

IMPACT OF THREE MILE ISLAND ON
NUCLEAR REACTOR REGULATION
IN THE
UNITED STATES

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AT: THE EUROPEAN NUCLEAR CONFERENCE
HAMBURG, GERMANY

MAY 10, 1979

Good as
examination of
licensing
process +
change
evaluation
order

former head of NRR

SOME EVENTS ARE SINGLED OUT FOR FAME BEYOND THE COMMON LOT. THE ACCIDENT AT THREE MILE ISLAND WAS A WATERSHED EVENT THAT WILL CAUSE A FUNDAMENTAL RE-EXAMINATION OF THE NUCLEAR LICENSING PROCESS IN THE UNITED STATES. IT HAS ALREADY SPAWNED THE CREATION OF A PRESIDENTIALLY-APPOINTED COMMISSION, A NUCLEAR REGULATORY COMMISSION INVESTIGATION AND STUDY, SEVERAL CONGRESSIONAL INVESTIGATIONS WITH PROPOSALS FOR MORE, AND INDUSTRY STUDIES.

THE DEBATE OF THE BROADER ISSUES HAS BEGUN. JUST AS OCCURRED IN THE AFTERMATH OF THE CALVERT CLIFFS* COURT DECISION IN 1971, IT IS LIKELY THAT THE CHAIN OF EVENTS SET IN MOTION BY THE ACCIDENT WILL LEAD TO A METAMORPHOSIS IN THE MANNER IN WHICH NUCLEAR REACTORS ARE LICENSED IN THE UNITED STATES.

* THE CALVERT CLIFFS DECISION WAS ONE OF THE FIRST MAJOR DECISIONS UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) AND REQUIRED THE U. S. ATOMIC ENERGY COMMISSION TO REVISE SUBSTANTIALLY ITS PROGRAM FOR PREPARATION OF ENVIRONMENTAL IMPACT STATEMENTS.

THE DIFFERENCES BETWEEN THE SITUATION IN 1971 AND THAT EXISTING TODAY, HOWEVER, ARE ALL TOO APPARENT. AFTER THE CALVERT CLIFFS DECISION EIGHT YEARS AGO, WE AT THE ATOMIC ENERGY COMMISSION SOUGHT TO REORIENT THE REGULATORY PROGRAM IN A MANNER THAT WOULD ENHANCE CONSCIOUS, RATIONAL DECISIONS ABOUT ENERGY/ENVIRONMENT TRADE-OFFS, AND TO DO SO IN A WAY WHICH WOULD REDUCE DELAY AND UNCERTAINTY. WE UNDERTOOK THIS WITH A COMMITMENT TO REORIENT THE DECISION-MAKING PROCESS TO BETTER REFLECT THE PUBLIC INTEREST.

THE CONSEQUENCES OF THE APPROACH WE ADOPTED EIGHT YEARS AGO HAVE BEEN SIGNIFICANT, WITH NUCLEAR POWER PROVIDING ALMOST 13% OF THE ELECTRICAL CAPACITY IN THE UNITED STATES. THE CURRENT STATUS OF NUCLEAR POWER PLANTS IN THE UNITED STATES IS AS FOLLOWS:

<u>NUMBER OF UNITS</u>		<u>RATED CAPACITY (MWE)</u>
70	LICENSED TO OPERATE.....	51,000
92	CONSTRUCTION PERMIT GRANTED.....	101,000
	37 UNDER OPERATING LICENSE REVIEW.....	40,000
	55 OPERATING LICENSE NOT YET APPLIED FOR..	61,000
28	UNDER CONSTRUCTION PERMIT REVIEW.....	32,000
	4 SITE WORK AUTHORIZED, SAFETY REVIEW IN PROCESS.....	4,000
	24 OTHER UNITS UNDER CP REVIEW.....	28,000
4	ORDERED.....	5,000
2	PUBLICLY ANNOUNCED.....	2,000
196	TOTAL.....	191,000

IF THIS CONFERENCE HAD BEEN HELD PRIOR TO THE THREE MILE ISLAND ACCIDENT, OUR FOCUS WOULD HAVE BEEN UPON AN ENTIRELY DIFFERENT SET OF REACTOR LICENSING AND REGULATORY ISSUES. WE WOULD HAVE BEEN LOOKING AT THE FOLLOWING QUESTIONS:

1. WHAT ACTIONS CAN BE UNDERTAKEN TO REDUCE THE LEAD TIMES FROM CONCEPTION TO OPERATION OF A NUCLEAR POWER FACILITY FROM TEN TO TWELVE YEARS TO SIX TO SEVEN YEARS? WHAT CAN THE NUCLEAR REGULATORY COMMISSION, WITHIN ITS EXISTING STATUTORY AUTHORITY, DO TO MEET THIS OBJECTIVE? IN ADDITION, WHAT LEGISLATIVE INITIATIVES SHOULD BE CONSIDERED FOR THIS PURPOSE? (A STATUS REPORT AS OF DECEMBER 31, 1978, ON REACTOR LICENSING SCHEDULES IS ATTACHED.)
2. HOW SHOULD WASTE MANAGEMENT QUESTIONS BE HANDLED IN THE LICENSING CONTEXT? FOR INSTANCE, SHOULD REACTOR LICENSING BE TIED TO WASTE MANAGEMENT SOLUTIONS, AND HOW SHOULD WASTE MANAGEMENT FACILITIES BE LICENSED AND REGULATED BY THE NUCLEAR REGULATORY COMMISSION?
3. WITH RESPECT TO ROUTINE RADIATION EXPOSURES, ARE THE OCCUPATIONAL STANDARDS CURRENTLY BEING USED ADEQUATE TO PROTECT EMPLOYEES, AND ARE THERE ISSUES ASSOCIATED WITH LOW LEVEL RADIATION THAT NEED TO BE FURTHER FACTORED INTO THE LICENSING PROCESS?

