START

0012100 b

Hanford Waste Vitrification Plant
Westinghouse Hanford Company
P. O. Box 1970
Richland, Washington 99352

FLUOR DANIEL, INC.

Date: NOVEMBER 14, 1990

Reference: Hanford Waste Vitrification Plant
DOE Contract DE-AC06-86RL10838
Fluor Contract 8457

Attention: Mr. Mike Gordon
State of Washington
Department of Ecology (PV-11)
Olympia, WA 98504-8711

Transmittal No.: WDOE-027

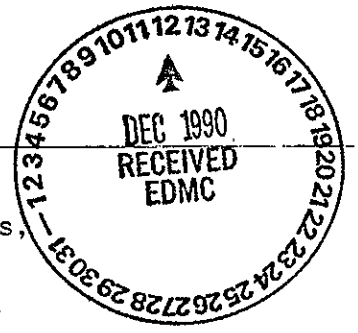
Gentlemen:

TRANSMITTAL

We enclose 5 copies of the items listed below. These are issued per US-DOE request.

Response due to Fluor: N/A
Responds to: CFF-224

| Number | Rev. | Date | Title |
|---|---|---|---|
| CONTROLLED COPIES #25 THRU 29 | | | PIPING & INSTRUMENT DIAGRAM SYSTEM 62 |
| H-2-123370 SHT 1 OF 7 | 0 | 11/09/90 | HPS VACUUM BLOWERS VIT, MRB, OC/REB FRIT ST COLI CHEM. BLDGS. |
| H-2-123370 SHT 2 OF 7 | 0 | 11/09/90 | HPS VACUUM COLLECTION VIT BLDG, TUNNEL & MEZZ LEVELS FIRST & SECOND FLOORS |
| H-2-123370 SHT 3 OF 7 | 0 | 11/09/90 | HPS VACUUM COLLECTION VIT. BLDG THIRD & FOURTH FLOORS |
| H-2-123370 SHT 4 OF 7 | 0 | 11/09/90 | HPS VACUUM COLLECTION MRB, FRIT ST/COLD CHEM, CMI OC/REB & SHIPPING/RECEIVING BLDGS |
| H-2-123370 SHT 5 OF 7 | 0 | 11/09/90 | HPS VACUUM SYSTEM CANISTER STORAGE BLDG. |
| H-2-123370 SHT 6 OF 7 | 0 | 11/09/90 | HPS VACUUM SYSTEM FAN HOUSE |
| H-2-123370 SHT 7 OF 7 | 0 | 11/09/90 | HPS VACUUM SYSTEM WHT BLDG. |




Distribution:
Reference:FRP-159, FUP-007
VPO/AME Corresp Cntrl Cntr, MSIN A5-10 w/0
P. Felise, WHC-RL (MSIN G6-16) W/1 CC#30
Environmental Data Management Center
(MSIN H4-22)W/1 CC# 31
D. Duncan, US EPA, Region X w/0

Very truly yours,

R. N. Gibbons
Project Director

RNG:

