



EDISON PLAZA
300 MADISON AVENUE
TOLEDO, OHIO 43652-0001

April 23, 1996

RAOG 96-18

Ms. Natalie Murff, PE Studies
Quality Assurance Research Division, ARD, NERL
U. S. Environmental Protection Agency
26 West M. L. King Drive, Room 525
Cincinnati, Ohio 45268

Dear Ms. Murff:

Subject: Results of Water Supply Performance Evaluation Study 37 (WS 037)

Enclosed are the results of the Water Supply Performance Evaluation Study 37 (WS 037) for the laboratory at the Davis-Besse Nuclear Power Station. The result of the Quality Assurance sample for turbidity is entered on the enclosed survey forms. Analyses of the remaining analytes are performed by certified off-site laboratories contracted by Toledo Edison. Therefore, their results are not included in this report.

Please contact Mr. James L. Freels, Manager - Regulatory Affairs, at (419) 249-8466 if you have any questions.

Sincerely yours,

John K. Wood
Plant Manager
Davis-Besse Nuclear Power Station

TKW/lkm

Enclosures

cc: Z. A. Clayton, Ohio Environmental Protection Agency
Mr. James D. Dolfi, Ohio Department of Health Laboratories
U. S. Nuclear Regulatory Commission Document Control Desk

P. J. McCloskey
3-86-12
Class III Operator
Water Supply

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PDR ADOCK 05000346
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OMB#2080-0021
(Exp. 7/97)
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WATER SUPPLY LABORATORY PERFORMANCE EVALUATION STUDY
U.S. ENVIRONMENTAL PROTECTION AGENCY
STUDY NO. WS037

OH00147
DAVIS-BESSE NUCLEAR POWER STATION
ENVIRONMENTAL SUPERVISOR
TCLEDC EDISON CC.
5501 N. ST. RT. 3
OAK HARBOR, OH 43449
Samples: I-C

REPORT APPROVED BY:

John K. Wood
NAME (Print)

SIGNATURE

Plant Manager
TITLE

(419)249-2435
TELEPHONE

DATE

This report is authorized by law (Public Laws 93-523 and 99-339). Successful annual participation in a water supply study or its equivalent is mandatory for every analyte or analyte group for which a drinking water laboratory is certified to conduct official analyses.

Paperwork Reduction Act Notice

Public reporting burden for this collection of information is estimated to average 8.35 hours per respondent. The estimate is based on analysis for an average of thirty-four analytes per respondent. The estimate includes time for reading instructions, preparation of the performance samples, analyses, gathering and reporting of the information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, 2136, U.S. Environmental Protection Agency, 401 M. Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

| Study Number | | | | | EPA Lab I.D. | | | | | Results | | | | |
|--|---------------------|---|---|---|--------------|---|---|---|---|---------|-----|----------|--|------|
| W | S | 0 | 3 | 7 | O | H | 0 | 0 | 1 | 4 | 7 | | | |
| Analyte Number & Name | | | | | Sample # | | | | | MC | </> | Quantity | | |
| TRACE METALS | | | | | | | | | | | | | | |
| 140 | Antimony | | | | 2 | | | | | | | | | μg/L |
| 001 | Arsenic | | | | 1 | | | | | | | | | μg/L |
| 002 | Barium | | | | 2 | | | | | | | | | μg/L |
| 141 | Beryllium | | | | 1 | | | | | | | | | μg/L |
| 226 | Boron | | | | 2 | | | | | | | | | μg/L |
| 003 | Cadmium | | | | 1 | | | | | | | | | μg/L |
| 004 | Chromium | | | | 1 | | | | | | | | | μg/L |
| 091 | Copper | | | | 1 | | | | | | | | | μg/L |
| 005 | Lead | | | | 1 | | | | | | | | | μg/L |
| 236 | Manganese | | | | 1 | | | | | | | | | μg/L |
| 006 | Mercury | | | | 1 | | | | | | | | | μg/L |
| 237 | Molybdenum | | | | 2 | | | | | | | | | μg/L |
| 142 | Nickel | | | | 1 | | | | | | | | | μg/L |
| 007 | Selenium | | | | 1 | | | | | | | | | μg/L |
| 143 | Thallium | | | | 2 | | | | | | | | | μg/L |
| 239 | Zinc | | | | 1 | | | | | | | | | μg/L |
| NITRATE & NITRITE & FLUORIDE & ORTHOPHOSPHATE | | | | | | | | | | | | | | |
| 009 | Nitrate as N | | | | 1 | | | | | | | | | mg/L |
| 092 | Nitrite as N | | | | 1 | | | | | | | | | mg/L |
| 010 | Fluoride | | | | 1 | | | | | | | | | mg/L |
| 261 | Orthophosphate as P | | | | 1 | | | | | | | | | mg/L |

