

ORIGINAL

Decision No. 80270

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

MARINE ENGINEERS BENEFICIAL
ASSOCIATION,

Plaintiff,

vs.

PACIFIC GAS AND ELECTRIC COMPANY,
Defendant.Case No. 9284
(Filed October 22, 1971;
Amended November 22, 1971)C. Dan Lange, Attorney at Law, for Marine Engineers
Beneficial Association, complainant.J. Bradley Bunnin, Attorney at Law, for Pacific Gas
and Electric Company, defendant.Vincent MacKenzie, Attorney at Law, and Arthur C.
Fegan, for the Commission staff.O P I N I O N

Hearing on this complaint was held after due notice before Examiner C. Towers Coffey on February 22 and 23, 1972. The matter was submitted on March 24, 1972, upon receipt of the reporter's transcript. On January 4, 1972, by Decision No. 79533, complainant's request for a temporary restraining order was denied.

Complainant is an adjoining landowner to the parcel owned by Pacific Gas and Electric Company (PG&E) at the corner of Folsom and Fremont Streets in San Francisco. PG&E is building a 230 kv substation on the parcel which will be 136 feet high at maximum elevation above grade, 100 feet wide and 229 feet long. Complainant and other marine unions that own the remainder of the block feel that the proposed substation will be an aesthetic disaster to the area which will depreciate the value of their property.

Complainant requests a hearing on this complaint to determine the feasibility of the proposed project and the alternative

solutions proposed by complainant or such other alternative solutions as may be to the public interest and to the rights and interest of complainant and other property owners.

Complainant alleges the following:

1. Said site is of sufficient size and location to permit the construction of a 115 kv substation and distribution lines or a properly designed 230 kva (sic) substation (metal clad sulphur hexafluoride system).

2. The proposed use of said site for the construction of a 230 kv substation will result in excessive and unnecessary costs to the defendant and to the consumers; it will cause irreparable and unnecessary harm to complainant, the said maritime unions and to nearby property owners and will be detrimental to and against the public interest in the following particulars:

- (a) The construction of a 230 kv internally housed substation in a downtown city area is unique. The proposed construction is the first attempted by PG&E, and the first to be attempted to be built in the downtown area of any city in the United States. The proposed construction in other major cities avoid the vices of defendant's design.
- (b) PG&E proposes to construct said substation on a site that is too small to permit its proper construction and which will unreasonably increase construction, maintenance and operating costs as well as require structures detrimental to the area and to the adjoining lands of the complainant and others.
- (c) The project as presently proposed will require construction of a massive concrete structure 230 feet long, 100 feet wide and 138 feet high without provision for on-site landscaping or parking; that the lot size is so small that ambient air will be ducted to the basement from the Folsom side only; this will require blowers of increasing size and capacity in the direction of plaintiff's building which will increase the noise level, air turbulence on discharge and require external air ducting by encroachment over the western boundary of said parcel, Grote Place, to which complainant claims airspace, utility and road easement rights.

- (d) No external security provisions are planned; that if constructed on a proper site the building could be kept secure at all times by surrounding security walls with a gate.
- (e) Recent studies of the Chilean earthquake show that a substation of 230 kv capacity should be a low level flexible structure; that PG&E intends to house switching gear vertically above the transformers instead of horizontally; that the vulnerability to disaster is materially increased by the present plans as compared to other less costly solutions.
- (f) Distribution from said substation will be both 34-1/2 and 12 kv; that there will be added costs to major consumers for power so distributed.
- (g) It is intended to bring three transmission cables from the Martins Substation near the southerly boundary of the City and County of San Francisco to said proposed substation; that said transmission cables as proposed will involve unnecessary costs of installation, increased hazards, loss of network diversification and increased costs to power consumers; complainant is informed and believes and so alleges that if technical data of the proposed transmission cables is made available that there are other deficiencies to the said proposed project, particularly the planned approach into the substation.
- (h) Due to lack of space, the area provided for terminals and one-third of the transformer space is approximately 80 percent of minimum; that the plan to jam all of the proposed equipment into an inadequate, undersized structure will result in unnecessary construction, maintenance and operating costs.
- (i) Costly foundations will be required to depths of at least 40 feet in unstable soil and with exposure of loss of lateral support to adjoining landowners.

3. Said loss to the public, the damage to complainant and the costs and hazards of this ill conceived and planned project can be avoided by at least the following alternative solutions:

- (a) Construction of a 115 kv substation.
- (b) Construction of two 230 kv substations of equal capacity.
- (c) Modification of design which will permit housing of the proposed substation in a low level structure.

4. The proposed design does not afford proper fire protection:

- (a) It fails to provide proper fire protection for the substation personnel who will most likely be in the control or communications rooms and there is only one fire escape over 220 feet away in the southwest corner.
- (b) There are obstacles (12 kv switch gear and piping) in the corridors leading to fire escapes.
- (c) Although the design does not show the location of internal oil filtration unit or its accessibility, it appears that the 25,000 gallon oil storage tank and filter unit is in the same plane as the fire escape and the fire escape is within 35 feet of complainant's auditorium.
- (d) Access to the west side of the building is impeded by encroachment over Grote Place, a substandard alley only 12 feet wide.

5. By inadequate land size and outmoded design PG&E proposes to construct a building of unaesthetic bulk and design.

6. The location is a poor site choice.

- (a) It is not centrally located to the service area.
- (b) It does not harmonize with the area.
- (c) Costly construction and disaster hazard will be involved due to soil and location.

7. There is inadequate provision for security, for access and maintenance.

- (a) Doors open directly into Folsom Street.
- (b) No provision is made for parking, PG&E having represented employees could park in building.

