

HISTORIC AMERICAN ENGINEERING RECORD

INDEX TO PHOTOGRAPHS

IDAHO NATIONAL ENGINEERING LABORATORY,
SPERT-III
(Idaho National Laboratory, SPERT-III)
Scoville Vicinity
Butte County
Idaho

HAER No. ID-33-I

HAER photographs ID-33-I-1 through ID-33-I-23 are large format views of the SPERT-III building. Some photographs show all or part of its INEL building number, PER-609. PER stood for "power excursion reactor." Views are dominated by the many attachments and remodels made for the Waste Experimental Reduction Facility (WERF) still extant just prior to the building's demolition in 2009. Most interior WERF equipment had been removed. The photographer was Darren Clark, who took the pictures on May 12, 2009.

- ID-33-I-1 SPERT-III. CONTEXTUAL OBLIQUE VIEW INCLUDES SAGEBRUSH FLAT BEYOND BUILDING. CAMERA FACES NORTHEAST. PARKING AREA IS IN FOREGROUND. WERF ADDITIONS SURROUND AND OBSCURE ORIGINAL SPERT BUILDING FACADES. VIEW SHOWS WEST AND SOUTH FACADES. SILO-LIKE STRUCTURE IS WERF SPRAY DRYER ABSORBER. WERF INCINERATOR STACK IS AT CENTER LEFT.
- ID-33-I-2 SPERT-III. EXTERIOR OBLIQUE VIEW OF SOUTHWEST CORNER. CAMERA FACES NORTHEAST. METAL STRUCTURE IN FOREGROUND IS WERF BLOWER SHED. TO ITS LEFT ARE TWO ROLLUP DOORS FOR WERF INCINERATOR AND COMPACTION ROOMS, CONSTRUCTED OF CONCRETE BLOCK. SPRAY DRYER ABSORBER WITH CONE-SHAPED METAL ROOF BEYOND TO THE RIGHT.
- ID-33-I-3 SPERT-III. EXTERIOR OF SOUTH FACADE. CAMERA FACES NORTH. FROM LEFT TO RIGHT, BEGINNING AT PARKED TRUCK: WERF OFFICE ADDITION, ORIGINAL SPERT-III (LOW-BAY) WEST WING, HIGH-BAY REACTOR ROOM WITH ORIGINAL ROLLUP DOOR, WERF SOUTH INCINERATOR STACK, BLOWER SHED. EXTERIOR PIPING AND VENTS ARE WERF ADDITIONS.
- ID-33-I-4 SPERT-III. EXTERIOR DETAIL OF SOUTH FACADE. CAMERA FACES NORTH. REACTOR ROOM METAL ROLLUP DOOR. SOUTH INCINERATOR STACK. METAL-SIDED BLOWER SHED IS ATTACHED TO INCINERATOR ROOM JUST BEHIND STACK.
- ID-33-I-5 SPERT-III. WEST FACADE. CAMERA FACES EAST. TRANSFORMER PAD IS AT APPROXIMATELY THE SAME LOCATION FOR WERF ACTIVITIES AS IT WAS FOR SPERT-III. TO ITS RIGHT ARE WERF LUNCH ROOM AND OFFICE ADDITIONS. TO ITS LEFT IS WERF ADDITION FOR COMPRESSOR/GENERATOR ROOM. WALL

Idaho National Engineering Laboratory, SPERT-III
HAER No. ID-33-I
Index to Photographs (Page 2)

BEYOND TRANSFORMER PAD IS ORIGINAL WEST-WING WALL OF SPERT-III. SPRAY DRYER ABSORBER AND STACK ARE BEYOND ROOF LINE.

