Rep Udall

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555
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NOTE TO: Ben Hayes, Director, OI
James Taylor, Director, IE

FROM: ~~Fred Combs, OCA~~

SUBJECT: 11/19/81 TESTIMONY OF WILLIAM DIRCKS ON QUALITY ASSURANCE

At the request of the majority staff of the House Interior Committee, I have attached a copy of the subject testimony.

Attachment
As stated

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A-19

TESTIMONY OF WILLIAM J. DIRCKS

BEFORE THE

SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT

OF THE

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

UNITED STATES HOUSE OF REPRESENTATIVES

WASHINGTON, D.C.

Quality Assurance for Nuclear Plants Under Construction

This testimony addresses the adequacy of quality assurance as it applies to nuclear power plants under construction, why identified construction or quality assurance deficiencies have not been detected on a more timely basis, and actions being taken to solve recognized problems.

The NRC looks to the power plant owners, the utilities themselves, to take the leadership role in assuring the quality of their plants and operations. This requires heavy emphasis and active involvement of top licensee management in QA programs. Careful attention is required in the selection of engineering specifications and QA procedures and practices for each task and their implementation by the workers on the job. Most importantly, there must be adequate resources of qualified personnel at management, operating, and staff levels.

NRC assesses the performance of the utilities and their major contractors during the design and construction phases. The NRC does not attempt to redo this work or inspect it completely since the NRC resources on a particular plant are only a small fraction of what we require a utility to devote to inspection, quality control, and quality assurance. The NRC's Regional Offices carry out a sampling inspection program aimed at determining compliance with the programmatic commitments. The regulatory requirements place the major inspection responsibilities for quality assurance

ON THE LICENSEE'S CONTRACTORS, WHICH ARE IN TURN INSPECTED AND AUDITED BY THE LICENSEE'S STAFF. THE NRC'S EFFORT IS AN AUDIT AND OVERVIEW OF THE LICENSEE'S AND ITS CONTRACTORS' QUALITY ASSURANCE ACTIVITIES. IN CARRYING OUT THESE INSPECTION ACTIVITIES, NRC INSPECTIONS COVER APPROXIMATELY 1-5 PERCENT OF THE INSPECTION ACTIVITIES PERFORMED BY THE LICENSEE AND ITS CONTRACTORS.

THE NRC'S QUALITY ASSURANCE REQUIREMENTS ARE CONTAINED IN APPENDIX B TO PART 50 OF TITLE 10 OF THE CODE OF FEDERAL REGULATIONS, "QUALITY ASSURANCE CRITERIA FOR NUCLEAR POWER PLANTS AND FUEL REPROCESSING PLANTS." THESE CRITERIA PROVIDE A BASIS UPON WHICH THE NRC JUDGES THE ACCEPTABILITY OF QA PROGRAMS. THE CRITERIA OF APPENDIX B APPLY TO ALL ACTIVITIES AFFECTING SAFETY-RELATED FUNCTIONS OF NUCLEAR POWER REACTOR STRUCTURES, SYSTEMS, AND COMPONENTS.

QUALITY ASSURANCE IS DEFINED IN OUR REGULATIONS AS "ALL THOSE PLANNED AND SYSTEMATIC ACTIONS NECESSARY TO PROVIDE ADEQUATE CONFIDENCE THAT A STRUCTURE, SYSTEM, OR COMPONENT WILL PERFORM SATISFACTORILY IN SERVICE." WHAT THIS MEANS IS THAT - FOR ITEMS HAVING SAFETY SIGNIFICANCE IN A NUCLEAR POWER PLANT

- THE DESIGN IS VERIFIED TO BE CORRECT AND TO INCLUDE APPROPRIATE REGULATORY REQUIREMENTS;

- PROCUREMENT DOCUMENTS CONTAIN ADEQUATE INFORMATION AND ARE VERIFIED;

- INSPECTION OF PARTS, MATERIALS, AND PROCESSES ARE TIMELY AND ADEQUATE;