| Study Number | | | | | EPA Lab I.D. | | | | | Results | | | | |
|--------------------------------|---------------------------|---|---|---|--------------|---|---|---|---|---------|-----|----------|--|------|
| W | S | 0 | 3 | 7 | 0 | H | 0 | 0 | 1 | 4 | 7 | | | |
| Analyte Number & Name | | | | | Sample # | | | | | MC | </> | Quantity | | |
| PESTICIDES | | | | | | | | | | | | | | |
| 093 | Alachlor | | | | 5 | | | | | | | | | μg/L |
| 256 | Aldrin | | | | 4 | | | | | | | | | μg/L |
| 094 | Atrazine | | | | 5 | | | | | | | | | μg/L |
| 257 | Butachlor | | | | 6 | | | | | | | | | μg/L |
| 097 | Total Chlordane | | | | 3 | | | | | | | | | μg/L |
| 258 | Dieldrin | | | | 4 | | | | | | | | | μg/L |
| 011 | Endrin | | | | 1 | | | | | | | | | μg/L |
| 095 | Heptachlor | | | | 4 | | | | | | | | | μg/L |
| 096 | Heptachlor Epoxide | | | | 4 | | | | | | | | | μg/L |
| 172 | Hexachlorobenzene | | | | 4 | | | | | | | | | μg/L |
| 112 | Hexachlorocyclopentadiene | | | | 4 | | | | | | | | | μg/L |
| 012 | Lindane | | | | 1 | | | | | | | | | μg/L |
| 013 | Methoxychlor | | | | 1 | | | | | | | | | μg/L |
| 241 | Metolachlor | | | | 6 | | | | | | | | | μg/L |
| 242 | Metribuzin | | | | 6 | | | | | | | | | μg/L |
| 243 | Prometon | | | | 6 | | | | | | | | | μg/L |
| 259 | Propachlor | | | | 4 | | | | | | | | | μg/L |
| 113 | Simazine | | | | 5 | | | | | | | | | μg/L |
| 014 | Toxaphene | | | | 2 | | | | | | | | | μg/L |
| 244 | Trifluralin | | | | 4 | | | | | | | | | μg/L |
| CARBAMATES & VYDATE | | | | | | | | | | | | | | |
| 098 | Aldicarb | | | | 1 | | | | | | | | | μg/L |
| 099 | Aldicarb Sulfone | | | | 1 | | | | | | | | | μg/L |
| 100 | Aldicarb Sulfoxide | | | | 1 | | | | | | | | | μg/L |
| 101 | Carbofuran | | | | 1 | | | | | | | | | μg/L |
| 245 | Methomyl | | | | 1 | | | | | | | | | μg/L |
| 114 | Oxamyl (Vydate) | | | | 1 | | | | | | | | | μg/L |