OTHER ISSUES CONCERNED THE NEED FOR RESOLUTION OF FUEL CYCLE CONCERNS SUCH AS MILL TAILINGS, DECOMMISSIONING OF NUCLEAR FACILITIES, AND SAFEGUARDING OF STRATEGIC NUCLEAR MATERIALS AND FACILITIES.

THE THREE MILE ISLAND ACCIDENT CHANGED ALL THAT, AND UNLIKE THE CLIMATE WHICH EXISTED IN 1971, WE MUST WAIT TO SEE IF AMERICAN POLICYMAKERS NOW HAVE THE COMMITMENT TO LEARN FROM THE ACCIDENT AND RESPOND TO THE CHALLENGE IN A MANNER THAT WILL MAINTAIN SUFFICIENT PUBLIC CONFIDENCE.

THE FUTURE VIABILITY OF THE NUCLEAR OPTION IN THE UNITED STATES WILL MOST LIKELY REST UPON THE RESOLUTION OF A HOST OF ISSUES--PRIMARILY RELATING TO THE NUCLEAR REGULATORY PROCESS--WHICH IF ADOPTED, COULD EITHER SO INCREASE THE COST OF A REACTOR AS TO MAKE IT UNECONOMICAL, OR SO INFLAME PUBLIC OPPOSITION AS TO MAKE THE FUTURE CONSTRUCTION OF REACTORS UNPRACTICAL.

WHILE THE NUMBER OF ISSUES AND TYPES OF MATTERS WHICH MAY BE RAISED IN THE CONTEXT OF THE ONGOING DEBATE ARE LIMITED ONLY BY THE IMAGINATION, IT IS SAFE TO SAY THAT THE ACCIDENT HAS CHANGED THE ISSUES AFFECTING THE LICENSING PROCESS DRAMATICALLY. THE NEW ISSUES THAT WILL DOMINATE THE AMERICAN NUCLEAR REGULATORY SCENE FOR SOME PERIOD OF TIME INCLUDE THE FOLLOWING:

1. HOW SAFE ARE NUCLEAR POWER REACTORS, AND IS THIS LEVEL OF SAFETY ACCEPTABLE IN THE UNITED STATES?
2. HOW SHOULD THE NUCLEAR REGULATORY COMMISSION'S STANDARDS AND CRITERIA, SAFETY ANALYSIS AND INSPECTION EFFORT BE CHANGED SO AS TO PRODUCE A REGULATORY FRAMEWORK THAT PROVIDES SUFFICIENT ASSURANCES OF SAFETY TO THE PUBLIC?
3. WHAT CHANGES IN OPERATING CONCEPTS, CONSTRUCTION PROCEDURES, OR DESIGNS MUST THE INDUSTRY INSTITUTE IN ORDER TO PROVIDE REASONABLE ASSURANCES OF SAFETY TO THE PUBLIC?
4. WHAT IS REQUIRED TO DEAL WITH AN ACCIDENT SITUATION, INCLUDING APPROPRIATE MONITORING DEVICES, EVALUATION OF EXPOSURE RISK, THE ROLE OF THE REGULATOR VERSUS THE FACILITY OPERATOR IN SUCH AN INSTANCE, AND THE RESPONSE MECHANISMS OF LOCAL AND STATE GOVERNMENTS?
5. SHOULD THERE BE A MORATORIUM ON THE OPERATION OF THE EXISTING REACTORS, THE CONSTRUCTION OF NEW REACTORS, AND THE CONSTRUCTION REVIEW OF PLANNED REACTORS? IN ADDITION, UNTIL MANY OF THE QUESTIONS THAT HAVE BEEN RAISED ARE ANSWERED, SHOULD UTILITIES PROCEED TO ORDER NEW NUCLEAR PLANTS?

6. WITH THE EMPHASIS ON REACTOR SAFETY QUESTIONS CONSUMING THE RESOURCES OF INDUSTRY AND THE NUCLEAR REGULATORY COMMISSION, WHAT SHOULD BE DONE WITH REGARD TO THE CONCERNS FOR THE FRONT END AND THE BACK END OF THE FUEL CYCLE?
7. WHAT CHANGES ARE NEEDED IN THE TRAINING OF REACTOR OPERATORS AND MAINTENANCE OF SKILLS UNDER TRANSIENT CONDITIONS?
8. SHOULD INTERVENOR FUNDING BE PROVIDED TO PUBLIC INTEREST ORGANIZATIONS?
9. IS THE DESIGN BASIS ACCIDENT CORRECTLY DEFINED AND WHAT NEW SIGNIFICANCE SHOULD BE GIVEN TO SMALL LOSS-OF-COOLANT ACCIDENTS AND TRANSIENT CONDITIONS?
10. WHAT SHOULD BE THE PROPER ROLE OF THE STATES IN LICENSING AND REGULATION OF NUCLEAR FACILITIES?