- DEFICIENCIES IN DESIGN, CONSTRUCTION AND INSTALLATION ARE IDENTIFIED AND APPROPRIATELY REMEDIED;

- THE QA PROCESS IS AUDITED AND REPORTED TO AN ORGANIZATIONAL LEVEL CAPABLE OF ASSURING EFFECTIVE CORRECTIVE MEASURES;

- RECORDS ARE KEPT WHICH CLEARLY DEMONSTRATE SUFFICIENCY OF ACTIVITIES AFFECTING QUALITY; AND

- THE ORGANIZATIONS PERFORMING QA FUNCTIONS HAVE SUFFICIENT INDEPENDENCE AND AUTHORITY TO IMPLEMENT THESE ACTIVITIES.

THIS DISCUSSION WILL FOCUS ON SOME EXPERIENCES THAT HAVE AND CONTINUE TO GENERATE WIDESPREAD PUBLIC INTEREST. SPECIFICALLY, THERE HAVE BEEN SOME SERIOUS QUALITY ASSURANCE BREAKDOWNS WITH BROAD REPERCUSSIONS AT THE MARBLE HILL, MIDLAND, ZIMMER, SOUTH TEXAS, AND DIABLO CANYON CONSTRUCTION SITES.

546/547

MARBLE HILL

IN 1979, WEAKNESSES WERE IDENTIFIED IN THE PROGRAM FOR THE PLACEMENT OF CONCRETE AND RELATED QUALITY ASSURANCE MEASURES AT THE MARBLE HILL NUCLEAR PLANT CONSTRUCTION SITE IN SOUTHERN INDIANA.

WE INVESTIGATED THESE PROBLEMS WHEN A CONCRETE WORKER RAISED ALLEGATIONS THAT HONEYCOMBING, VOIDS AND SURFACE DEFECTS WERE BEING IMPROPERLY PATCHED. THESE ALLEGATIONS, WHICH WERE SUBSEQUENTLY SUBSTANTIATED, LED TO A BROADER INVESTIGATION THAT ADDRESSED OTHER AREAS OF WORK AT THE SITE. ABOUT THE SAME TIME, CODE COMPLIANCE PROBLEMS WERE IDENTIFIED BY THE INDIANA BOILER CODE INSPECTOR AND THE NATIONAL BOARD OF BOILER AND PRESSURE VESSEL INSPECTORS.

THESE EVENTS LED TO A HALTING OF ALL SAFETY-RELATED WORK AT THE SITE IN AUGUST 1979 -- A MOVE TAKEN BY THE UTILITY AND CONFIRMED BY AN NRC ORDER. WORK WAS NOT PERMITTED BY THE NRC TO RESUME UNTIL DECEMBER 1980, SOME 16 MONTHS LATER, WHEN THE UTILITY'S QUALITY ASSURANCE PROGRAM --AND THAT OF ITS CONTRACTORS -- HAD BEEN SUBSTANTIALLY UPGRADED AND THE ADEQUACY OF COMPLETED CONSTRUCTION WORK HAD BEEN VERIFIED. DELAYS IN CONSTRUCTION AND EFFORTS TO CORRECT THESE AND OTHER PROBLEMS ARE ESTIMATED TO HAVE COST THE UTILITY HUNDREDS OF MILLIONS OF DOLLARS.