CHEMISTRY DATA

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| Study Number | | | | | | | | | | EPA Lab I.D. | | | | | | | | | | Results | | | | | | | | | | | | | |
|--------------------------------|-----------------------------|---|---|---|---|---|---|---|---|--------------|---|--|--|--|--|--|--|--|--|---------|-----|----------|--|--|--|--|--|--|--|--|--|--|------|
| W | S | 0 | 3 | 7 | 0 | H | 0 | 0 | 1 | 4 | 7 | | | | | | | | | | | | | | | | | | | | | | |
| Analyte Number & Name | | | | | | | | | | Sample # | | | | | | | | | | MC | </> | Quantity | | | | | | | | | | | |
| HERBICIDES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 015 | 2,4-D | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| 016 | 2,4,5-TP (Silvex) | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| 262 | Acifluorfen | | | | | | | | | | 2 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| 115 | Dalapon | | | | | | | | | | 2 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| 247 | Dicamba | | | | | | | | | | 2 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| 116 | Dinoseb | | | | | | | | | | 2 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| 102 | Pentachlorophenol | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| 117 | Picloram | | | | | | | | | | 2 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| PCBs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 118 | Decachlorobiphenyl | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| PAH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 122 | Benzo (A) Pyrene | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| ADIPATE & PHTHALATE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 134 | Di (2-Ethylhexyl) Adipate | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| 136 | Di (2-Ethylhexyl) Phthalate | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| MISCELLANEOUS SOC's | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 137 | Diquat | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| 138 | Endothall | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| 139 | Glyphosate | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| AS TRIHALOMETHANES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 019 | Bromodichloromethane | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| 018 | Bromoform | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| 020 | Chlorodibromomethane | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| 017 | Chloroform | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | μg/L |
| 021 | Total Trihalomethanes | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | μg/L |

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CHEMISTRY DATA

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| Study Number | | | | | EPA Lab I.D. | | | | | | | Results | | | | | | |
|-----------------------|---|---|---|---|--------------|---|---|----|---|-----|---|----------|--|--|--|------|--|--|
| W | S | 0 | 3 | 7 | O | H | 0 | 0 | 1 | 4 | 7 | | | | | | | |
| Analyte Number & Name | | | | | Sample # | | | MC | | </> | | Quantity | | | | | | |
| AS REGULATED VOCs | | | | | | | | | | | | | | | | | | |
| 039 | Benzene | | | | 1 | | | | | | | | | | | µg/L | | |
| 037 | Carbon Tetrachloride | | | | 1 | | | | | | | | | | | µg/L | | |
| 049 | Chlorobenzene | | | | 2 | | | | | | | | | | | µg/L | | |
| 045 | 1,2-Dibromo-3-Chloropropane (DBCP) By Method 504 | | | | 4 | | | | | | | | | | | µg/L | | |
| 054 | 1,2-Dichlorobenzene | | | | 2 | | | | | | | | | | | µg/L | | |
| 041 | 1,4-Dichlorobenzene | | | | 1 | | | | | | | | | | | µg/L | | |
| 035 | 1,2-Dichloroethane | | | | 1 | | | | | | | | | | | µg/L | | |
| 034 | 1,1-Dichloroethylene | | | | 1 | | | | | | | | | | | µg/L | | |
| 043 | Cis-1,2-Dichloroethylene | | | | 2 | | | | | | | | | | | µg/L | | |
| 042 | Trans-1,2-Dichloro-ethylene | | | | 2 | | | | | | | | | | | µg/L | | |
| 055 | Dichloromethane | | | | 1 | | | | | | | | | | | µg/L | | |
| 044 | 1,2-Dichloropropane | | | | 2 | | | | | | | | | | | µg/L | | |
| 048 | Ethylbenzene | | | | 2 | | | | | | | | | | | µg/L | | |
| 046 | Ethylene Dibromide (EDB) By Method 504 | | | | 4 | | | | | | | | | | | µg/L | | |
| 053 | Styrene | | | | 2 | | | | | | | | | | | µg/L | | |
| 040 | Tetrachloroethylene | | | | 2 | | | | | | | | | | | µg/L | | |
| 047 | Toluene | | | | 2 | | | | | | | | | | | µg/L | | |
| 036 | 1,1,1-Trichloroethane | | | | 1 | | | | | | | | | | | µg/L | | |
| 061 | 1,1,2-Trichloroethane | | | | 1 | | | | | | | | | | | µg/L | | |
| 038 | Trichloroethylene | | | | 1 | | | | | | | | | | | µg/L | | |
| 076 | 1,2,4-Trichlorobenzene | | | | 2 | | | | | | | | | | | µg/L | | |
| 032 | Vinyl Chloride | | | | 1 | | | | | | | | | | | µg/L | | |
| 090 | Total Xylenes | | | | 2 | | | | | | | | | | | µg/L | | |