THE DEBATES ON THESE ISSUES WILL OCCUR IN A VARIETY OF FORUMS. PRESIDENT CARTER'S SPECIALLY APPOINTED COMMISSION WILL ADDRESS MANY OF THE ISSUES. THE NRC ALSO WILL REVIEW THEM IN THE CONTEXT OF A SPECIAL INQUIRY ON THE THREE MILE ISLAND ACCIDENT AND ITS ONGOING INVESTIGATIVE PROCESS. INDUSTRY TASK FORCES, ESTABLISHED BY THE EDISON ELECTRIC INSTITUTE AND THE ATOMIC INDUSTRIAL FORUM, WILL EXAMINE THEM, AND THE CONGRESS WILL REVIEW THEM.

SENATOR HART AND REPRESENTATIVE UDALL HAVE CALLED FOR A COMPREHENSIVE REVIEW OF THE ROLE OF NUCLEAR POWER IN THE UNITED STATES. IN EACH CASE, THE REVIEW WOULD EXTEND FAR BEYOND THE ACCIDENT ITSELF AND RELATED REGULATORY ISSUES. CONGRESSMAN UDALL HAS SAID HE WILL REVIEW GENERAL POLICY ISSUES INCLUDING SITING, WASTE MANAGEMENT, DECOMMISSIONING AND NUCLEAR INSURANCE. SENATOR HART HAS PROPOSED A SIX-MONTH CONGRESSIONAL INVESTIGATION BY HIS SUBCOMMITTEE (WITH A REPORT TO FOLLOW SIX MONTHS THEREAFTER) OF THE ACCIDENT AND ITS IMPLICATIONS.

WHILE IT WOULD BE PREMATURE TO SPECULATE ON THE FULL RAMIFICATIONS OF THESE REVIEWS, IT SEEMS CLEAR NOW THAT MAJOR CHANGES WILL OCCUR. IN RECENT CONGRESSIONAL TESTIMONY, NRC CHAIRMAN HENDRIE STATED THAT "WE CANNOT HAVE AN ACCEPTABLE NUCLEAR PROGRAM IF THERE IS ANY APPRECIABLE RISK" OF OTHER ACCIDENTS SUCH AS THE ONE AT THREE MILE ISLAND IN THE UNITED STATES. HE SAID THAT THE ACCIDENT SHOULD LEAD TO "A SEARCHING REVIEW AND EVALUATION" OF NRC POLICIES AND PROCEDURES. HE EMPHASIZED THAT HE WAS NOT THINKING MERELY OF IMPROVED HARDWARE OR TECHNICAL FIXES, BUT RATHER OF AN OVERHAUL IN THE REGULATORY FRAMEWORK ITSELF.

THE RESULT OF THIS ACTIVITY UNDOUBTEDLY WILL LEAD TO A SHIFT IN THE REGULATOR-LICENSEE RELATIONSHIP, WHEREBY THE NRC'S SUPERVISION WILL TO A GREATER DEGREE AFFECT THE

OPERATIONS OF THE LICENSEE ON A DAILY BASIS. IN TESTIMONY BEFORE SENATOR HART'S SUBCOMMITTEE, CHAIRMAN HENDRIE, ON THE BASIS OF THE THREE MILE ISLAND ACCIDENT, CALLED FOR A "CRITICAL RE-EXAMINATION" OF THE RELATIONSHIP BETWEEN THE NRC, THE PLANT MANAGEMENT AND THEIR SUPPORT TEAMS DURING PERIODS OF CRISIS. IT IS DOUBTFUL WHETHER THIS EXTENSION OF THE COMMISSION'S ROLE WILL STOP WITH CRITICAL SITUATIONS. RATHER, THE NRC'S RESPONSIBILITY AS AN OPERATIONAL PART OF THE NUCLEAR SYSTEM WILL BE EVALUATED.

OTHER FUNDAMENTAL CHANGES IN THE NRC LICENSING REGIME SHOULD BE EXPECTED. THERE UNDOUBTEDLY WILL BE A CALL FOR INCREASED SUPERVISION OF ALMOST ALL ASPECTS OF THE NUCLEAR INDUSTRY. REVIEWS OF INDIVIDUAL APPLICATIONS WILL BE MORE EXTENSIVE THAN THEY HAVE BEEN, AND THE NRC STAFF, THE ADVISORY COMMITTEE ON REACTOR SAFETY, THE LICENSING BOARDS, AS WELL AS THE COMMISSION, ARE LIKELY TO ADOPT AN EVEN MORE CAUTIOUS VIEW THAN THEY HAVE IN THE PAST. ADDITIONAL VERIFICATION OF QUALITY ASSURANCE PROGRAMS CAN BE EXPECTED, EXTENDING COMMISSION INSPECTIONS BEYOND QUALITY ASSURANCE TO MORE OF THE ACTUAL WORK BEING DONE. MUCH MORE SCRUTINY WILL BE GIVEN TO THE MANAGEMENT CAPABILITIES OF THE UTILITIES WHICH OPERATE THE FACILITIES. OPERATOR LICENSES WILL BE RE-EXAMINED, AND MUCH GREATER EMPHASIS WILL BE PLACED UPON TRAINING FOR STRESSFUL SITUATIONS. INTERVENTIONS BY BOTH STATE AND LOCAL GOVERNMENTS, AS WELL AS THE PUBLIC,