MIDLAND 329/330

IN THE CASE OF THE MIDLAND FACILITY IN MICHIGAN, EXCESSIVE SETTLEMENT OF THE DIESEL GENERATOR BUILDING WAS OBSERVED IN 1978. THE UNEXPECTED SETTLING WAS SUBSEQUENTLY ATTRIBUTED TO INADEQUATE AND POORLY COMPACTED SOIL UNDER THE BUILDING. FURTHER INVESTIGATION BY THE LICENSEE REVEALED THAT OTHER SAFETY-RELATED SYSTEMS AND STRUCTURES WERE AFFECTED. ALL OF THESE SYSTEMS AND STRUCTURES WERE NEARING COMPLETION AT THE TIME THE PROBLEM WAS DISCOVERED. THE NRC'S INVESTIGATION DETERMINED THAT DESIGN AND CONSTRUCTION SPECIFICATIONS HAD NOT BEEN FOLLOWED DURING PLACEMENT OF THE SOIL FILL MATERIALS AND THAT THERE WAS A LACK OF CONTROL AND SUPERVISION OF THE SOIL PLACEMENT ACTIVITIES BY THE UTILITY AND ITS CONTRACTORS. THE COSTS ASSOCIATED WITH ASSURING PROPER SOIL COMPACTION AND DEMONSTRATING THE ADEQUACY OF THE PLANT DESIGN ARE SIGNIFICANT. THE MATTER HAS STILL NOT BEEN RESOLVED AND THE ISSUES ARE CURRENTLY BEING LITIGATED BEFORE AN NRC HEARING BOARD.

ZIMMER 358

AT THE ZIMMER FACILITY IN SOUTHERN OHIO, THE NRC HAS BEEN INVESTIGATING ALLEGED QUALITY ASSURANCE IRREGULARITIES SINCE JANUARY OF THIS YEAR. THIS INVESTIGATION EFFORT, WHICH IS STILL ONGOING, STARTED WITH ALLEGATIONS FROM A COUPLE OF SOURCES, BUT SOON BROADENED TO MANY WORKERS AND EX-WORKERS. TO DATE WE HAVE

INTERVIEWED APPROXIMATELY 100 INDIVIDUALS AND EXPENDED OVER 250 MAN-DAYS ONSITE PURSUING THESE ALLEGATIONS.

THE CURRENT INVESTIGATION HAS IDENTIFIED A NUMBER OF QUALITY ASSURANCE-RELATED PROBLEMS AT THE ZIMMER SITE. THE MAJORITY OF THE PROBLEMS IDENTIFIED TO DATE FOCUS ON THE INEFFECTIVENESS OF CONTROLS IMPLEMENTED BY THE LICENSEE AND ITS CONTRACTORS FOR ASSURING THE QUALITY OF WORK PERFORMED. IN THAT REGARD, NUMEROUS DEFICIENCIES HAVE BEEN FOUND CONCERNING TRACEABILITY OF MATERIALS, HANDLING OF NONCONFORMANCE, INTERFACE BETWEEN CONSTRUCTION AND QUALITY CONTROL, QUALITY RECORDS, AND THE LICENSEE'S OVERVIEW OF ONGOING WORK.

THE IMPACT OF THE IDENTIFIED QUALITY ASSURANCE DEFICIENCIES ON THE ACTUAL CONSTRUCTION HAS YET TO BE DETERMINED. AN EXTENSIVE REVIEW OF THE AS BUILT PLANT IS CURRENTLY BEING PERFORMED. LIMITED INDEPENDENT MEASUREMENTS WERE PERFORMED BY THE NRC IN SELECTED AREAS OF CONCERN IN AN ATTEMPT TO CHARACTERIZE THE ACTUAL SAFETY SIGNIFICANCE OF THESE DEFICIENCIES. ALTHOUGH A FEW PROBLEMS REQUIRING CORRECTIVE ACTION WERE IDENTIFIED, THE MAJORITY OF THE TESTS AND EXAMINATIONS DISCLOSED NO HARDWARE PROBLEMS.

BEFORE THE PLANT CAN BE LICENSED A COMPREHENSIVE QUALITY CONFIRMATION PROGRAM WILL HAVE TO BE CONDUCTED AND IDENTIFIED PROBLEM

AREAS RESOLVED. BY ITSELF, WITHOUT FACTORING IN ANY REWORK, THE QUALITY CONFIRMATION PROGRAM WILL BE BOTH COSTLY AND TIME CONSUMING. THE EFFECT OF THIS ON THE CONSTRUCTION SCHEDULE OF THE PLANT REMAINS TO BE DETERMINED.