8. Inadequate provision for internal safety.

9. If alternate solutions suggested are adopted, stated benefits would result to the public, PG&E, and complainant.

Complainant presented three witnesses to support its allegations.

The first witness, a civil engineer employed by PG&E, was called by complainant to testify regarding the physical layout of the substation.

Complainant's second witness, educated and employed in electrical engineering and physics, testified that research material indicated a 230 kv substation with lower profiles had been constructed on lots of similar size in France, that the building height could be lowered and the size of the building made smaller by placing the substation at two locations and that a Chilian study found a low profile substation to be less prone to earthquake damage than substations with higher profiles. The witness further testified relative to personnel fire safety, security and parking.

Complainant's third witness testified relative to lands owned by various marine unions in the vicinity of PG&E's proposed substation and who expressed opposition to the proposed construction. The witness stated:

"I wouldn't have no objection to a decent type of building put there that we could live with, of a decent height instead of being overshadowed by a skyscraper next to us, just a concrete mass."

PG&E presented seven witnesses who are, or had been, charged with responsibility for various phases of the proposed construction.

The first defendant witness testified that the neighborhood of the proposed construction is typical of the light industrial section of San Francisco without extensive landscaping, being without a master plan or concerted effort to improve the area by planting. The site is directly across Folsom Street from two of the main off-ramps of the Bay Bridge, the Main Street and Broadway off-ramps, with the area directly across Folsom Street being used for a parking lot underneath said freeway ramp. The structure is a concrete steel frame with precast concrete panels forming the side. The color is tan with a medium sandblast finish. Fluting is used to give shadow lines to improve the appearance of the structure. PG&E plans to enhance the appearance of the area by planting and undergrounding existing power lines despite the area being zoned light industrial, M-1, which does not require setback or landscaping.

Although the plans for off-street parking complied with the regulations of San Francisco's Building Department, a variance was granted from the regulations of the Planning Code since the substation is to be manned by only two persons and their personal vehicles will be parked inside the building.

Air is taken from the roof to fans in the basement which filter it and blow it through transformer enclosures up air shafts through sound traps and onto the roof. Studies and experience with similar cooling air systems demonstrate that the use of the system will not increase the ambient noise level at the substation.

A witness testified that the proposed fire system has been reviewed and approved by the responsible San Francisco Fire Department personnel, by PG&E's underwriters and by PG&E's insurance company. Foregoing allegation No. 4 on fire protection was demonstrated not to be true in substantial detail.

Defendant's witness testified that if land cost is excluded the total cost of the building will vary little with height for a constant volume. The economics of land in downtown San Francisco

leads to design of buildings that use the minimum amount of land possible. Two locations would probably be more expensive than one.

The Director of Security for PG&E described planned security measures.

The civil engineer responsible for the structure of the substation, including the foundation, testified that the building was designed in conformity with the San Francisco Building Code, being designed to withstand earthquake lateral force three times greater than required by the code. The foundation of the structure is a continuous concrete slab resting on sand. There will be no loss of lateral support to adjoining landowners.

Defendant's Chief Electrical Engineer testified that to serve existing and projected load, the ideal location for the substation is only three blocks south and one block east from that proposed. The proposed site is more economical than another site considered which is closer to the load center. The witness disputed the allegation of economics available by alternate locations, voltages, equipment, and size of building.

The supervising electrical engineer in charge of PG&E's underground transmission disputed allegations of the safety, reliability, and costs of transmission cables.

The electrical engineer in charge of design of the high voltage portion of the substation testified that the use of a metal clad sulphur hexafluoride system would result in only limited savings in space and decrease the building height only 15 to 20 feet. Further, since the equipment is not readily available from domestic suppliers the operating date could not be met if it were used. The equipment proposed by complainant is less reliable because of lack of domestic sources. Cost considerations favor the use of conventional equipment.

Findings and Conclusions

We find that:

1. PG&E proposes to build a 230 kv substation at the corner of Folsom and Fremont Streets in San Francisco.
2. The use of said site will not result in excessive and unnecessary costs to PG&E and consumers.
3. This record does not support the allegation that the proposed construction is unique.
4. Defendant's proposed construction is more conventional than that proposed by complainant.
5. Defendant's allegations of increases in air noise level are not founded on fact and are not true.
6. Security provisions have been planned, are currently adequate, and are subject to being increased as needed.
7. The design of the structure is in accord, or exceeds, local building code earthquake requirements and the foundation will not result in loss of lateral support to adjoining landowners.
8. Complainant's alternate solution would result in greater costs and less reliability than that proposed by PG&E, and in addition would be inadequate to serve load requirements.
9. The PG&E design affords adequate fire protection.
10. The PG&E design adequately provides for off-street parking and landscaping.
11. PG&E has obtained from the City and County of San Francisco all necessary permits for siting and construction of the substation.
12. The design of substation as proposed by PG&E is consistent with the local area zoning of light industrial.
13. There is no convincing showing that any activity complained of is in violation of any rule, regulation, or order of this Commission, that the proposed substation construction by PG&E is improperly or unsafely designed or constructed, that said construction is uneconomic or unreasonably costly or that it is otherwise unlawful or unreasonable.

We conclude that the complaint should be denied.

O R D E R

IT IS ORDERED that:

1. The complaint in Case No. 9284 is denied.
2. All motions consistent with the findings and conclusion of this opinion and order are granted; those not consistent therewith are denied.

The effective date of this order shall be twenty days after the date hereof.

Dated at Los Angeles, California, this 18th
day of JULY, 1972.

Vernon L. Sturgeon
President
William L. Simon
William L. Simon
William L. Simon
William L. Simon
Commissioners