WILL INCREASE, AND CONSIDERATION MAY BE GIVEN TO FUNDING SUCH EFFORTS. UPGRADED EMERGENCY PLANS UNDOUBTEDLY WILL BE NECESSARY. FINALLY, THE STATE ROLE IN THE PROCESS IS LIKELY TO BE RE-EXAMINED, AND IT IS CONCEIVABLE THAT THE STATES WILL BE GIVEN A FORMAL ROLE TO MAKE CERTAIN SITE-RELATED FINDINGS NOW MADE BY THE NRC.

ONE ISSUE THAT HAS LAID LARGELY DORMANT WHICH WILL PROBABLY ARISE IN FUTURE LICENSING PROCEEDINGS IS THE ISSUE OF THE FINANCIAL QUALIFICATIONS OF THE POTENTIAL LICENSEE. THE POTENTIAL BANKRUPTCY AT THIS TIME OF GENERAL PUBLIC UTILITIES, THE OWNER OF METROPOLITAN EDISON WHICH OPERATES THREE MILE ISLAND, HAS RECEIVED CONSIDERABLE ATTENTION AND AFFECTED THE ECONOMIC SITUATION OF OTHER UTILITIES. THIS PROBLEM MAY BE EXACERBATED IN COMING MONTHS. SENATOR HART AND CONGRESSMAN UDALL BELIEVE THAT REPLACEMENT POWER COSTS CAUSED BY SAFETY RELATED REACTOR SHUTDOWNS SHOULD BE BORNE BY A UTILITY'S SHAREHOLDERS. FUEL ADJUSTMENT CLAUSES HAVE COME UNDER INCREASING ATTACKS IN RECENT YEARS, AND THIS TREND CANNOT BUT HURT THE FINANCIAL SITUATION OF UTILITIES. ADDITIONAL UNCERTAINTIES ARISE FROM POSSIBLE CONGRESSIONAL ACTION ON THE PRICE-ANDERSON INSURANCE AND INDEMNITY ACT THAT PROVIDES COVERAGE TO THE PUBLIC UP TO \$560 MILLION, BUT LIMITS PUBLIC LIABILITY OF THE UTILITY AND ITS CONTRACTORS TO THAT AMOUNT.

THE ACCIDENT ALSO WILL LEAD TO FURTHER EXPANSION OF THE NRC INSPECTION PROGRAM. FOR THE PAST YEAR, THE COMMISSION HAS HAD A PROGRAM UNDERWAY TO PLACE RESIDENT INSPECTORS AT OPERATING REACTORS. IN COMING MONTHS, THE NRC MAY BE GIVEN THE FUNDS TO EXTEND THIS PROGRAM NOT ONLY TO ALL OPERATING REACTORS, BUT ALSO TO THOSE UNDER CONSTRUCTION. CONSIDERATION IS ALSO LIKELY TO BE GIVEN TO RESIDENT INSPECTORS IN THE PLANTS OF THE VENDORS AND THE MANUFACTURERS OF COMPONENTS.

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IN CLOSING, I WOULD LIKE TO GO BACK TO THE ANALOGY OF THE PRESENT SITUATION WITH THAT EXISTING AT THE TIME OF CALVERT CLIFFS. IN RETROSPECT, THERE SEEMS LITTLE QUESTION THAT THE NUCLEAR REGULATORY PROCESS IN THE UNITED STATES NEEDED IMPROVEMENT IN 1971. WHILE THE NEXT SEVERAL YEARS WERE TRAUMATIC FOR EVERYBODY CONCERNED AS THIS REGULATORY PROCESS UNDERWENT A RESTRUCTURING, IT WAS FOLLOWED BY THE GREATEST AVALANCHE OF NEW ORDERS THE INDUSTRY HAS EVER SEEN.

AS IN 1971, IT IS SAFE TO SAY TODAY THAT THE SHORT TERM FUTURE FOR NUCLEAR POWER IS NOT GOOD. YET, THE SEEDS WHICH WOULD ALLOW THE DEVELOPMENT OF A CONCENSUS FOR THE FUTURE EXPANSION OF NUCLEAR ENERGY HAVE ALREADY BEEN PLANTED. PUBLIC OPINION POLLS HAVE SHOWN THAT A TWO-TO-ONE MAJORITY

OF AMERICANS FAVOR FURTHER NUCLEAR DEVELOPMENT TO PAYING HIGHER PRICES FOR FOREIGN OIL. THERE ARE ALSO INCREASING SIGNS THAT AMERICANS ARE BEGINNING TO REGARD THREE MILE ISLAND AS AN OVERPUBLICIZED CRISIS. THEY LEARNED THAT A SERIOUS NUCLEAR ACCIDENT CAN OCCUR WITHOUT EXTENSIVE CONSEQUENCES. IT IS, OF COURSE, PREMATURE TO SPECULATE WHETHER THESE SEEDS OF CONTINUED NUCLEAR ACCEPTANCE WILL GROW, BUT THEIR GERMINATION, IF IT OCCURS, COULD BE IN THE 1980 PRESIDENTIAL AND CONGRESSIONAL ELECTIONS.

