D.P.U. 92-5A-1-A

Application of Fitchburg Gas and Electric Light Company under the provisions of G.L. c. 164, § 94G for approval by the Department of Public Utilities of the actual unit by unit and system performance of the Company with respect to each target set forth in the Company's approved performance program.

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FOR: FITCHBURG GAS AND ELECTRIC LIGHT COMPANY
Petitioner

ORDER ON MOTION FOR RECONSIDERATION

I. INTRODUCTION

On November 5, 1992, Fitchburg Gas and Electric Light Company ("Fitchburg" or "Company") filed with the Department a Motion for Reconsideration ("Motion") requesting the Department to reconsider and reverse its decision in Fitchburg Gas and Electric Light Company, D.P.U. 92-5A-1 (1992) ("Order"). In the Order, the Department found that a February 19, 1991 forced outage at New Haven Harbor ("NHH") resulted from imprudent actions by that plant's operator. As prescribed by G.L. c. 164, § 94G, the Department disallowed all incremental replacement power costs incurred by Fitchburg that were attributable to the forced outage at NHH between February 19, 1991 and March 3, 1991 and ordered Fitchburg to return these monies to ratepayers with interest.

II. STANDARD OF REVIEW

The Department's policy on reconsideration is well-settled. Reconsideration of previously decided issues is granted only when extraordinary circumstances dictate that we take a fresh look at the record for the express purpose of substantively modifying a decision after review and deliberation. Boston Edison Company, D.P.U. 90-270-A at 2-3 (1991); Essex County Gas Company, D.P.U. 87-59-A at 2 (1988); Western Massachusetts Electric Company, D.P.U. 85-270-C at 12-13 (1987); Hutchinson Water Company, D.P.U. 85-194-B at 1 (1986).

A motion for reconsideration should bring to light

previously unknown or undisclosed facts that would have a significant impact upon the decision already rendered. It should not attempt to reargue issues considered and decided in the main case. Boston Edison Company, D.P.U. 90-270-A at 3; Western Massachusetts Electric Company, D.P.U. 84-25-A at 6-7 (1984); Boston Edison Company, D.P.U. 1720-B at 12 (1984); Hingham Water Company, D.P.U. 1590-A at 5-6 (1984); Boston Edison Company, D.P.U. 1350-A at 4 (1983); Trailways of New England, Inc., D.P.U. 20017, at 2 (1979); Cape Cod Gas Company, D.P.U. 19665-A at 3 (1979).[1] Alternatively, a motion for reconsideration may be based on the argument that the Department's treatment of an issue was the result of mistake or inadvertence. Massachusetts Electric Company, D.P.U. 90-261-B at 7 (1991); New England Telephone and Telegraph Company, D.P.U. 86-33-J at 2 (1989), citing Western Union Telegraph Company, D.P.U. 84-119-B (1985).

III. BACKGROUND

A. Description of Incident

On February 19, 1991, there was a malfunction[2] in the fuel

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[1] The Department has denied reconsideration when the request rests on an issue or updated information presented for the first time in the motion for reconsideration. See generally, Western Massachusetts Electric Company, D.P.U. 85-270-C at 18-20 (1987); Western Massachusetts Electric Company, D.P.U. 86-280-A at 16-18 (1987).

[2] The malfunction was a blown fuse (Tr. at 8).

safety supervisory system ("FSSS"[3]) at NHH that, among other things, caused the boiler status indicator lights in the control room to become unreadable (Exh. FGE-2, App. A at A5; Tr. at 8). As a result, the operator on duty was unable to determine the status of the boiler (Exh. FGE-2, App. A at A5; Tr. at 8-9). At this point, the operator attempted to take the boiler off line by pressing the boiler trip buttons (Exh. FGE-2, App. A at A5; Tr. at 8). The operator believed that he had successfully tripped the boiler because the furnace camera appeared dark, although 56 percent of the full load oil flow was still entering the boiler (Exh. FGE-2, App. A at A5).

