

1 Edison is ultimately responsible for the safe operation of
2 the plant. Therefore, the Company had to be significantly
3 involved in the quality assurance program so that it could
4 verify the effectiveness of the quality assurance activities
5 of the major contractors.

6 Q. How did the Company accomplish this objective?

7 A. We utilized a two-pronged approach involving vendor surveil-
8 lance away from the construction site and a continual on-
9 site monitoring program, and contracted for the services of
10 an independent agency, the United States Testing Company, to
11 perform off-site vendor surveillance activities and to
12 assist the Company's Construction Department in carrying out
13 the on-site monitoring program. In addition, design drawings
14 and specifications were reviewed by the Company's cognizant
15 engineering organizations, to assure compliance with the
16 application as amended, and with applicable codes and
17 standards.

18 Q. How did the United States Testing Company conduct the off-
19 site surveillance to which you refer?

20 A. Beginning in May, 1966, the United States Testing Company
21 visited the major contractors and various subcontractors and
22 reviewed these vendors' quality control activities. Physical
23 and chemical certifications were verified for compliance with
24 applicable specifications. Radiographic, liquid penetrant
25 and ultrasonic test procedures were reviewed for conformance
26 to established standards. Hydrostatic test records, qualifi-
27 cations of personnel and welding procedures were monitored.
28 Selected tests and inspections were witnessed.

1 Q. What were the principal areas of interest in the off-site
2 surveillance program?

3 A. Our prime areas of interest were the safety related systems
4 such as the reactor coolant system, engineered safeguards,
5 and the containment structure.

6 Q. What did the surveillance visits involve with respect to
7 these safety related systems?

8 A. In these areas the surveillance visits involved radiographs
9 and a hydrostatic test of the pressurizer, hydrostatic tests
10 of the reactor vessel and the steam generator, reactor cool-
11 ant system piping documentation, reactor coolant system
12 pump radiographs, reactor internals fitup, records and
13 facilities of manufacturers who were supplying pipe for
14 engineered safeguards systems, containment liner welding and
15 concrete pours of the containment structure.

16 Q. You have stated that the Company's Construction Department,
17 with the assistance of the United States Testing Company,
18 conducted the on-site quality assurance monitoring program.
19 What is, and has been, the quality assurance function of
20 the Department?

21 A. Their function is to maintain continual monitoring to
22 verify the performance of the on-site quality assurance
23 activities of the contractors.

24 Q. What were the qualifications of the Construction Department
25 personnel who participated in this activity?

26 A. They include full-time personnel knowledgeable and experi-
27 enced in welding, structures, and in concrete placement, and
28 personnel qualified in non-destructive testing such as

1 radiography, ultrasonic and liquid penetrant inspection.

2 Q. What did their activities consist of?

3 A. These personnel witnessed and reviewed concrete pours, weld-
4 ing, equipment installation, material records, radiographs,
5 non-destructive test records and equipment storage.

6 Q. Would you give some specific examples of these activities?

7 A. These personnel have, on a surveillance basis, witnessed
8 concrete pours in the containment building and the primary
9 auxiliary building; witnessed the installation of the reactor
10 vessel, steam generators, reactor internals, reactor coolant
11 pumps and pressurizer; reviewed material certification re-
12 lated to the reactor coolant system, engineered safeguards
13 systems piping, concrete mixtures, reinforcing bars and re-
14 actor coolant pump support structures; reviewed radiographs
15 on the reactor coolant system piping, engineered safeguards
16 piping and containment liner welding; and have also reviewed
17 the liquid penetrant inspection records associated with the
18 latter welded areas.

19 Q. What guiding documents were used in the on-site and off-site
20 surveillance programs conducted by Consolidated Edison?

21 A. The guiding documents which were used as a basis for the
22 surveillance include the safety analysis reports, purchase
23 specifications, nationally recognized standards including
24 ASTM and ASME documents, detail design drawings and vendor
25 manuals.

26 Q. Am I correct that Consolidated Edison's participation in the
27 quality assurance program for Unit No. 2 was designed to
28 provide it, as owner, with an independent evaluation of the

1 way in which the quality assurance activities of the
2 contractors were carried out?

3 A. Yes, Consolidated Edison's quality assurance activities
4 formed the apex of the many tiers of activities of the organ-
5 izations which were involved in constructing Indian Point
6 Unit No. 2. The Company's surveillance activities have en-
7 compassed the broad spectrum of organizations which were
8 involved in fabricating and constructing the Unit and have
9 included quality assurance activities from the off-site
10 fabrication of items through their final erection at the job
11 site. As a result, we have obtained a comprehensive view
12 of the program.

13 Q. Mr. Grob, have you formed an opinion as to whether Indian
14 Point Unit No. 2 has been constructed in conformity with
15 the application as amended?

16 A. Yes, I have. Based on my experience, and on my knowledge
17 of the quality assurance activities carried out by the
18 various contractors, and based on the independent corporate
19 efforts which I have described, it is my opinion that the
20 plant as constructed is consistent with the applicable codes
21 and standards and with the design requirements, and
22 conforms with the application, as amended.
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