PLEASE INSERT THE ATTACHED TABLE OF CONTENTS
AND DRAWINGS INTO YOUR CONTROLLED P&ID MANUALS, VOLUME 1B

# PROCESS PIPING AND INSTRUMENT DIAGRAMS
## VOLUME 1B
## TABLE OF CONTENTS


| DRAWING NO. | SH NO | REV | DRAWING TITLE | CWBS NO |
|---|---|---|---|---|
| ** VOLUME NUMBER: 1B | | | | |
| H-2-123161 | 01 | 0 | SYSTEM 23 SMEAR TEST STATION | 3220 |
| H-2-123161 | 02 | 0 | SYSTEM 23 EMPTY CANISTER ENTRY TUNNEL TRANSFER CAR | 3220 |
| H-2-123161 | 03 | 0 | SYSTEM 23 MC/CDC TUNNEL CANISTER TRANSFER CAR | 3220 |
| H-2-123161 | 04 | 0 | SYSTEM 23 SMEAR TEST/EXIT TUNNEL TURNTABLE | 3220 |
| H-2-123170 | 01 | 0 | SYSTEM 63 LIQUID SAMPLING SYSTEM | 3218 |
| H-2-123170 | 02 | 0 | SYSTEM 63 LIQUID SAMPLING FLUSH WATER AND PLANT AIR HEADERS | 3218 |
| H-2-123170 | 03 | 0 | SYSTEM 63 SAMPLE & ANALYTICAL CELLS DECONTAMINATION SYSTEM | 3218 |
| H-2-123170 | 04 | 0 | SYSTEM 63 SAMPLE CELL DRAIN SYSTEM | 3218 |
| H-2-123170 | 05 | 0 | SYSTEM 63 MOG/PVV SBS OUTLET GAS SAMPLERS | 3218 |
| H-2-123170 | 06 | 0 | SYSTEM 63 HEME OUTLET AND BACKUP HEME OUTLET GAS SAMPLERS | 3218 |
| H-2-123170 | 07 | 0 | SYSTEM 63 MOG HEPA FILTER OUTLET GAS SAMPLER | 3218 |
| H-2-123170 | 08 | 0 | SYSTEM 63 PVV HEPA FILTER OUTLET GAS SAMPLER | 3218 |
| H-2-123170 | 09 | 0 | SYSTEM 63 RPVV HEPA FILTER OUTLET GAS SAMPLER | 3218 |
| H-2-123170 | 11 | 0 | SYSTEM 63 GLASS SAMPLE RABBIT SYSTEM | 3218 |
| H-2-123170 | 12 | 0 | SYSTEM 63 ANALYTICAL FACILITY SAMPLE RABBIT SYSTEM | 3218 |
| H-2-123170 | 13 | 0 | SYSTEM 63 SAMPLE CELL RABBIT SYSTEM | 3218 |
| H-2-123171 | 01 | 0 | SYSTEM 64 ANALYTICAL CELL A | 3218 |
| H-2-123171 | 02 | 0 | SYSTEM 64 ANALYTICAL CELL B | 3218 |
| H-2-123171 | 03 | 0 | SYSTEM 64 ANALYTICAL CELL C | 3218 |
| H-2-123171 | 04 | 0 | SYSTEM 64 ANALYTICAL CELL D | 3218 |
| H-2-123171 | 05 | 0 | SYSTEM 64 ANALYTICAL CELL E | 3218 |
| H-2-123171 | 06 | 0 | SYSTEM 64 ANALYTICAL CELL F | 3218 |
| H-2-123171 | 07 | 0 | SYSTEM 64 ANALYTICAL CELL G | 3218 |
| H-2-123171 | 08 | 0 | SYSTEM 64 ANALYTICAL CELL H | 3218 |
| H-2-123171 | 09 | 0 | SYSTEM 64 LABORATORY HOODS | 3218 |
| H-2-123171 | 10 | 0 | SYSTEM 64 AT FLAME HOOD AND ICP & AA HOOD | 3218 |
| H-2-123171 | 11 | 0 | SYSTEM 64 DECONTAMINATION HOOD SAMPLE RECEIVING GLOVE BOX AND LABRATORY SINKS | 3218 |
| H-2-123171 | 12 | 0 | SYSTEM 64 HOT ICP GLOVE BOX | 3218 |
| H-2-123171 | 13 | 0 | SYSTEM 64 SERVICE ROOMS HOODS | 3218 |
| H-2-123171 | 14 | 0 | SYSTEM 64 PROCESS WATER ANALYTICAL AREA DISTRIBUTION | 3218 |
| H-2-123171 | 15 | 0 | SYSTEM 64 HOT WATER ANALYTICAL AREA DISTRIBUTION | 3218 |