- ID-33-I-6 SPERT-III. EXTERIOR OBLIQUE VIEW OF NORTH AND WEST FACADES. CAMERA FACES SOUTHEAST. ATTACHMENT IN FOREGROUND IS WERF COMPRESSOR GENERATOR ROOM. BEYOND IT IS HIGH-BAY REACTOR ROOM. PROJECTING ATTACHMENT AT RIGHT OF VIEW AND TO RIGHT OF TRANSFORMER PAD IS WERF LUNCH ROOM.
- ID-33-I-7 SPERT-III. EXTERIOR OF NORTH FACADE. CAMERA FACES SOUTH. SPRAY DRYER ABSORBER AT LEFT, THEN NORTH FACADE OF ORIGINAL SPERT-III BUILDING. NOTE THAT ORIGINAL ROLLUP DOOR WAS REPLACED BY A SMALLER ONE. SQUARE OPENING TO LEFT OF DOOR IS ASSOCIATED WITH AND ABOVE WERF ACCESS HATCH, WHICH IS JUST ABOVE GRADE LEVEL. ADDITION AT RIGHT IS COMPRESSOR GENERATOR ROOM FOR WERF.
- ID-33-I-8 SPERT-III. EXTERIOR DETAIL OF NORTH FACADE. CAMERA FACES SOUTH. WERF ACCESS HATCH IS AT GRADE LEVEL JUST LEFT OF ROLLUP DOOR AND BENEATH SQUARE OPENING. SIGN ON WALL BENEATH HATCH SAYS "[DO NOT] STACK ANY MATERIAL ON THIS HATCH." ORIGINAL ROLLUP DOOR, FOR WHICH MOTOR AND CYLINDRICAL STORAGE TUBE WERE INSIDE, WAS REPLACED WITH SMALLER DOOR WITH EXTERIOR MOTOR BOX AND STORAGE CYLINDER.
- ID-33-I-9 SPERT-III. EXTERIOR OBLIQUE NORTHEAST CORNER. CAMERA FACES SOUTHWEST. WERF SPRAY DRYER ABSORBER DOMINATES CORNER BETWEEN WERF COMPACTION AND INCINERATOR ROOMS TO ITS LEFT AND ORIGINAL SPERT-III NORTH FACADE TO ITS RIGHT. BRAND NAME ON METAL SILO BUILDING IS "AMERICAN SCAFAL."
- ID-33-I-10 SPERT-III. EXTERIOR OF EAST FACADE. CAMERA FACES WEST. FROM LEFT TO RIGHT: BLOWER SHED, INCINERATOR ROOM, COMPACTION ROOM, HEATING AND VENTILATION PAD WITH INGOT ROOM, SPRAY DRYER ABSORBER.
- ID-33-I-11 SPERT-III. CONTEXTUAL VIEW, CAMERA FACES EAST. AT LEFT OF VIEW, SPERT CONTROL CENTER IS ONE-HALF MILE DISTANT. NOTE FLAT TERRAIN: CAMERA EASILY SHOWS TREE TRUNKS EMERGING FROM GROUND. FACADE VIEW IS SAME AS ID-33-I-10: BLOWER SHED, INCINERATOR ROOM, COMPACTION ROOM, HEATING AND VENTILATION PAD WITH INGOT ROOM, SPRAY DRYER ABSORBER.

Idaho National Engineering Laboratory, SPERT-III
HAER No. ID-33-I
Index to Photographs (Page 3)

