

**COOPER NUCLEAR STATION
BROWNVILLE, NEBRASKA**

**ANNUAL OPERATING REPORT
JANUARY 1, 1995, THROUGH DECEMBER 31, 1995**

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I. PERFORMANCE CHARACTERISTICS

FUEL PERFORMANCE

Cycle 16 operation continued with the plant remaining shutdown until February 9, 1995. The plant started up and achieved full power on February 27, 1995. Normal full power operation continued until the plant shutdown for the 1995 Refueling and Maintenance Outage on October 14, 1995. The Refueling and Maintenance Outage ended on December 27, 1995, with reactor startup and the generator returning to service on December 30, 1995.

The remainder of Cycle 16 and the beginning of Cycle 17 off-gas activity continued at essentially steady state levels with reactor coolant dose equivalent I-131 equilibrium values and off-gas release rates maintained well within the limits specified by the Cooper Nuclear Station Technical Specifications.

Comparisons of actual control rod densities predicted by computer program calculations at various core exposures indicated no reactivity anomalies of 1% or greater.

MSV AND MSRV FAILURES AND CHALLENGES

(Ref.: NUREG-0737, Action Item II.k.3.3)

There were no challenges to the Safety Valves during 1995.

There was one Safety Valve failure during the 1995 refueling outage. MS-RV-70ARV failed as-found testing requirements. The failure was attributed to valve seat leakage which leads to elevated temperatures, spring relaxation, and setpoint drift on the low side.

There were no challenges to the Safety Relief Valves during 1995.

During plant startup in February 1995, there were three Safety Relief Valve failures. MS-RV-71ERV, MS-RV-71GRV, and MS-RV-71HRV failed to open during the performance of surveillance procedures. The failures were attributed to manufacturing process problems that led to moisture induced corrosion inside the Safety Relief Valve's associated pilot valve.

During the plant refueling outage in October 1995, there were four failures of Safety Relief Valves. MS-RV-71HRV, MS-RV-71ARV, MS-RV-71BRV, and MS-RV-71FRV failed as-found testing requirements. The failures were attributed to corrosion bonding of the pilot disc to the pilot seat resulting in setpoint drift.

II. PERSONNEL AND MAN-REM EXPOSURE

PERSONNEL AND MAN-REM BY WORK AND JOB FUNCTION

Work and Job Function	Number of Personnel (> 100 mrem)			Total Man-rem		
	Station Employees	Utility Employees	Contractor & Others	Station Employees	Utility Employees	Contractor & Others
<u>REACTOR OPERATIONS & SUPV.</u>						
Maintenance Personnel	54	2	65	1.266	0.056	0.897
Operating Personnel	41	0	0	8.407	0.000	0.000
Health Physics Personnel	30	0	33	7.385	0.000	7.422
Supervisory Personnel	6	0	2	0.305	0.000	0.379
Engineering Personnel	19	2	17	1.380	0.063	0.545
<u>ROUTINE MAINTENANCE</u>						
Maintenance Personnel	76	2	323	34.616	0.581	63.922
Operating Personnel	42	0	0	7.701	0.000	0.000
Health Physics Personnel	33	0	33	11.834	0.000	6.788
Supervisory Personnel	7	0	4	1.278	0.000	0.358
Engineering Personnel	20	3	19	2.852	0.708	2.819
<u>SPECIAL MAINTENANCE</u>						
Maintenance Personnel	18	1	80	0.560	0.021	3.568
Operating Personnel	2	0	0	0.134	0.000	0.000
Health Physics Personnel	9	0	10	0.117	0.000	0.094
Supervisory Personnel	1	0	0	0.005	0.000	0.000
Engineering Personnel	1	2	3	0.061	0.089	0.019
<u>WASTE PROCESSING</u>						
Maintenance Personnel	17	0	5	0.044	0.000	0.007
Operating Personnel	26	0	0	0.774	0.000	0.000
Health Physics Personnel	14	0	6	0.540	0.000	0.062
Supervisory Personnel	1	0	0	0.001	0.000	0.000
Engineering Personnel	0	0	0	0.000	0.000	0.000
<u>REFUELING</u>						
Maintenance Personnel	1	0	16	0.001	0.000	0.880
Operating Personnel	5	0	0	0.253	0.000	0.000
Health Physics Personnel	2	0	0	0.004	0.000	0.000
Supervisory Personnel	1	0	0	0.001	0.000	0.000
Engineering Personnel	1	0	1	0.067	0.000	0.002
<u>INSERVICE INSPECTION</u>						
Maintenance Personnel	8	0	137	0.218	0.000	36.160
Operating Personnel	6	0	0	0.038	0.000	0.000
Health Physics Personnel	12	0	6	0.254	0.000	0.519
Supervisory Personnel	1	0	1	0.148	0.000	0.001
Engineering Personnel	5	1	1	0.329	0.006	0.032
<u>TOTAL</u>						
Maintenance Personnel	76	2	351	36.805	0.658	105.434
Operating Personnel	42	0	0	17.307	0.000	0.000
Health Physics Personnel	33	0	41	20.134	0.000	14.885
Supervisory Personnel	7	0	4	1.738	0.000	0.738
Engineering Personnel	20	3	20	4.689	0.866	3.417
<u>GRAND TOTALS</u>	178	5	416	80.673	1.524	124.474