Three minutes into the incident, the operator realized that he had not been successful in removing the boiler from service (id.). The operator attempted to shut down the boiler through the following actions:

(1) he again pressed the boiler trip push buttons (with still no effect as the signal would have been processed through FSSS logic);

(2) he activated the main oil trip valve control switch (with no effect as the signal to close the valve would have been generated by the FSSS logic);

(3) he pressed the turbine trip push buttons and thus

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[3] The FSSS provides "logic" so that a certain sequence of events will take place before fuel is fed into the boiler (Tr. at 17). Specifically, the FSSS controls the boiler operation by allowing igniters to start, burners to start, and burners to operate in a proper sequence (Tr. at 18).

successfully tripped the turbine; normally, this action also would have tripped the boiler; however, because the signal to trip the boiler goes to the FSSS, which was malfunctioning, the boiler still failed to trip;

(4) he attempted to close the valves that control oil flow to the boiler by hand; he successfully closed the low range control valve; however, he overlooked the high range control valve, as other problems diverted his attention;

(5) he attempted to trip the main oil pumps; however, because the pumps are interlocked to valve positions to allow on line pump transfers, the pump did not trip;

(6) he attempted to manually valve out the corner valves (this was in process; however, real time is required to complete this task); and

(7) he closed the high range oil flow control valve ten minutes into the incident, thereby stopping the flow of oil to the boiler (id. at A6).

According to the Company's prefiled testimony, the operator had no indication of boiler status in the control room during this ten minute period (id.). At the hearing, the Company's witness, F. Michael Clarke, stated: "[the operator] responded to the boiler being tripped because that's the indication that he had. And when he responded to that he took the turbine off the line, and subsequent to that, that stopped the flow of steam through the superheater tubes, that caused a considerable amount of damage to that superheater tube that required about a week and

a half of outage time" (Tr. at 9).

B. Department Findings in October 1992 Order

In its Order issued October 20, 1992, the Department made the following findings:

(1) the critical path activity for the February 19th outage at NHH was the repair to the boiler tubes;

(2) the boiler tubes were damaged as a result of overheating when the flow of cooling water to the boiler tubes was stopped while the boiler was still in operation;

(3) had the operator not removed the turbine from service while the boiler was still in operation, the outage may not have occurred;

(4) the operator tripped the turbine, without knowing for certain that the boiler was out of service;

(5) good engineering practice would dictate that a turbine not be removed from service until it is known with 100 percent certainty that the boiler is not operating, because of the high risk for boiler tube damage; and

(6) although the operator was operating under very unusual circumstances, these circumstances would not justify his removal of the turbine from service before he knew with certainty that the fires were extinguished in the boiler. Fitchburg Gas and Electric Light Company D.P.U. 92-5A-1, at 15-17 (1992).

IV. COMPANY'S POSITION

Fitchburg presents several arguments in support of its Motion. The Company first contends that the Department erred

because its findings in the Order do not comport with the facts set forth in the record (Motion at 2). Second, the Company argues that with more facts in the record explaining the hazard of water induction[4] into a turbine, the Department will judge the operator's actions to be prudent (id. at 3). Third, the Company contends that the Department's finding regarding the circumstances under which a plant operator may prudently trip a turbine is overly restrictive, does not reflect sound engineering practice, is not based on any evidence in the record, and is therefore the result of mistake or inadvertence (id.). Fourth, the Company argues that the Department incorrectly failed to give recognition to NHH's overall operating history (id. at 5).

In support of its arguments, the Company attached an affidavit of Mr. Clarke, plant superintendent of NHH, to its Motion. Mr. Clarke identified several instances where, according to him, the Department erred in its findings. First, he states that the Department misidentified the purpose of the FSSS (Affidavit of F. Michael Clarke at 3)[5]. Second, Mr. Clarke

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[4] Water induction occurs when water or "cold steam" is introduced into a steam turbine. According to a major turbine manufacturer, accidental water induction in any part of the turbine can cause serious damage, including thrust bearing failure, damaged buckets, thermal cracking, rub damage, and permanent warping or damage and secondary effects such as axial rubbing and damage to bearings, foundations, and oil lines ("Water Induction in Large Steam Turbines," GEK-25504E at 3-4 (1979)).