PROCESS PIPING AND INSTRUMENT DIAGRAMS
VOLUME 1B
TABLE OF CONTENTS


| DRAWING NO. | SH NO | REV | DRAWING TITLE | CWBS NO |
|---|---|---|---|---|
| H-2-123171 | 16 | 0 | SYSTEM 64 TEMPERED WATER ANALYTICAL AREA DISTRIBUTION | 3218 |
| H-2-123171 | 17 | 0 | SYSTEM 64 DEIONIZED WATER ANALYTICAL AREA DISTRIBUTION | 3218 |
| H-2-123171 | 18 | 0 | SYSTEM 64 PLANT AIR AND INSTRUMENT AIR ANALYTICAL AREA DISTRIBUTION | 3218 |
| H-2-123171 | 19 | 0 | SYSTEM 64 GAS CYLINDERS ANALYTICAL AREA DISTRIBUTION | 3218 |
| H-2-123171 | 20 | 0 | SYSTEM 64 GAS CYLINDERS & LIQUID NITROGEN ANALYTICAL AREA DISTRIBUTION | 3218 |
| H-2-123171 | 21 | 0 | SYSTEM 64 HOODS AND GLOVE BOXES DRAIN SYSTEM | 3218 |
| H-2-123171 | 22 | 0 | SYSTEM 64 COLD CHEMICAL LABORATORY HOODS AND SINK | 3218 |
| H-2-123250 | 01 | 0 | SYSTEM 14A FILM COOLER | 3215 |
| H-2-123250 | 02 | 0 | SYSTEM 14A MOG SUBMERGED BED SCRUBBER | 3215 |
| H-2-123250 | 03 | 0 | SYSTEM 14A MOG SUBMERGED BED SCRUBBER | 3215 |
| H-2-123250 | 04 | 0 | SYSTEM 14A MOG SUBMERGED BED SCRUBBER | 3215 |
| H-2-123250 | 05 | 0 | SYSTEM 14A PIPING | 3215 |
| H-2-123250 | 06 | 0 | SYSTEM 14A HIGH EFFICIENCY MIST ELIMINATOR | 3215 |
| H-2-123250 | 07 | 0 | SYSTEM 14A MOG HEPA FILTER | 3215 |
| H-2-123250 | 08 | 0 | SYSTEM 14B HIGH EFFICIENCY MIST ELIMINATOR | 3215 |
| H-2-123250 | 09 | 0 | SYSTEM 14B MOG HEPA FILTER | 3215 |
| H-2-123250 | 10 | 0 | SYSTEM 14A MOG CONTACT HEPA FILTER | 3216 |
| H-2-123250 | 11 | 0 | SYSTEM 14A FUTURE IODINE ADSORBER | 3215 |
| H-2-123250 | 12 | 0 | SYSTEM 14A MOG EXHAUSTERS | 3215 |
| H-2-123250 | 13 | 0 | SYSTEM 14A BACK-UP FILM COOLER | 3215 |
| H-2-123250 | 14 | 0 | SYSTEM 14A FUTURE NOx REDUCER | 3215 |
| H-2-123250 | 15 | 0 | SYSTEM 14A MOG/PVV EXHAUSTER AFTERCOOLER | 3215 |
| H-2-123251 | 01 | 0 | SYSTEM 15A PVV HEADER | 3216 |
| H-2-123251 | 02 | 0 | SYSTEM 15A PVV SUBMERGED BED SCRUBBER | 3216 |
| H-2-123251 | 03 | 0 | SYSTEM 15A PVV SUBMERGED BED SCRUBBER | 3216 |
| H-2-123251 | 04 | 0 | SYSTEM 15A PVV SUBMERGED BED SCRUBBER | 3216 |
| H-2-123251 | 05 | 0 | SYSTEM 15A PVV REMOTE FILTER PREHEATERS | 3216 |
| H-2-123251 | 06 | 0 | SYSTEM 15A&B PVV REMOTE FILTERS | 3216 |
| H-2-123251 | 07 | 0 | SYSTEM 15A PVV CONTACT PREHEATER AND HEPA FILTER | 3216 |