- ID-33-I-12 SPERT-III. INTERIOR OF REACTOR ROOM, CAMERA FACES SOUTH. WERF REMODEL REPLACED METAL ROOF (BUT NOT ITS ORIGINAL STEEL FRAME) AND CRANE. MARK ON CRANE SAYS, "DEMAC, CLEVELAND, OHIO, CAPACITY 10 TON, SER NO. B1224." REACTOR AND PROCESS PITS WERE REPLACED WITH FLOORING, EXCEPT FOR PLATFORM (ELEVATOR) LIFT IN FOREGROUND, SURROUNDED BY SAFETY RAILS. PAINTED SIGN ON FLOOR SAYS, "FORK LIFT TRAFFIC PROHIBITED." ENCLOSURE AT LEFT CORNER (SOUTHEAST CORNER) IS FOR AIRLOCK ROOM AND CONNECTS TO WERF INCINERATOR ROOM.
- ID-33-I-13 SPERT-III. INTERIOR DETAIL OF REACTOR ROOM. CAMERA FACES SOUTH. PERSONNEL LADDER TO CRANE ABOVE AIRLOCK ROOM AT LEFT, ROLLUP DOOR (NOTE DENTS IN STORAGE CYLINDER ABOVE), EXIT DOOR IN ORIGINAL SPERT-III LOCATION, EMERGENCY STRETCHER ON WALL. CRANE ALONG TOP OF VIEW.
- ID-33-I-14 SPERT-III. INTERIOR DETAIL OF REACTOR ROOM. CAMERA FACES EAST, AND ALSO SHOWS PART OF NORTH WALL. SUNLIGHT AT LEFT ENTERS THROUGH (OUT-OF-VIEW) NORTH ROLLUP DOOR, WHICH IS OPEN. ORIGINAL STRUCTURAL STEEL FRAME (DIAGONAL X-CROSS) HELPS SUPPORT CRANE RAIL. METAL FLOOR COVERING REPLACED ORIGINAL PROCESS PIT.
- ID-33-I-15 SPERT-III. INTERIOR DETAIL OF REACTOR ROOM CEILING. WERF REMODEL REPLACED THE ORIGINAL. CAMERA FACES UPWARDS AND SOUTH.
- ID-33-I-16 SPERT-III. INTERIOR DETAIL OF WEST WING ROOM ORIGINALLY DESIGNATED AS INSTRUMENT CONTROL ROOM. CAMERA FACES SOUTHEAST AND SHOWS ELECTRICAL CONTROL PANEL ALONG EAST WALL OF WERF ROOM DESIGNATED AS ROOM 105. MARKINGS ON PANEL INDICATED VOLTAGE. SIGN ON DOOR AT RIGHT OF VIEW SAYS, "NOTICE: SMOKING, EATING, AND DRINKING ALLOWED ONLY IN DESIGNATED AREAS."
- ID-33-I-17 SPERT-III. INTERIOR VIEW OF WERF'S BASEMENT LEVEL ELEVATOR, ALSO CALLED "SCISSOR-LIFT." ACCORDING TO INL DRAWING 763-0609--220-175211 (A WERF DRAWING) LOAD LIMIT CAPACITY WAS 8000 POUNDS, 50 POUNDS PER SQUARE FOOT. LIFT WAS LOCATED APPROXIMATELY BETWEEN ORIGINAL REACTOR AND PROCESS PITS.
- ID-33-I-18 SPERT-III. INTERIOR BASEMENT VIEW. CAMERA, WHICH IS SITUATED ON EAST SIDE OF SCISSOR LIFT, FACES

Idaho National Engineering Laboratory, SPERT-III
HAER No. ID-33-I
Index to Photographs (Page 4)

NORTHEAST TOWARDS ENTRANCES TO BASEMENT FURNACE ROOMS DESIGNATED AS WERF ROOMS B102 AND B101. SLIDING DOOR SIGN SAYS, "NOT AN EXIT."