498/499

SOUTH TEXAS

IN JANUARY 1981, HOUSTON LIGHTING AND POWER COMPANY (HL&P) INITIATED A DESIGN REVIEW OF THOSE PORTIONS OF THE ENGINEERING DESIGN WORK PERFORMED BY BROWN AND ROOT, INC., (B&R) FOR THE SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION (STP). THE PURPOSE OF THIS REVIEW WAS TO ASCERTAIN THE OVERALL ADEQUACY OF THE STP DESIGN. QUADREX CORPORATION WAS ASKED TO ASSIST HL&P IN A REVIEW OF THE FOLLOWING B&R TECHNICAL DISCIPLINES:

- CIVIL/STRUCTURAL
- COMPUTER PROGRAMS AND CODES
- ELECTRICAL/INSTRUMENTATION AND CONTROL
- GEOTECHNIC
- HEATING, VENTILATING AND AIR CONDITIONING
- MECHANICAL
- NUCLEAR ANALYSIS
- PIPING AND SUPPORTS/STRESS AND SPECIAL STRESS
- RADIOLOGICAL CONTROL

THE LICENSEE MET WITH QUADREX CORPORATION FOR THE FIRST TIME ON JANUARY 16, 1981, AND SEVERAL OTHER TIMES IN JANUARY AND FEBRUARY 1981, TO PLAN THE REVIEW. THE REVIEW BY QUADREX INVOLVED 12 ENGINEERING CONSULTANT PERSONNEL WHO SPENT MORE THAN SIX WEEKS IN AUDITING B&R DESIGN ENGINEERING DOCUMENTS AND INTERVIEWING VARIOUS B&R DISCIPLINE ENGINEERS. THE REPORT ON THE QUADREX EFFORT DATED MAY 1981, WAS SUBMITTED BY THE LICENSEE TO THE NRC LICENSING HEARING BOARD ON SEPTEMBER 28, 1981. BREIFLY, THE QUADREX REPORT FOUND THAT BROWN & ROOT APPARENTLY FAILED TO PROPERLY IMPLEMENT THE QA PROGRAM IN THE DESIGN AREA BUT ALSO FAILED TO PROPERLY IMPLEMENT AN OVERALL DESIGN PROCESS CONSISTENT WITH THE NEEDS OF A NUCLEAR POWER PLANT. AS A RESULT VERIFICATION OF DESIGN INFORMATION WAS APPARENTLY NOT PERFORMED IN A TIMELY MANNER, AND REGULATORY COMMITMENTS FOR SAFETY DID NOT APPEAR TO BE FULLY OR PROPERLY IMPLEMENTED TO SATISFY NRC REQUIREMENTS FOR LICENSABILITY.

NRC INSPECTION REPORTS DATING BACK TO 1979 FOUND PROBLEMS AT THE SOUTH TEXAS PLANT SIMILAR TO THOSE IDENTIFIED IN THE QUADREX REPORT. HOWEVER, THE AGENCY'S AUDITS DID NOT SURFACE THE NUMBER OF PROBLEMS SUGGESTED BY THE QUADREX REPORT. THOUGH WE WERE AWARE OF QA PROBLEMS AT SOUTH TEXAS AND HAD CITED THE LICENSEE FOR A BREAKDOWN IN THEIR QA PROGRAM IN APRIL 1980, THE MAGNITUDE OF POTENTIAL PROBLEMS WAS NOT FULLY APPRECIATED UNTIL WE FIRST REVIEWED THE REPORT IN AUGUST OF 1981.

IN LATE SEPTEMBER THE LICENSEE ANNOUNCED THAT BROWN AND ROOT WAS BEING REPLACED BY BECHTEL POWER CORPORATION AS ARCHITECT-ENGINEER. WE INTEND TO CAREFULLY MONITOR HOW BECHTEL INVESTIGATES AND DISPOSES OF THE PROBLEMS SURFACED BY THE QUADREX REPORT.