**REACTOR LICENSING
SCHEDULE PERFORMANCE
EVALUATION
CALENDAR YEARS
1976, 1977, 1978**

POOR ORIGINAL

DECEMBER 31, 1978

Source: NRC - March 5, 1979

Evaluation of Reactor Licensing Schedule Performance
in 1976, 1977 and 1978

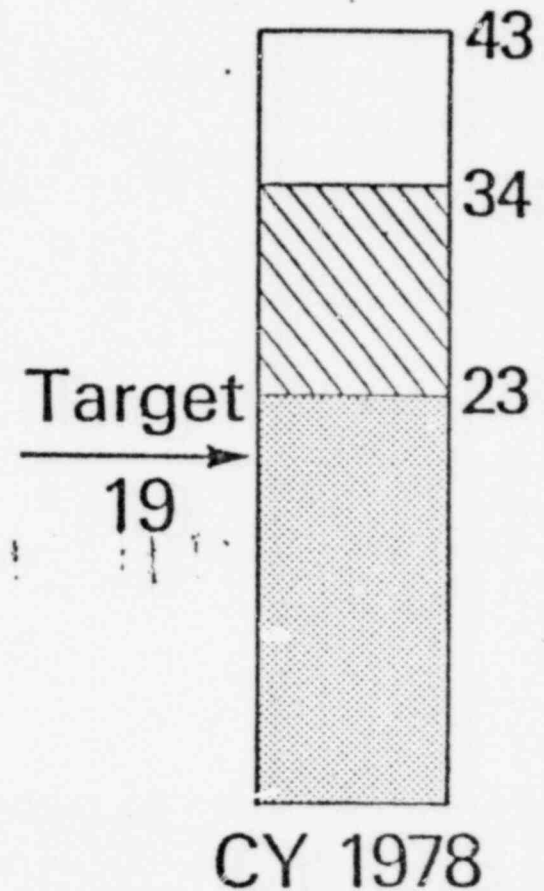
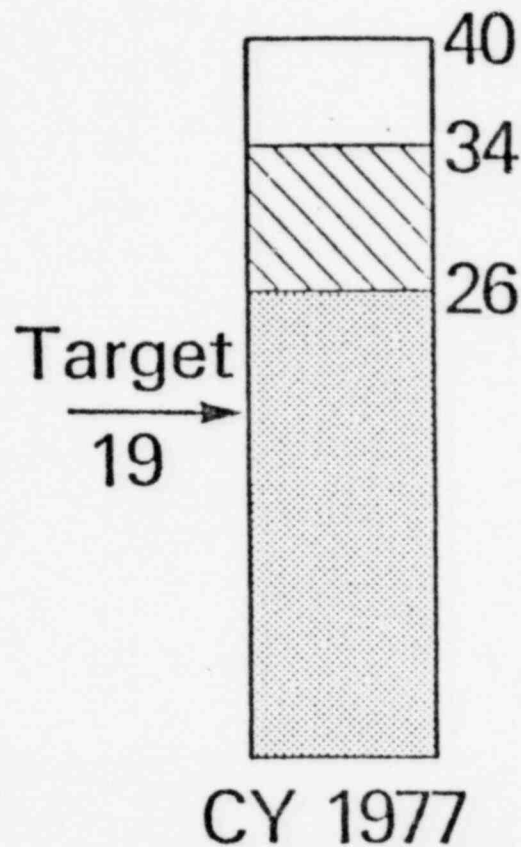
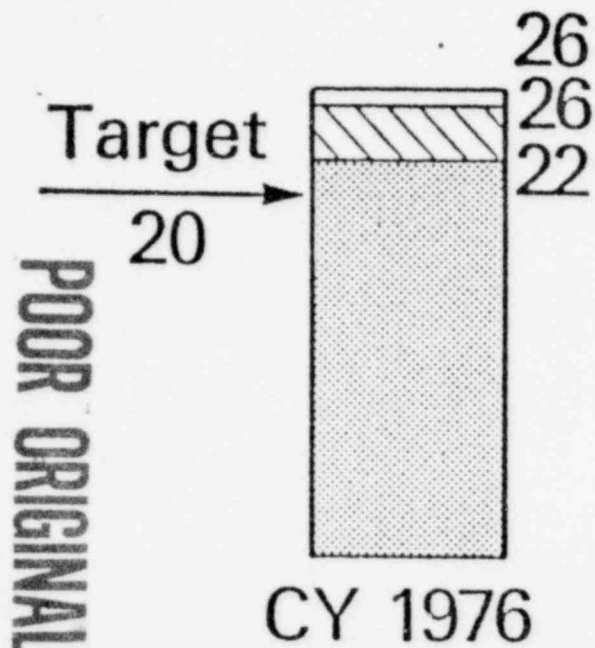
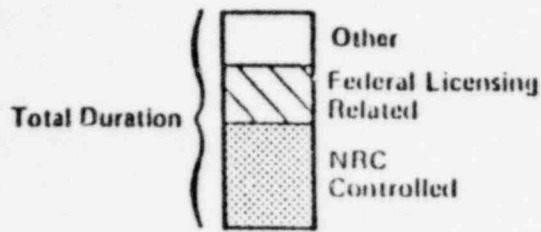
Assumptions, Definitions and Comments

