PSE turned its attention to the main located  
13 under Greenwood Avenue. PSE proceeded to immediately shut off the valves  
14 along Greenwood Avenue, including valves A through F. The closing of valves B  
15 through F proceeded without delay; however, the closing of valve A also required  
16 excavation because the valve A operating mechanism was not working properly.  
17 Once PSE excavated the area around valve A, PSE was able to close valve A,  
18 which stopped the flow of gas to the fire.

19 **Q. Why did PSE close main valve A last?**

20 A. Valve A was closed last because the valve operating mechanism was inoperable  
21 and PSE had to excavate the concrete around valve A to access the valve.

1 Otherwise, it would have been closed at approximately the same time valves B  
2 through F were closed.

3 **Q. Was the order in which the valves were operated indicative of lack of**  
4 **preparedness on PSE's part ?**

5 A. Not in the least. Each response to an event requires a site specific response plan  
6 to be developed. When one plan was not successful in eliminating the flow of  
7 fuel to the fire, PSE quickly set about implementing the next contingency to shut  
8 off flow in the main located in Greenwood Avenue. This contingency required  
9 the closure of a total of six valves, and the order and timing of operation was not  
10 important. However, with the exception of valve A, the closure of the valves  
11 occurred in quick succession and nearly simultaneously.

12 **Q. Are there other errors in Mr. Coppola's testimony?**

13 A. Yes. Mr. Coppola's claims regarding the cause of this explosion and past  
14 enforcement events are wrong. On page 27 of his testimony, Mr. Coppola states  
15 that a gas explosion in 2004 was caused by "PSE's failure to correctly configure a  
16 corrosion prevention device... ." This is absolutely not true. All experts retained  
17 by the parties in that proceeding agreed that the configuration of the corrosion  
18 prevention device had little or no bearing on the leak or the subsequent explosion  
19 in that case.<sup>14</sup> Mr. Coppola similarly attempts to paint the event in this  
20 proceeding with the same broad strokes when he claims, "PSE's improper

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<sup>14</sup> See *WUTC v. PSE*, Docket PG-041624, Revised Settlement Agreement at ¶ 6.



1 abandonment of the service line was the primary cause of the March 9, 2016, leak  
2 and explosion.”<sup>15</sup> Again, this is not true. Staff’s investigation found that the  
3 immediate structural cause of the natural gas leak and explosion was “external  
4 damage to a threaded coupling in the above-ground portion of the service line  
5 attached to the north-facing wall of the Mr. Gyros structure” caused by human  
6 activity, likely by unauthorized transients who frequently contacted the service  
7 line. The parties agreed that the service line was currently structurally sound.  
8 Had the service line not been compromised by human activities the incident  
9 would not have occurred. Mr. Coppola’s testimony should be rejected not only  
10 because he is not qualified to testify on gas safety issues, but his testimony  
11 ignores critical facts revealed during the investigation.

#### 12 IV. PROPOSED PENALTIES

13 **Q. How do you respond to Public Counsel’s claims that the amount of penalties**  
14 **is insufficient?**

15 A. As explained by Ms. Koch in Exh. CAK-1T, Mr. Coppola’s recommendations are  
16 based almost exclusively on second-hand information provided by Commission  
17 Staff and PSE. Therefore, Commission Staff considered everything Mr. Coppola  
18 considered. For example, Mr. Coppola references past PSE proceedings as  
19 justifications for increasing the penalty amount, yet Commission Staff is well  
20 aware of these proceedings because they were a party to them. Additionally, Mr.

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<sup>15</sup> Exh. SC-1T at 11, lines 15-16.

1 Coppola fundamentally misunderstands gas operations, in general, and PSE's  
2 system in particular.

3 Finally, Mr. Coppola refers to the eleven principles of the Commission's  
4 enforcement policy, claiming that Commission Staff's justifications were  
5 incomplete and "diminish the severity of the incident."<sup>16</sup> Mr. Coppola works in  
6 Rochester, Michigan, and there is no evidence that he has visited the site of the  
7 Greenwood explosion. He performed no independent investigation or analysis  
8 and instead relies wholly on Commission Staff's and PSE's investigations. Yet,  
9 he is requesting that the Commission replace Commission Staff's  
10 recommendation with his. There is simply no justifiable reason to substitute  
11 Commission Staff's years of experience and expertise in these types of matters for  
12 Mr. Coppola's opinions from a distance.

13 **Q. Does this conclude your prefiled response testimony?**

14 **A. Yes.**

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<sup>16</sup> Exh. SC-1T at 30, line 23.