[5] On pages 11-12 of its Order, the Department states: "The FSSS protects the boiler from explosion as a result of (continued...)

states that the Department's description of the control panel lights at the time of the incident was inaccurate and did not conform to the transcript (Id. at 3).[6] Third, he takes issue with the Department's statement that the operator was unable to identify the boiler status, a statement which he nevertheless agrees is "technically correct" (Id. at 3).[7] Fourth, he states that the shift supervisor was aware of the situation prior to three minutes into the incident, as stated in the Order

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[5](...continued)
improper fuel being introduced into the boiler. The FSSS protects the boiler by controlling the logic that allows igniters to switch on, burners to switch on, and burners to operate in the proper sequence, as well as regulating the pressure and flow of air and fuel in the boiler."
Mr. Clarke disputes the part of the statement that the FSSS regulates the pressure and flow of air and fuel in the boiler. However, on pages 17-18 of the Transcript, Mr. Clarke stated that the FSSS "provide[s] logic so that a certain sequence of events will take place...You have to have proper pressure and flow in the boiler wind-box chamber. And this particular system monitors that and makes sure that certain sequences are followed in order to protect the boiler."

[6] Page 13 of the Order states that the boiler status lights were "flickering." In the Transcript, page 15, Mr. Clarke states that "all the lights...were on..." In Appendix A, the incident description states that "the Unit Operator was unable to identify boiler status because all indicating lights were flickering fast enough to all appear illuminated."

[7] Mr. Clarke states that the operator had numerous indications that there were problems both in the boiler and in the plant (Affidavit of F. Michael Clarke at 3). Appendix A states that "the Unit Operator was unable to identify boiler status ...."

(id. at 4).[8] Fifth, he contends that the Department's statement in the Order regarding the effect of the main boiler feed pump and the start-up boiler feed pump on the boiler pressure is incorrect (id.).[9] Mr. Clarke also disputes the Department's statement in the Order that the operator had no indication that his first two attempts to trip the boiler had been unsuccessful (id.).[10]

In his affidavit, Mr. Clarke also contends that the Department's Order was issued without consideration of the serious nature of water induction into a steam turbine (Affidavit of F. Michael Clarke at 1). As Exhibit A to his affidavit, Mr. Clarke provided an excerpt from a General Electric steam turbine manual GEK-25504E, dated August 1979 ("Exh. A"). Exhibit A provides descriptions of various water induction incidents where turbine damage resulted.

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[8] On page 14 of the Transcript, Mr. Clarke states "the shift supervisor had been into the control room, had been out of the control room, at least once before I got there, about three minutes into the incident."

[9] Appendix A states that "at three minutes into the incident the turbine was tripped, which eliminated the flow path for the steam being generated by the boiler. The Main Boiler Feed Pump Turbine also tripped off-line. These two occurrences coupled with the inability to stop the fuel flow into the boiler set the stage for a boiler failure. The final blow was the inability to maintain operation of the Startup Boiler Feed Pump... After closing the turbine stop valves, the boiler pressure began rising ...."

[10] See note 7.

Mr. Clarke states that the operator was trained to follow the administrative controls established for such a situation and alleges that the operator did in fact follow those controls (Affidavit of F. Michael Clarke at 4).[11] Mr. Clarke contends that the operator's actions prevented water induction to the turbine. Mr. Clarke also states that water induction damage would have been more time-consuming to address than the boiler tube ruptures that were experienced in this case (Id. at 4-5).

In its Motion, the Company argues that the standard of conduct by which reasonableness is judged "makes proper allowance for the risk apparent to the actor, for his capacity to meet it, and for the circumstances under which he must act" (Motion at 3, citing Prosser and Keeton on Torts (5th ed. 1984) § 32, p. 174). The Company contends that prudent actions vary by situation and rarely, if ever, can certain actions be deemed to always be prudent or imprudent (Id. at 4). Therefore, the Company concludes that the Department's requirement that the operator be 100 percent certain that the boiler is out of service before tripping the turbine is the result of mistake or inadvertence,

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[11] Although Mr. Clarke refers to certain "administrative controls" in his affidavit, no such administrative controls were discussed in the description of the incident contained in Exhibit A, nor were any provided to the Department as part of the Company's Motion. During the hearing on this matter, Mr. Clarke stated that "I had concurred with the operator taking the action that he did, because we have an administrative control that says if the boiler trips, we will trip the turbine, and we do that to prevent water induction into the turbine" (Tr. at 15-16).

since "the ruling is so restrictive that it could lead to substantially greater damage to [the unit] than would be faced if the operator were permitted to act in accordance with well established guidelines [that] have been developed after weighing the risk of various actions" (Id.).