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CHEMISTRY DATA

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| Study Number | | EPA Lab I.D. | | | | | | | Results | | | | | |
|----------------------------|---------------------------|--------------|---|---|----------|---|----|-----|----------|---|---|--|--|------|
| W | S | 0 | 3 | 7 | 0 | H | 0 | 0 | 1 | 4 | 7 | | | |
| Analyte Number & Name | | | | | Sample # | | MC | </> | Quantity | | | | | |
| AS UNREGULATED VOCs | | | | | | | | | | | | | | |
| 067 | Bromobenzene | | | | 3 | | | | | | | | | µg/L |
| 089 | Bromochloromethane | | | | 3 | | | | | | | | | µg/L |
| 108 | Bromodichloromethane | | | | 3 | | | | | | | | | µg/L |
| 062 | Bromoform | | | | 3 | | | | | | | | | µg/L |
| 069 | Bromomethane | | | | 3 | | | | | | | | | µg/L |
| 079 | n-Butylbenzene | | | | 3 | | | | | | | | | µg/L |
| 086 | Sec-Butylbenzene | | | | 3 | | | | | | | | | µg/L |
| 085 | Tert-Butylbenzene | | | | 3 | | | | | | | | | µg/L |
| 109 | Chlorodibromomethane | | | | 3 | | | | | | | | | µg/L |
| 070 | Chloroethane | | | | 3 | | | | | | | | | µg/L |
| 110 | Chloroform | | | | 3 | | | | | | | | | µg/L |
| 068 | Chloromethane | | | | 3 | | | | | | | | | µg/L |
| 071 | 2-Chlorotoluene | | | | 3 | | | | | | | | | µg/L |
| 072 | 4-Chlorotoluene | | | | 3 | | | | | | | | | µg/L |
| 057 | Dibromomethane | | | | 3 | | | | | | | | | µg/L |
| 066 | 1,3-Dichlorobenzene | | | | 3 | | | | | | | | | µg/L |
| 088 | Dichlorodifluoromethane | | | | 3 | | | | | | | | | µg/L |
| 056 | 1,1-Dichloroethane | | | | 3 | | | | | | | | | µg/L |
| 059 | 1,3-Dichloropropane | | | | 3 | | | | | | | | | µg/L |
| 060 | 2,2-Dichloropropane | | | | 3 | | | | | | | | | µg/L |
| 058 | 1,1-Dichloropropene | | | | 3 | | | | | | | | | µg/L |
| 152 | Cis-1,3-Dichloropropene | | | | 3 | | | | | | | | | µg/L |
| 153 | Trans-1,3-Dichloropropene | | | | 3 | | | | | | | | | µg/L |
| 087 | Fluorotrichloromethane | | | | 3 | | | | | | | | | µg/L |
| 081 | Hexachlorobutadiene | | | | 3 | | | | | | | | | µg/L |
| 084 | Isopropylbenzene | | | | 3 | | | | | | | | | µg/L |
| 083 | 4-Isopropyltoluene | | | | 3 | | | | | | | | | µg/L |
| 078 | n-Propylbenzene | | | | 3 | | | | | | | | | µg/L |
| 063 | 1,1,1,2-Tetrachloroethane | | | | 3 | | | | | | | | | µg/L |