PROCESS PIPING AND INSTRUMENT DIAGRAMS
VOLUME 1B
TABLE OF CONTENTS


| DRAWING NO. | SH NO | REV | DRAWING TITLE | CWBS NO |
|---|---|---|---|---|
| H-2-123251 | 08 | 0 | SYSTEM 15A PVV EXHAUSTERS | 3216 |
| H-2-123251 | 09 | 0 | SYSTEM 15C RPVV REMOTE FILTER PREHEATER | 3216 |
| H-2-123251 | 10 | 0 | SYSTEM 15C&D RPVV REMOTE FILTERS | 3216 |
| H-2-123251 | 11 | 0 | SYSTEM 15C RPVV CONTACT PREHEATER AND HEPA FILTER | 3216 |
| H-2-123251 | 12 | 0 | SYSTEM 15C RPVV EXHAUSTERS | 3216 |
| H-2-123350 | 01 | 0 | SYSTEM 41 INSTRUMENT/PLANT AIR COMPRESSORS | 3223 |
| H-2-123350 | 02 | 0 | SYSTEM 41 INSTRUMENT AIR DRYERS | 3223 |
| H-2-123350 | 03 | 0 | SYSTEM 41 PLANT AND INSTRUMENT AIR RECEIVERS | 3223 |
| H-2-123350 | 04 | 0 | SYSTEM 41 PLANT AIR DISTRIBUTION VIT., MECH/ELECT. SERVICES, FRIT STORAGE/COLD CHEM., MANIP. REPAIR & SAND FILTER BUILDINGS | 3223 |
| H-2-123350 | 05 | 0 | SYSTEM 41 PLANT AIR DISTRIBUTION VITRIFICATION BUILDING 3RD FLOOR | 3223 |
| H-2-123350 | 06 | 0 | SYSTEM 41 BREATHING AIR SYSTEM | 3223 |
| H-2-123350 | 07 | 0 | SYSTEM 41 INSTRUMENT AIR DISTRIBUTION | 3223 |
| H-2-123350 | 08 | 0 | SYSTEM 41 INSTRUMENT/PLANT AIR COMPRESSORS | 3223 |
| H-2-123351 | 01 | 0 | SYSTEM 42 MED PRESS STEAM DISTRIBUTION VIT BLDG, SERVICE BLDG, AND MANIPULATOR REPAIR BUILDING | 3221 |
| H-2-123352 | 01 | 0 | SYSTEM 43 PROCESS STEAM GENERATOR AND PROCESS STEAM DISTRIBUTION | 3221 |
| H-2-123352 | 02 | 0 | SYSTEM 43 PROCESS STEAM CONDENSATE SYSTEM | 3221 |
| H-2-123353 | 01 | 0 | SYSTEM 44 COOLING TOWER | 3222 |
| H-2-123353 | 02 | 0 | SYSTEM 44 COOLING TOWER WATER CONTROL, MAKE-UP, AND BLOWDOWN | 3222 |
| H-2-123353 | 03 | 0 | SYSTEM 44 COOLING TOWER WATER DISTRIBUTION MECH/ELECT. SERVICES BLDG, AND VIT. BLDG. | 3222 |
| H-2-123354 | 01 | 0 | SYSTEM 45 PROCESS COOLING WATER SYSTEM | 3222 |
| H-2-123354 | 02 | 0 | SYSTEM 45 PROCESS COOLING WATER DISTRIBUTION VITRIFICATION BUILDING | 3222 |
| H-2-123355 | 01 | 0 | SYSTEM 46 MELTER COOLING WATER SYSTEM VITRIFICATION BUILDING | 3222 |
| H-2-123355 | 02 | 0 | SYSTEM 46 MELTER COOLING WATER DISTRIBUTION VITRIFICATION BUILDING | 3222 |
| H-2-123357 | 01 | 0 | SYSTEM 48 PROCESS WATER TANK VITRIFICATION BUILDING 3RD FLOOR | 3224 |
| H-2-123357 | 02 | 0 | SYSTEM 48 PROCESS WTR DIST. VIT BLDG, MECH/ELEC SERV BLDG, FRIT STRGE/COLD CHEM & SAND FLTR BLDG | 3224 |