- (1) Duration data current as of 12/31/78
- (2) Only first units of multi-unit OL applications are included in duration statistics
- (3) OL review durations have no significance. OL applications often are submitted too early. Also an OL cannot be issued until construction is complete. The only significant criterion is whether the OL was issued when the applicant and the facility were ready for fuel loading. Time to Fuel Load Ready is time between docketing and plant ready for fuel loading.
- (4) All durations are rounded to the nearest whole month
- (5) Target schedule is schedule duration established at review inception
- (6) Duration identified as "Federal Licensing Related" is obtained by subtracting from the total duration those schedule delays, designated as "Other", which are not related to the Federal licensing process. Such adjustments include State and local permit delays, applicant construction delays and deferrals, and applicant-initiated design changes. The resulting "Federal Licensing Related" duration is that which is attributable to the requirements of the Federal agencies, including the NRC.
- (7) Duration identified as "NRC Controlled" is obtained by subtracting from "Federal Licensing Related" duration those schedule delays which are related to the Federal licensing process but are beyond NRC control. Such adjustments include court decisions, late applicant submittals and discovery of natural phenomena. "NRC Controlled" is the licensing duration which is the result of the Federal licensing process and also is under NRC control. It is the schedule performance parameter by which NRC may be judged.

Source: NRC
March 5, 1979

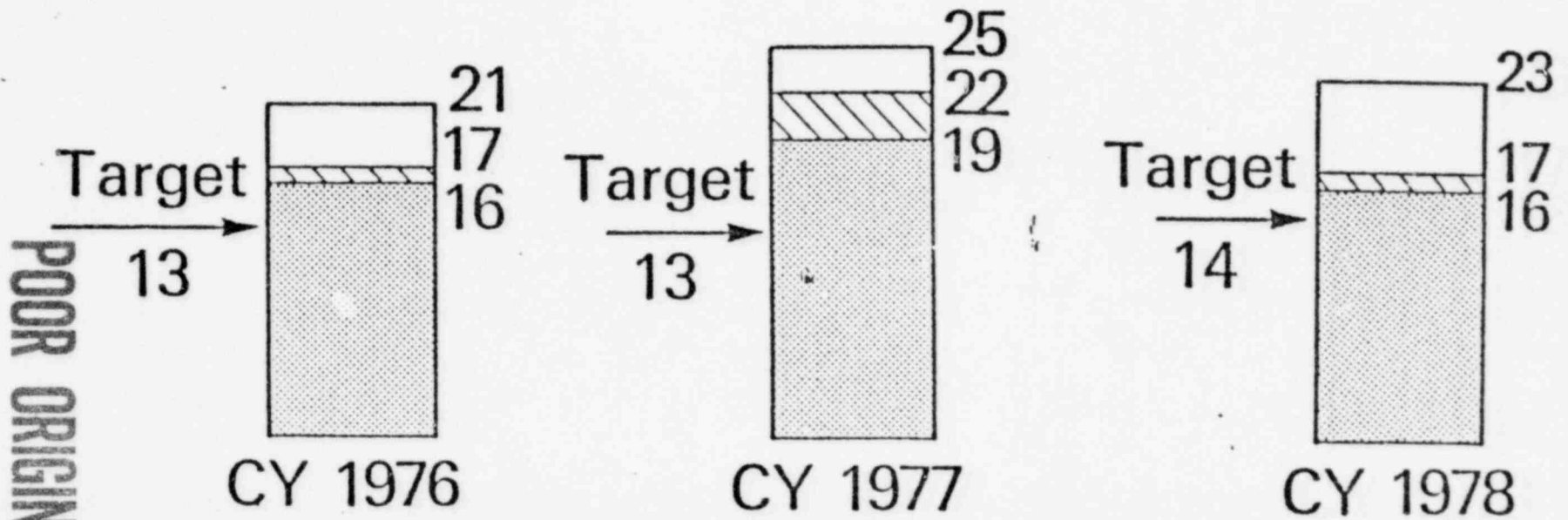
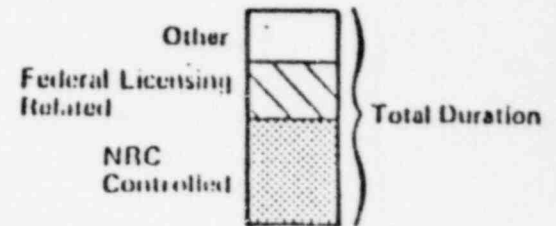
POOR ORIGINAL