CHEMISTRY DATA

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| Study Number | | | | | EPA Lab I.D. | | | | | Results | | | | |
|---|---------------------------|---|---|---|--------------|---|----|-----|----------|---------|---|--|--|------|
| W | S | 0 | 3 | 7 | 0 | H | 0 | 0 | 1 | 4 | 7 | | | |
| Analyte Number & Name | | | | | Sample # | | MC | </> | Quantity | | | | | |
| AS UNREGULATED VOCs | | | | | | | | | | | | | | |
| 065 | 1,1,2,2-Tetrachloroethane | | | | 3 | | | | | | | | | μg/L |
| 077 | 1,2,3-Trichlorobenzene | | | | 3 | | | | | | | | | μg/L |
| 075 | 1,2,4-Trimethylbenzene | | | | 3 | | | | | | | | | μg/L |
| 064 | 1,2,3-Trichloropropane | | | | 3 | | | | | | | | | μg/L |
| 082 | 1,3,5-Trimethylbenzene | | | | 3 | | | | | | | | | μg/L |
| ORGANIC DISINFECTION BY-PRODUCTS | | | | | | | | | | | | | | |
| 250 | Bromochloroacetic Acid | | | | 1 | | | | | | | | | μg/L |
| 165 | Chloral Hydrate | | | | 2 | | | | | | | | | μg/L |
| 157 | Dibromoacetic Acid | | | | 1 | | | | | | | | | μg/L |
| 158 | Dichloroacetic Acid | | | | 1 | | | | | | | | | μg/L |
| 160 | Monobromoacetic Acid | | | | 1 | | | | | | | | | μg/L |
| 161 | Monochloroacetic Acid | | | | 1 | | | | | | | | | μg/L |
| 162 | Trichloroacetic Acid | | | | 1 | | | | | | | | | μg/L |
| INORGANIC DISINFECTION BY-PRODUCTS | | | | | | | | | | | | | | |
| 193 | Bromate | | | | 2 | | | | | | | | | μg/L |
| 260 | Bromide | | | | 2 | | | | | | | | | μg/L |
| 194 | Chlorate | | | | 1 | | | | | | | | | μg/L |
| 195 | Chlorite | | | | 1 | | | | | | | | | μg/L |

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CHEMISTRY DATA

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| Study Number | | EPA Lab I.D. | | | | | | | | | | Results | | | | | | | | | |
|-----------------------|--|--------------|---|---|----------|---|---|---|---|----|-----|----------|--|---|---|---|---|--|-------|--|--|
| W | S | 0 | 3 | 7 | O | H | 0 | 0 | 1 | 4 | 7 | | | | | | | | | | |
| Analyte Number & Name | | | | | Sample # | | | | | MC | </> | Quantity | | | | | | | | | |
| MISCELLANEOUS | | | | | | | | | | | | | | | | | | | | | |
| 022 | Residual Free Chlorine | | | | 1 | | | | | | | | | | | | | | mg/L | | |
| 023 | Turbidity | | | | 1 | | | | | 2 | 2 | | | 1 | . | 6 | 7 | | NTU | | |
| 024 | Total Filterable Residue (at 180° C) | | | | 1 | | | | | | | | | | | | | | mg/L | | |
| 025 | Calcium Hardness (as Calcium Carbonate) | | | | 1 | | | | | | | | | | | | | | mg/L | | |
| 026 | pH | | | | 1 | | | | | | | | | | | | | | Units | | |
| 027 | Alkalinity (as Calcium Carbonate) | | | | 1 | | | | | | | | | | | | | | mg/L | | |
| 029 | Sodium | | | | 1 | | | | | | | | | | | | | | mg/L | | |
| 145 | Sulfate | | | | 1 | | | | | | | | | | | | | | mg/L | | |
| 263 | TOC | | | | 1 | | | | | | | | | | | | | | mg/L | | |
| 146 | Total Cyanide | | | | 1 | | | | | | | | | | | | | | mg/L | | |
| 251 | Ethylene Thiourea | | | | 1 | | | | | | | | | | | | | | µg/L | | |
| 252 | Dioxin | | | | 1 | | | | | | | | | | | | | | pg/L | | |
| 253 | Asbestos | | | | 1 | | | | | | | | | | | | | | MFL | | |

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