275/323

DIABLO CANYON

AT DIABLO CANYON, THE PACIFIC GAS & ELECTRIC COMPANY (PG&E) PROVIDED INCORRECT INFORMATION TO A EXPERT CONSULTANT, WHO USED THE INFORMATION IN DEVELOPING THE SEISMIC RESPONSE SPECTRA FOR THE DESIGN OF CERTAIN SEISMIC PIPING AND EQUIPMENT RESTRAINTS. OUR INVESTIGATORS HAVE FOUND THAT THERE WAS A LACK OF RIGOR AND FORMALITY IN THE PROCEDURES USED FOR VERIFYING THE ACCURACY OF INFORMATION TRANSFERRED BY PG&E TO ITS CONSULTANTS. THESE PROCEDURES DID NOT COMPLY WITH OUR REQUIREMENTS CALLING FOR VERIFICATION OF DESIGN INFORMATION AT EACH STAGE OF THE PROCESS BY AN INDEPENDENT PERSON QUALIFIED IN THE PERTINENT DISCIPLINES. PROPER QUALITY ASSURANCE CONTROLS WERE NOT EMPLOYED IN TECHNICAL AND PROCUREMENT COMMUNICATIONS WITH SERVICE-TYPE CONTRACTORS. NOR WERE DOCUMENT CONTROLS ADEQUATE TO ASSURE THAT THOSE INVOLVED IN DESIGN HAD READY ACCESS TO THE MOST RECENT INFORMATION AVAILABLE.

BECAUSE OF THE INADEQUACY OF QA CONTROLS OVER DESIGN VERIFICATION, PROCUREMENT AND THE TRANSMITTAL OF DOCUMENTS TO SERVICE CONTRACTORS, THE ACCEPTABILITY OF THE DESIGNS BASED ON THEIR ANALYSES IS NOW IN QUESTION.

AS A RESULT, THE STAFF HAS DECIDED THAT THERE IS SUFFICIENT REASON TO REVIEW THE ENTIRE PROCESS FOR SEISMIC DESIGN; TO REVIEW THE ADEQUACY OF OTHER PLANT DESIGN ASPECTS, PARTICULARLY THOSE THAT WERE BASED ON ENGINEERING INFORMATION DEVELOPED UNDER OTHER SERVICE-TYPE CONTRACTS; AND TO REVIEW THE IMPLEMENTATION OF THE UTILITY QA PROGRAM IN THESE AREAS.

IN LOOKING AT THE MARBLE HILL, MIDLAND, ZIMMER, SOUTH TEXAS, AND DIABLO CANYON PROBLEMS, QUESTIONS HAVE BEEN RAISED AS TO WHY THE LICENSEE'S QUALITY ASSURANCE PROGRAM AND THE NRC INSPECTION PROGRAM HAD NOT IDENTIFIED THE PROBLEMS SOONER. CLEARLY, IN EACH CASE, THERE WAS AN OVERRELIANCE BY THE UTILITY ON ITS CONTRACTORS FOR MAINTAINING A THOROUGH QUALITY ASSURANCE PROGRAM. THE UTILITY'S OWN QA STAFF WAS TOO SMALL TO MAINTAIN SUFFICIENT SURVEILLANCE OVER THE WORK OF CONTRACTORS. IN TWO OF THE CASES WE SAW INSTANCES WHERE THE CONSTRUCTION MANAGEMENT DOMINATED OR CONTROLLED THE QUALITY ASSURANCE PROGRAM AND PERSONNEL. AND, IN EACH OF THE CASES WHERE PROBLEMS HAD BEEN IDENTIFIED, THE CORRECTIVE ACTION TAKEN WAS NOT SUFFICIENTLY BROAD. TOO FREQUENTLY, THE RESPONSE WAS ONE OF TREATING THE SYMPTOM, RATHER THAN FINDING THE BASIC CAUSE AND CORRECTING IT.