- ID-33-I-19 SPERT-III. INTERIOR BASEMENT VIEW INTO ROOM B102, WERF FURNACE ROOM NO. 2. ORIGINAL EQUIPMENT HAS BEEN REMOVED.
- ID-33-I-20 SPERT-III. INTERIOR BASEMENT VIEW. WERF REMODEL GAVE PROCESS PIT A CEILING AND CREATED SMALL ROOMS. CAMERA FACES NORTHERLY OF ROOM DESIGNATED AS B103, FURNACE CONTROL ROOM. WINDOWS ALONG EAST WALL LOOK INTO FURNACE ROOM. DOOR AT LEFT OF VIEW LEADS TO B104, POWER SUPPLY ROOM. SIGN ON DOOR SAYS, "NOT AN EXIT, DANGER, HIGH VOLTAGE."
- ID-33-I-21 SPERT-III. INTERIOR BASEMENT VIEW. CAMERA FACES NORTH WITHIN ROOM CREATED FROM PROCESS PIT SPACE, WERF DESIGNATED AS B101, FURNACE ROOM NO. 1. TWO-TON HOIST IS ABOVE ON RAILS.
- ID-33-I-22 SPERT-III. MAIN FLOOR WITHIN A WERF ADDITION ON SPERT-III'S EAST WALL. CAMERA FACES WEST DIRECTLY AT WHAT ONCE WAS AN EXTERIOR WALL. DOOR LEADS TO FORMER REACTOR ROOM. THIS WAS WERF ROOM 109, FOR AUXILIARY EQUIPMENT.
- ID-33-I-23 SPERT-III. MAIN FLOOR WITHIN ANOTHER WERF ADDITION ON SPERT-III'S EAST WALL. CAMERA FACES WEST. THIS WAS ROOM 108, HOUSING THE WERF INCINERATOR. THE WALL IN CENTER OF VIEW WAS ONCE PART OF SPERT-III'S EXTERIOR EAST WALL.

HAER photographs ID-33-I-24 through ID-33-I-55 are historical photographs of SPERT-III, arranged roughly in chronological order.

- ID-33-I-24 SPERT-III. EXCAVATION OF REACTOR PIT. PLUMB BOB DANGLES AT LOCATION OF BUILDING'S NORTHWEST CORNER. EXCAVATION OF UNEVEN LAVA BEDROCK ALREADY HAS OCCURRED. CAMERA FACES WEST. ENGINEER, STANDING ABOUT THIRTY FEET BELOW GRADE, POINTS TO FISSURE IN THE LAVA ROCK. AIR HAMMER WAS USED FOR INITIAL TEST DRILLING OF THE AREA. PHOTOGRAPHER: JACK L. ANDERSON. DATE: FEBRUARY 6, 1957. INL NEGATIVE NO. 57-650.

Idaho National Engineering Laboratory, SPERT-III
HAER No. ID-33-I
Index to Photographs (Page 5)

- ID-33-I-25 SPERT-III. CAMERA FACES NORTHWEST. SOUTHEAST CORNER AT LOWER EDGE OF VIEW. CONCRETE FORMING FOR REACTOR (FOREGROUND) AND PROCESS PITS. PHOTOGRAPHER: R.G. LARSEN. DATE: MAY 1957. INL NEGATIVE NO. 57-2972.
- ID-33-I-26 SPERT-III. FORM WORK IN PRESSURIZER PIT. CAMERA FACING SOUTH. WORK AT LEFT AND RIGHT EDGES OF VIEW CREATE EAST AND WEST SIDES OF PROCESS PIT. AT CENTER OF VIEW, NICHE IS CREATED FOR PRESSURIZER VESSEL ON NORTH SIDE OF REACTOR PIT. LADDER MADE OF REBAR IS EMBEDDED IN WALL FOR FUTURE PERSONNEL ACCESS TO BOTTOM OF PRESSURIZER NICHE. NOTE BLOCK-OUTS AT TOP OF POUR. PHOTOGRAPHER: JACK L. ANDERSON. DATE: JUNE 14, 1957. INL NEGATIVE NO. 57-3160.
- ID-33-I-27 SPERT-III. FORMING PIT WALLS. CAMERA, FACING NORTHWEST, SHOWS THE NORTH WALL OF THE REACTOR PIT, THREE FEET THICK. IT IS ALSO THE SOUTH WALL OF THE PROCESS PIT. NOTE BLOCK-OUT NEAR TOP OF FORM JUST BELOW WORKMAN NEAR TOP OF VIEW. CONCRETE "BOX" AT LOWER LEFT OF VIEW IS THE SUMP FOR THE PRESSURIZER VESSEL. NEAR CENTER OF VIEW IS UNCOMPLETED SQUARE CONCRETE SUPPORT PILLAR FOR A STRUCTURAL-STEEL BEAM. PHOTOGRAPHER: JACK L. ANDERSON. DATE: JUNE 20, 1957. INL NEGATIVE NO. 57-3277.
- ID-33-I-28 SPERT-III. WEST WING FLOOR UNDER CONSTRUCTION, CAMERA FACING SOUTH. PIPE LIES IN SHALLOW TRENCH ALONG OUTER EDGE OF FOUNDATION. BUCKET DUMPS EARTH FILL. PHOTOGRAPHER: R.G. LARSEN. DATE: JUNE 12, 1957. INL NEGATIVE NO. 57-3145.
- ID-33-I-29 SPERT-III. CAMERA FACING NORTHEAST. CONTROL AND INSTRUMENT CONDUIT PREPARED FOR TRENCH CONNECTING PROCESS AND REACTOR PITS THROUGH LARGE SQUARE BLOCK-OUT. NOTE ELBOW BEND IN PIPES AWAITING PLACEMENT. COMPARE WITH DRAWING ID-33-I-65. PHOTOGRAPHER: J.L. LARSEN. DATE: JUNE 12, 1957. INL NEGATIVE NO. 57-3314
- ID-33-I-H-30 SPERT-III. CONSTRUCTION VIEW OF STEEL BEAMS SUPPORTING OPERATING FLOOR. CLOSELY SPACED BEAMS WILL SUPPORT THE WEIGHT OF HEAT EXCHANGERS ON EAST AND WEST SIDES OF PROCESS PIT. COMPARE WITH DRAWING ID-33-I-67, STRUCTURAL STEEL PLAN. CAMERA FACES NORTHWEST ACROSS PROCESS PIT. PHOTOGRAPHER:

