PDR

TOLEDO EDISON

RICHARD P. CROUSE
Vice President
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February 18, 1983

Mr. James R. Tourtellotte
Chairman, Regulatory Reform Task Force
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Tourtellotte:

Your February 8, 1983 letter to our Mr. John P. Williamson has been forwarded to me for response. My staff has prepared the information you requested regarding modification expenditures at Davis-Besse Nuclear Power Station Unit No. 1.

We support your efforts for reform in the area of backfitting as this is a subject of major concern to Toledo Edison (TED).

The attachment contains the data you requested in a format similar to your examples.

For your reference:

1. The actual cost of Davis-Besse Unit No. 1 at the operating license date was $583 million.

2. The operating license date is April 22, 1977.

3. The summary of retrofit or modification costs through 7-31-82 is as follows:

	COST	%
NRC Requirements	$ 80 million	52
TMI Requirements	35 million	23
TED Initiated Modifications	39 million	25
TOTAL MODIFICATION COSTS	$154 million .	100%

4. The projected additional future costs for NRC imposed modifications is conservatively estimated at $26,500,000.

I trust our input supports your needs. Please call on us for additional information as necessary.

Sincerely,

RPC:jms

cc: W. A. Johnson
C. E. McLain
T. J. Myers

PART I

Costs of Construction of Davis-Besse Unit #1 as of the operating license date of 4-22-77 — $582,799,387

PART II

NRC Requirements

Description	COSTS Thru 7-31-82
Upgrade the Auxiliary Feedwater System	$ 545,414
Hanger/Anchor Modifications	29,786,599
Install Fast Dead Transfer of 13.8 KV A&B Bus	690,740
Auxiliary Feedwater Flow Indication	84,416
Records Management System	40,592
Installation of Redundant Sensing Lines For Reactor Coolant Flow Detectors	946,390
Modifications to the Auxiliary Feedpump Suction Strainer	148,863
Circuit Modifications	328,465
Safety Features Rupture Control System/ Safety Feature Actuation System	98,163
Emergency Diesel Generator Fuel Oil Day Tanks Saddle Supports	86,443
Environmental Protection for Chlorine Detectors	323,254
Improve Control Scheme for Auxiliary Feedwater System	321,077
NRC Required Post-Construction Verification Studies - No Modifications Performed	699,649
Concrete Masonry Wall Modifications	4,814,316
Environmental Qualification of Equipment	1,882,833

PART II (cont'd)

Provide Back-Up Service Water System	$ 1,258,714
Reactor Coolant Pump Controls	3,398
Prevent Containment Sump Pumps From Dead-Heading	54,874
Nuisance Alarms	133,188
Modifications to Non-Nuclear Instrumentation	573,241
PORV/Pressurizer Power Feed Change	426,277
Eliminate Temporary Cable Routing	62,185
Emergency Diesel Generators Modifications	167,955
Installation of Battery Chargers on Diesel Fire Pumps	35,150
Installation of Independent Auxiliary Feed Pump Turbine Exhaust Lines	4,108,648
Upgrade the Security System	5,781,827
Fire Protection Modifications	25,330,146
Installation of Emergency Warning System	679,040
No Load Shedding of Make-Up Pumps During Loss of Offsite Power	298,446
TOTAL COSTS OF NRC REQUIREMENTS	$ 79,710,303

PART III

NRC Three Mile Island Lessons Learned Requirements

Description	Costs Thru 7-31-82
Provide Power From a Non-Interruptable Essential Motor Control Center to Power Operated Relief Valve	$ 31,787
Install Reactor Coolant System Saturation Meters	1,245,677
Installation of Six Control Room Cabinets	959,985
Installation of Pilot Operator Relief Valve Position Indication System	826,364

PART III (cont'd)

Post-Accident-Highly Activated Reactor Coolant Sampling	$ 31,798
Installation of a Communications Data Transmission System	185,601
Installation of a Safety Grade Anticipatory Reactor Trip System	2,362,923
Installation of Provisions to Feed the Steam Generators	688,101
Installation of Auxiliary Feedpump Trouble Annunciator	393,368
Increasing the Range of Containment Hydrogen Concentration Meters	45,840
Installation of Containment Pressure Wide Range Indication	153,092
Installation of Post-Accident Sampling System	1,333,750
Installation of Auxiliary Feedwater Flow Detectors	340,402
Incore Instrumentation	1,224,325
Interim Control Grade ARTS	53,794
Electrical Penetration Assemblies - Provide Additional Circuits for TMI Instrumentation	1,056,063
Administration Building - Emergency Planning Facility Costs	15,057,684
Add Station Vent Activity Radiation Monitors in Containment	4,883,628
Containment Water Level Measurement (Narrow and Wide Range Indication)	2,275,511
Reactor Coolant System High Point Vents and Valve Modifications	2,161,514
Change 3 KVA Transformer to 30 KVA	36,591
NRC Red Phone in Control Room	25,995
TOTAL COSTS OF TMI REQUIREMENTS	$ 35,373,793