IN ANALYZING THE IDENTIFIED PROBLEMS AREAS, ONE CAN COME UP WITH A LIST OF IMMEDIATE CAUSES -- SUCH AS UNQUALIFIED WORKERS OR QC INSPECTORS, FALSIFIED RECORDS, INTIMIDATION OF QUALITY

CONTROL INSPECTORS, LACK OF AUTHORITY, LACK OF COMMUNICATION, INADEQUATE STAFFING LEVELS, INADEQUATE CORRECTIVE ACTION SYSTEMS, LACK OF SUPERVISION, POOR TO NONEXISTENT PROCEDURES, POOR DESIGN AND CHANGE CONTROL, DESIGN ERRORS, INADEQUATE ANALYSES, POOR QUALITY COMPONENTS, AND SO ON. MOST OF THESE CAN BE TRACED TO FAILURE OF QUALITY ASSURANCE DUE TO INEFFECTIVE MANAGEMENT CONTROL OF THE QA PROGRAM. THERE ARE A MYRIAD OF EXCUSES AND REASONS WHY MANAGEMENT FAILS. SOME ARE EXPLICIT FAILURES OF PERFORMANCE OR LACK OF ATTENTION. OTHER FAILURES ARISING FROM POOR ATTITUDES AND PERCEPTIONS ARE DIFFICULT TO IDENTIFY. THE NRC CANNOT TOLERATE THESE DEFECTS BECAUSE OF THEIR POTENTIAL IMPACT IN TERMS OF PUBLIC RISK. IT IS SURPRISING THAT SOME LICENSEES ARE INSUFFICIENTLY CONCERNED ABOUT QUALITY ASSURANCE NOT ONLY BECAUSE OF THE SAFETY IMPLICATIONS BUT ALSO BECAUSE OF THE IMMENSE COST OF MISTAKES AND OF THE RESULTING DELAY IN CONSTRUCTION.

GIVEN THESE INSTANCES OF BREAKDOWNS IN MANAGEMENT CONTROL OF CONSTRUCTION QUALITY AND THE COMMISSION'S DISSATISFACTION, THE ISSUE IS "WHAT ARE WE DOING ABOUT IT?"

WITHOUT DOUBT, THERE HAVE BEEN SHORTCOMINGS IN THE NRC INSPECTION PROGRAM AT CONSTRUCTION SITES. THERE HAVE BEEN CASES WHERE WE HAVE FAILED TO SEE THE BREADTH OR DEPTH OF A PROBLEM. WE IDENTIFIED SPECIFIC VIOLATIONS OF REQUIREMENTS WITHOUT REQUIRING THE CORRECTION OF THE BASIC CAUSE OF THE PROBLEM. ADDITIONALLY,

WE MAY HAVE SPENT TOO LITTLE TIME WITH QUALITY CONTROL INSPECTORS AND CONTRUCTION WORKERS TO GET THEIR VIEWS ON THE IMPLEMENTATION OF QUALITY ASSURANCE ACTIVITIES AT THE SITE. HOWEVER, WE ARE TAKING STEPS TO ASSURE ATTENTION TO CONSTRUCTION QA INCLUDING DESIGNATION OF RESIDENT INSPECTORS AT ALL CONSTRUCTION SITES.

THE COMMISSION HAS MADE OR IS CONSIDERING A NUMBER OF CHANGES OF ITS INSPECTION AND ENFORCEMENT PROGRAM TO INCREASE THE EMPHASIS ON IMPLEMENTATION OF QA PROGRAMS. LET ME ADDRESS SIX SPECIFIC ACTIVITIES:

1. AS INDICATED ABOVE, NRC RESIDENT INSPECTORS HAVE BEEN OR WILL BE STATIONED AT ALL CONSTRUCTION SITES WHERE ACTIVE CONSTRUCTION IS PRESENTLY UNDER WAY AND THE PROJECT IS AT LEAST 15 PERCENT COMPLETE. BASED ON OUR EXPERIENCE WITH THE RESIDENT INSPECTION PROGRAM TO DATE, WE BELIEVE RESIDENT INSPECTORS ENHANCE THE NRC'S ABILITY TO MONITOR QUALITY ASSURANCE ACTIVITIES AND IDENTIFY THE SYMPTOMS OF BREAKDOWN IN MANAGEMENT CONTROL.