PROCESS PIPING AND INSTRUMENT DIAGRAMS
VOLUME 1B
TABLE OF CONTENTS


| DRAWING NO. | SH NO | REV | DRAWING TITLE | CWBS NO |
|---|---|---|---|---|
| H-2-123357 | 03 | 0 | SYSTEM 48 PROCESS WATER DIST VITRIFICATION BUILDING -- 3RD FLOOR | 3224 |
| H-2-123358 | 01 | 0 | SYSTEM 50 RAW WATER AND FIRE WATER SYSTEMS | 3224 |
| H-2-123358 | 02 | 0 | SYSTEM 50 FIRE AND PROCESS WATER STORAGE | 3224 |
| H-2-123359 | 01 | 0 | SYSTEM 49 SANITARY WATER SYSTEM | 3224 |
| H-2-123360 | 01 | 0 | SYSTEM 52 ACID DRAIN CATCH TANK | 3225 |
| H-2-123360 | 02 | 0 | SYSTEM 52 ORGANIC ACID DRAIN CATCH TANK | 3225 |
| H-2-123360 | 03 | 0 | SYSTEM 52 FLOOR DRAIN CATCH TANK | 3225 |
| H-2-123360 | 04 | 0 | SYSTEM 52 FLOOR DRAIN SAMPLING TANK | 3225 |
| H-2-123360 | 05 | 0 | SYSTEM 52 REGULATED DRAINS CATCH TANK | 3225 |
| H-2-123360 | 06 | 0 | SYSTEM 52 LIQUID WASTE COLLECTION VITRIFICATION BUILDING | 3225 |
| H-2-123360 | 07 | 0 | SYSTEM 52 LIQUID WASTE COLLECTION VIT BLDG. REB AND MANIPULATOR REPAIR BLDG. | 3225 |
| H-2-123361 | 01 | 0 | SYSTEM 53 ACID WASTE HOLD TANK | 3225 |
| H-2-123361 | 02 | 0 | SYSTEM 53 ORGANIC ACID WASTE HOLD TANK | 3225 |
| H-2-123361 | 03 | 0 | SYSTEM 53 ORGANIC ACID WASTE NEUTRALIZATION TANK | 3225 |
| H-2-123361 | 04 | 0 | SYSTEM 53 CAUSTIC WASTE HOLD TANK | 3225 |
| H-2-123361 | 05 | 0 | SYSTEM 53 CAUSTIC WASTE NEUTRALIZATION TANK | 3225 |
| H-2-123361 | 06 | 0 | SYSTEM 53 SOLAR EVAPORATION TANK | 3225 |
| H-2-123361 | 07 | 0 | SYSTEM 53 NONHAZARDOUS WASTE WATER DISPOSAL | 3225 |
| H-2-123361 | 09 | 0 | SYSTEM 53 MECHANICAL/ELECTRICAL SERVICES BUILDING SUMP | 3225 |
| H-2-123362 | 01 | 0 | SYSTEM 54 DECON SOLUTION MAKE-UP TANK | 3226 |
| H-2-123362 | 02 | 0 | SYSTEM 54 OXALIC ACID DECON FEED SYSTEM | 3226 |
| H-2-123362 | 03 | 0 | SYSTEM 54 POTASSIUM PERMANGANATE FEED SYSTEM | 3226 |
| H-2-123362 | 04 | 0 | SYSTEM 54 SODIUM NITRITE FEED SYSTEM | 3226 |
| H-2-123362 | 05 | 0 | SYSTEM 54 50% CAUSTIC STORAGE TANK | 3226 |
| H-2-123362 | 07 | 0 | SYSTEM 54 50% CAUSTIC FEED TANK | 3226 |
| H-2-123362 | 08 | 0 | SYSTEM 54 SUGAR SOLUTION FEED SYSTEM | 3226 |
| H-2-123362 | 09 | 0 | SYSTEM 54 OFF-GAS TREATMENT CHEMICAL FEED SYSTEM | 3226 |
| H-2-123362 | 10 | 0 | SYSTEM 54 KOH/FRIT MODIFIER FEED SYSTEM | 3226 |
| H-2-123362 | 11 | 0 | SYSTEM 54 DILUTE SODIUM HYDROXIDE FEED SYSTEM | 3226 |