AVERAGE CP DURATIONS (Months)



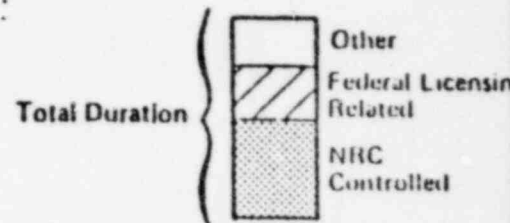
Source: NRC - March 5, 1979

AVERAGE LWA DURATIONS (Months)

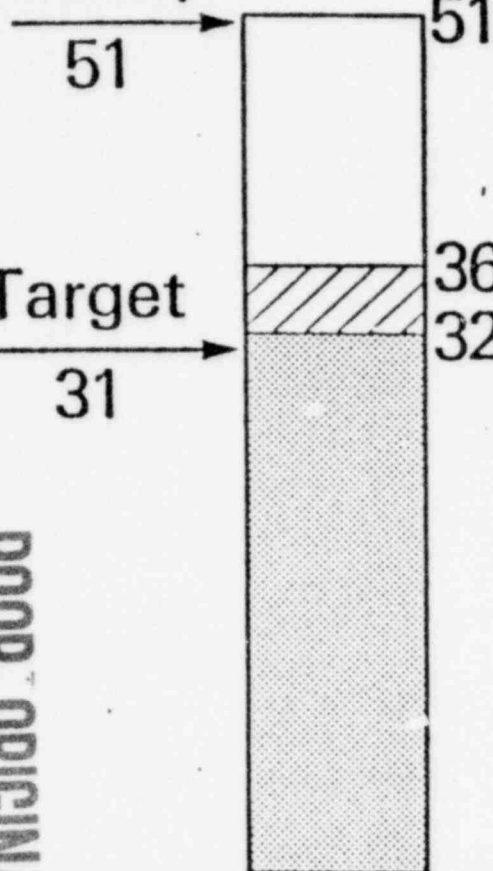


Source: NRC - March 5, 1979

AVERAGE OL DURATIONS (Months)