PART IV

Utility Initiated Modifications

Description	Costs Thru 7-31-82
Modifications to Vibration and Loose Parts Monitor	$ 81,594
Modify Spent Resin Transfer System Piping	268,742
Installation of New Spent Resin Transfer Pump	139,541
Replace General Electric Transmitters	360,788
Upgrade Plant Computer	73,750
Replace the Bailey 855 Computer	3,366,236
Installation of Check Valve	58,145
Installation of Electrical Feed Limiting Room	37,786
Installation of Vestibule in Turbine Building	39,140
Heat Tracing for Settling Basin Pump	18,555
Personnel Search Facilities	104,596
Installation of Ventilation System For the Computer Security Room	90,860
Installation of Steam/Auxiliary Controls	11,850
Interlock Time Delay for the Make-Up Pumps Suction Valve	28,977
Auxiliary Feedwater System - D.C. Powered Valve Operators	233,111
Pressurizer Interlock Level DH 11-12	378,120
Installation of Pushbutton Controls for Motor Operated Controls	204,075
Modification of Radwaste Evaporator - Air/Water Level Control	29,049
Installation of Reactor Trip Pushbuttons	179,525
Modifications to the Demineralized Water Storage Tank	228,553
Emergency Control Transfer Switch-Pump Guards and Anti-Bump Switch Detents	120,067
Provide Alternate Power for the Turbine Building Cranes	24,316

PART IV (cont'd)

Installation of Butterfly Valves on the Circulating Water Pump Discharge Valve	$	49,266
Installation of Four Jib Hoists in Containment		198,997
Installation of Radiation Monitor Recorders		18,347
Floating Spent Fuel Pool Skimmer Head Suctions		60,393
Installation of Seismic Instrument Cabinet		10,122
Installation of Separate Sample Pump		47,474
Replace In-Line Radiation Monitor		127,238
Installation of Metal Building Over Sewage Treatment Plant		14,339
Construction of Twelve Barricades in Containment		254,949
Installation of Instrumentation to Measure Leakage From Reactor Coolant Pump Seals		315,750
Modifications to Valve Actuating Apparatus		11,742
Installation of Emergency Generator		126,094
Installation of Permanent Drains		177,346
Replacement of Seismograph Monitors		21,032
Installation of Fuel Handling Pool Under Water Lighting		95,177
Change of Start-Up Feedwater Trip Logic		572,012
Modifications to Make-Up Pump Controls		153,776
Construction of Fabrication and Welding Training Shop		139,834
Modifications to No. 2 Warehouse		623,387
Installation of a Filter Demineralizer System for the Discharge of the Condenser Sump Pumps		845,776
Modifications to Waste Evaporator Room		107,505
Radiation Monitor for Waste Gas Storage Tanks		68,705
Steam Generator Drain Modifications		1,309,597
Parking Area and Access Road		515,017
Installation of Refueling Canal Drain Pumps		336,494

PART IV (cont'd)

Permanent Heat Tracing - Borated Water Piping	$ 105,168
Moisture Separator Reheater Drain Tanks	40,785
Ground Detection Alarm and Indication	20,451
Circulating Water Pumps - Anti-Reverse Rotation Device	32,644
Telephone Equipment Room Cooling	146,615
Replacement of H.P. Condenser Boot Seal	86,194
Installation of Visual Signaling System	140,929
Permanent RACA Entrance	82,297
Circulating Water - Remedial Work	685,339
Reconstruct Security Fences	2,007,378
Component Cooling Water Piping	302,617
Modifications to Boron Injection Flow Path	289,103
Modifications to Controls on Main Feedwater Pump	252,313
Inspection Ports in Main Feedwater Lines	27,693
Personnel Safety Modifications	202,490
Installation of Automatic Valve at L.P. Condenser Vacuum Line	73,931
Construction of Shields Around Ractor Head	68,876
Reactor Coolant Pump Proximeters	217,188
Installation of Temperature Measurement Instrumentation in Containment	174,431
Installation of a Second Minimum Recirculation Line for High Pressure Injection Pumps	134,371
Reactor Coolant and Make-Up System Modifications	40,657
Cooling Tower Circulating Water Modifications	75,278
Improvements to Reactor Coolant Pump Seal Systems	802,694
Installation of Containment Purge Exhaust Filters	244,273
Installation of Moisture Separator Drains	539,349

PART IV (cont'd)

Installation of Electrical Equipment to Provide Power to Instrumentation Installed During 1982 Refueling Outage	$ 2,122,747
Ground Fault Protection	553,279
Change 10" and 18" Expansion Joints to Flanged	124,598
10" and 18" Extraction Steamline Supports/Impingement Shields	71,694
Modifications to Office Building	131,353
Installation of Station Air Compressor	229,122
Administration Building - 2nd Floor	5,993,943
Bulk Purchase of Cable	2,382,322
Turbine Rotor Blades Modifications	1,058,609
Auxiliary Feedwater Header Modifications	2,126,489
Construction of Personnel Processing Facility	4,687,158
TOTAL UTILITY INITIATED COSTS	$ 38,552,124

PART V

SUMMARY

	Costs	Percentage
NRC Requirements	$ 79,710,303	52%
TMI Requirements	35,373,793	23%
Utility Initiated Modifications	38,552,124	25%
TOTAL Post-Operating Modification Cost	$153,636,220	100%

Forecast Costs for Known NRC Requirements

Estimated Costs to Complete NRC Requirements Indicated in Parts II and III	$20,165,000
Hot Leg Level Monitoring System	1,029,000
Small Break Loca Analysis	582,000
Control Room Habitability	2,031,000
Hydrogen-Recombiner Capability	1,949,000
Modify Pressurizer Safety and Relief Valve System	162,000
Reactor Vessel to Hot Leg Venting System	534,000
Accountability Card Reader	48,000
TOTAL	$26,500,000