PROCESS PIPING AND INSTRUMENT DIAGRAMS
VOLUME 1B
TABLE OF CONTENTS


| DRAWING NO. | SH NO | REV | DRAWING TITLE | CWBS NO |
|---|---|---|---|---|
| H-2-123362 | 12 | 0 | SYSTEM 54 FORMIC ACID STORAGE TANK | 3226 |
| H-2-123362 | 14 | 0 | SYSTEM 54 FORMIC ACID FEED TANK | 3226 |
| H-2-123362 | 15 | 0 | SYSTEM 54 DILUTE FORMIC ACID FEED SYSTEM | 3226 |
| H-2-123362 | 16 | 0 | SYSTEM 54 50% NITRIC ACID STORAGE TANK | 3226 |
| H-2-123362 | 18 | 0 | SYSTEM 54 50% NITRIC ACID FEED TANK | 3226 |
| H-2-123362 | 19 | 0 | SYSTEM 54 NITRIC ACID DECON FEED SYSTEM | 3226 |
| H-2-123362 | 21 | 0 | SYSTEM 54 DIATOMACEOUS EARTH SLURRY FEED TANK | 3226 |
| H-2-123362 | 22 | 0 | SYSTEM 54 ZEOLITE SLURRY FEED TANK | 3226 |
| H-2-123362 | 23 | 0 | SYSTEM 54 FLUSH WATER FEED TANK | 3226 |
| H-2-123363 | 01 | 0 | SYSTEM 55 FRIT STORAGE/COLD CHEMICAL BLDG VENT SYSTEM | 3227 |
| H-2-123364 | 01 | 0 | SYSTEM 56 COLD FEED VITRIFICATION BUILDING VENT SYSTEM | 3227 |
| H-2-123370 | 01 | 0 | SYSTEM 62 HPS VACUUM BLOWERS VIT., MRB OC/REB, FRIT STORAGE/COLD CHEM. BUILDINGS | 3227 |
| H-2-123370 | 02 | 0 | SYSTEM 62 HPS VACUUM COLLECTION VIT BUILDING, TUNNEL LEVEL, MEZZ. LEVEL, FIRST AND SECOND FLOORS | 3227 |
| H-2-123370 | 03 | 0 | SYSTEM 62 HPS VACUUM COLLECTION VITRIFICATION BUILDING THIRD & FOURTH FLOORS | 3227 |
| H-2-123370 | 04 | 0 | SYSTEM 62 HPS VACUUM COLLECTION MRB, FRIT ST/COLD CHEM, CMR, OC/REB & SHIPPING/RECEIVING BUILDINGS | 3227 |
| H-2-123370 | 05 | 0 | SYSTEM 62 HPS VACUUM SYSTEM CANISTER STORAGE BUILDING | 3227 |
| H-2-123370 | 06 | 0 | SYSTEM 62 HPS VACUUM SYSTEM FAN HOUSE | 3227 |
| H-2-123370 | 07 | 0 | SYSTEM 62 HPS VACUUM SYSTEM WHT BUILDING | 3227 |


9-12-95