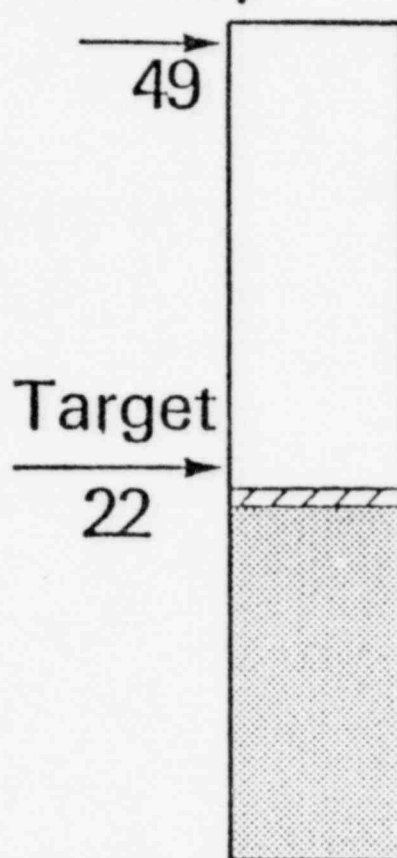


Fuel Load Ready



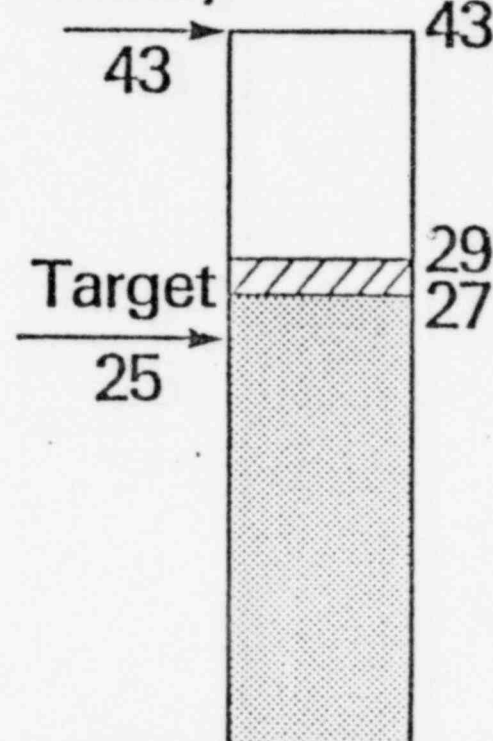
CY 1976

Fuel Load Ready



CY 1977

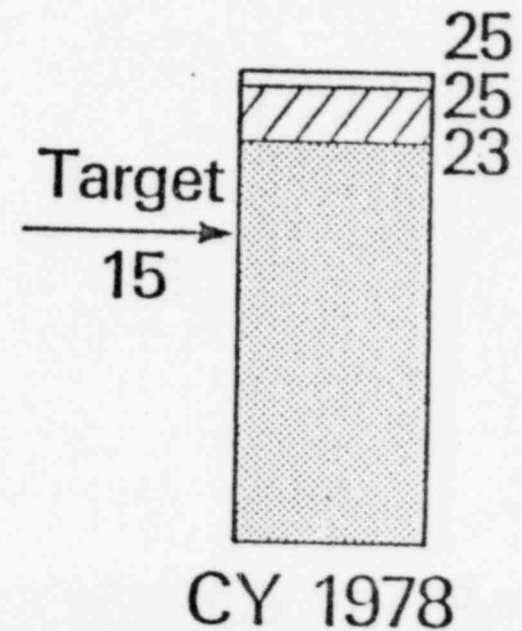
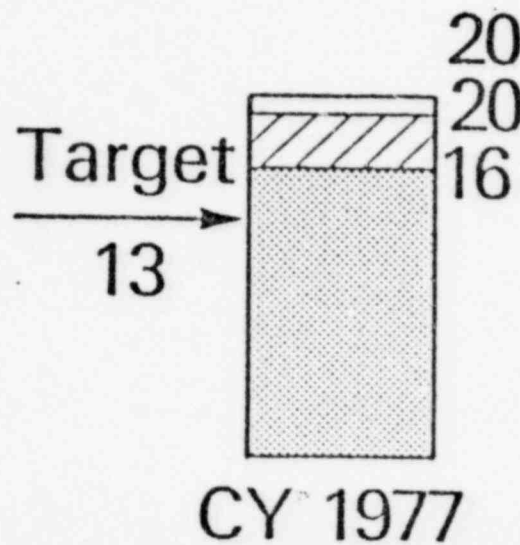
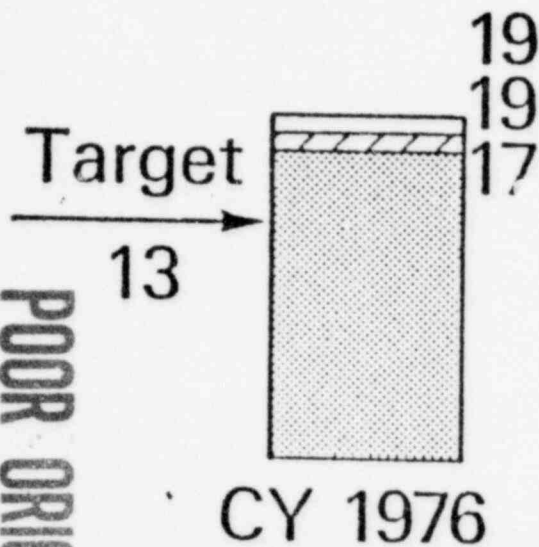
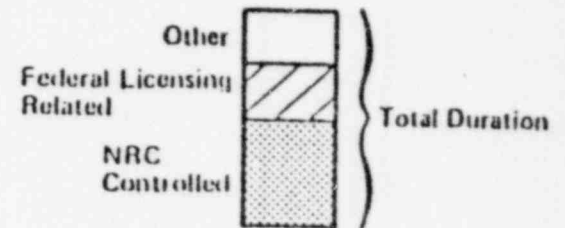
Fuel Load Ready



CY 1978

POOR ORIGINAL

AVERAGE PDA DURATIONS (Months)



POOR ORIGINAL

Source: NRC - March 5, 1979

Schedule Summary For Reactor Licensing Actions Completed In Calendar Year 1976
Average Durations In Months

<u>Action</u>	<u>No. Issued</u>	<u>Target Schedule</u>	<u>Total Duration</u>	<u>Time to Fuel Load Ready</u>	<u>Federal Licensing Related</u>	<u>NRC Controlled</u>
LWA's Issued	2(7)	13	21	-	17	16
CP's Issued	4(9)	20	26	-	26	22
OL's Issued	7	31	51	51	36	32
PIA's Issued	4	13	19	-	19	17

POOR ORIGINAL

Source: NRC - March 5, 1979

Schedule Summary For Reactor Licensing Actions Completed in Calendar Year 1978
Average Durations in Months

<u>Action</u>	<u>No. Issued</u>	<u>Target Schedule</u>	<u>Total Duration</u>	<u>Time to Fuel Load Ready</u>	<u>Federal Licensing Related</u>	<u>HRC Contr</u>
LWA's Issued	2(4)	14	23	-	17	1
CP's Issued	6(13)	19	43	-	34	2
OL's Issued	3	25	43	43	29	2
PIA's Issued	2	15	25	-	25	2

POOR ORIGINAL

Source: NRC - March 5, 1979

Schedule Summary For Reactor Licensing Actions Completed in Calendar Year 1977
Average Durations in Months

<u>Action</u>	<u>No. Issued</u>	<u>Target Schedule</u>	<u>Total Duration</u>	<u>Time to Fuel Load Ready</u>	<u>Federal Licensing Related</u>	<u>NRC Controlled</u>
LWA's Issued	4(7)	13	25	-	22	19
CP's Issued	8(15)	19	40	-	34	26
OL's Issued	4	22	50	49	21	21
PDA's Issued	4	13	20	-	29	16

POOR ORIGINAL

Source: NRC - March 5, 1979