V. ANALYSIS AND FINDINGS

Regarding the assertion that there were factual inconsistencies between the record and the Order, after studying the record and the Order, the Department concludes that only Mr. Clarke's claim that there were supervisory personnel in the control room prior to three minutes into the incident has merit. However, even if Mr. Clarke's assertion is correct, the Department finds that it would have no impact on the Department's imprudence finding in its Order.

We have reviewed the Company's contentions that preventing water induction into the turbine was the basis of the operator's decision to trip the turbine, and that the effects of water induction must be examined in order to properly judge the reasonableness of the operator's actions. The Department has examined this argument in detail and concludes that it is without merit for the following reasons. First, the Company had ample opportunity at the hearing to demonstrate that the primary focus of the operator should have been protection of the turbine from water induction. The Company did not make such a showing, other than to state that it had an administrative control that required the turbine to be shut down when the boiler was not operating to

prevent water induction. The Company failed to provide a copy of this administrative control or any other evidence of its existence and applicability in this case. In the Company's description of the incident as contained in the record, the prevention of water induction was not mentioned as the reason the operator tripped the turbine. Instead, the record indicates that the operator pushed the turbine trip buttons because they send a trip signal to the boiler. The Department's findings are not based on mistake or inadvertence. The Company's argument that with additional evidence the Department will make a different determination is not the type of evidence required for reconsideration. Therefore, the Department finds that the Company has failed to meet the Department's standard.

Regarding the Company's assertion that there is no evidence in the record to support the Department's finding regarding the conditions under which a plant operator may prudently trip a turbine, after carefully reviewing the record, the Department concludes that the evidence in the record clearly supports the Department's finding that, in this case, tripping the turbine before extinguishing the flame in the boiler resulted in boiler damage and a forced outage. The operator's decision to trip the turbine while the boiler was still operating, followed by his failure to close both the high and the low range oil flow control valves, directly resulted in the boiler damage. The Company provided no evidence that would excuse the operator's failure to close both the high and low range oil flow control valves. The

Department finds that if the operator had followed standard procedure, i.e. closed both oil flow control valves not just the low range valve, the boiler damage likely would have been averted.[12] Therefore, there was no mistake or inadvertence by the Department and the Company has failed to meet the Department's standard for reconsideration.[13]

Finally, we turn to the Company's argument that the Department's Order does not give recognition to NHH's overall operating history. In reviewing the NHH incident, the Department sought to determine whether the Company, in operating and maintaining the unit, had followed all reasonable and prudent practices consistent with the provisions of G.L. c. 164, § 94G(a). Fitchburg Gas and Electric Light Company, D.P.U. 92-5A-1, at 7 (1992). In assessing the reasonableness and prudence of the Company's performance, the Department followed the statutory standard of viewing the Company's performance "in light of the facts which were known or should reasonably have been known by the [C]ompany at the time of the actions in question." Id. The standard of review does not include consideration of a unit's overall operating history. Therefore,

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[12] According to the Company's report, the operator overlooked the high range auto station as other problems diverted his attention (Exh. FGE-2, App. A at A6).

[13] In reaffirming the findings made in our Order of October 20, 1992, we agree with the Company that the use of the phrase "with 100 percent certainty" was overly restrictive.

there was no mistake or inadvertence by the Department and the Company has failed to meet the standard for reconsideration.

Accordingly, the Company's Motion is denied.

VI. ORDER

Accordingly, after consideration, it is

ORDERED: That the Motion for Reconsideration of Fitchburg Gas and Electric Light Company shall be and is hereby DENIED.

By Order of the Department,