2. THERE HAS BEEN A TOUGHENING OF THE NRC'S ENFORCEMENT POSTURE OVER THE PAST COUPLE OF YEARS AND THE NRC'S REVISED ENFORCEMENT POLICY HAS PLACED EMPHASIS ON DEALING WITH POOR REGULATORY PERFORMANCE IN THE CONSTRUCTION AREAS.

3. WE HAVE COMPLETED A TRIAL PROGRAM OF TEAM INSPECTIONS WHEREBY SEVERAL NRC INSPECTORS GO TO A CONSTRUCTION SITE FOR TWO TO THREE WEEKS TO DO A BROAD, INTENSIVE INSPECTION OF THE QUALITY ASSURANCE PROGRAM FOR ONGOING WORK. THIS APPROACH ENABLES NRC TO GAIN A TOTAL PROJECT PERSPECTIVE TO A GREATER EXTENT THAN PAST PRACTICE. THE ADVANTAGE OF THIS DETAILED "SNAPSHOT" IS AN ENHANCED ABILITY TO EVALUATE MANAGEMENT EFFECTIVENESS. THE USE OF SUCH INSPECTION TEAMS IS EXTREMELY LIMITED BY THE AVAILABILITY OF INSPECTORS AND FUNDS FOR THIS PURPOSE. WITH ADDITIONAL RESOURCES, WE COULD SEND INSPECTION TEAMS TO EACH CONSTRUCTION SITE TO DO MORE COMPREHENSIVE INSPECTIONS

4. THE NRC CONSTRUCTION INSPECTION PROGRAM IS UNDER REVISION TO ACCOMPLISH SEVERAL OBJECTIVES. WE ARE RECASTING INSPECTION PROCEDURES TO DELETE INSPECTION ACTIVITIES OF LESSER IMPORTANCE AND TO REDUCE DUPLICATION OF EFFORT BY RESIDENT AND REGIONAL-BASED SPECIALIST INSPECTORS. IN SITUATIONS WHERE INSPECTOR RESOURCES LIMITATIONS PRECLUDE COMPLETING THE ENTIRE INSPECTION PROGRAM, WE ARE ORDERING OUR PRIORITIES SO THAT THE MOST IMPORTANT INSPECTIONS WILL BE COMPLETED.

5. FORMALIZED PERFORMANCE APPRAISALS OF LICENSEE REGULATORY PERFORMANCE ARE BEING CONDUCTED ANNUALLY BY THE NRC (SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE PROGRAM). THE APPRAISALS, WHICH REVIEW THE COLLECTIVE NRC EXPERIENCE WITH EACH POWER REACTOR, BRING THE BROAD ISSUES OF PERFORMANCE EFFECTIVENESS TO THE ATTENTION OF SENIOR LICENSEE OFFICIALS.

6. WE ARE NOW USING OUR OWN MOBILE LABORATORY FOR NONDESTRUCTIVE EXAMINATION (NDE) AT CONSTRUCTION SITES. THIS NDE VAN HAS MULTIPLE CAPABILITIES THAT INCLUDE RADIOGRAPH DEVELOPMENT, METALLURGICAL ANALYSIS, AND HARDNESS, ULTRASONIC, DYE PENETRANT AND MAGNETIC PARTICLE TESTING. THE EXAMINATIONS THAT WE PERFORM ARE INTENDED TO CONFIRM QUALITY BASED ON A SELECTIVE SAMPLING APPROACH.

THE COMMISSION IS CONTINUING TO REVIEW ITS RESPONSIBILITIES IN THE NUCLEAR QA AREA IN ORDER TO DEVELOP IMPROVEMENTS IN DEFINING REQUIREMENTS, REVIEWING LICENSEE QA PROGRAMS, AND INSPECTION PRACTICES WHERE THEY ARE CALLED FOR.