Idaho National Engineering Laboratory, SPERT-III
HAER No. ID-33-I
Index to Photographs (Page 6)

JACK L. ANDERSON. DATE: JULY 9, 1957. INL NEGATIVE
NO. 57-3455.

- ID-33-I-31 SPERT-III. STEEL FRAME FOR HIGH-BAY REACTOR ROOM. CAMERA FACES NORTHEAST. SOUTHWEST CORNER IN FOREGROUND. DEIONIZED WATER TANK ON NORTH SIDE OF BUILDING. BRIDGE CRANE RAILS AND CRANE'S FESTOON CABLE ARE INSTALLED. NOTE OPENING FOR ROLLUP DOOR, HORIZONTAL BRACING FOR ROOF BEAMS. SIGN AT LOWER LEFT SAYS "...KEEP OUT." PHOTOGRAPHER: JACK L. ANDERSON. DATE: AUGUST 7, 1957. INL NEGATIVE NO. 57-3969.
- ID-33-I-32 SPERT-III. CONSTRUCTION VIEW OF LOW-BAY WEST WING FLOOR. CAMERA FACES NORTHEAST. AT LOWER RIGHT OF VIEW, FOUNDATION AND BLOCK-OUT FOR CABLE TRENCH IN FOOTING FOR TRANSIENT INSTRUMENT ROOM. TRENCH IS PARALLEL TO WALLS OF ROOM. DEINONIZER TANK AT NORTH END OF WING, NEAREST TO PROCESS WATER UTILITY ROOM. COMPARE WITH DRAWING ID-33-I-69. PHOTOGRAPHER: JACK L. ANDERSON. DATE: AUGUST 7, 1957. INL NEGATIVE 57-3970.
- ID-33-I-33 SPERT-III INTERIOR. MASONRY WALLS RISE AROUND REACTOR ROOM. CAMERA FACES NORTH ROLLUP DOOR. ROOF AND CORNER WALL SECTIONS HAVE DIAGONAL STEEL BRACING. HOOK AND THREE LIGHTS HANG FROM DECK OF BRIDGE CRANE. TOP OF PRESSURIZER VESSEL IN LOWER CENTER OF VIEW. FLOOR GRATING FOR REACTOR PIT IN LOWER LEFT OF VIEW. WINDOWS AND DOOR INTO CONTROL AND OFFICE ROOMS ALONG WEST WALL. REMOVABLE HANDRAILS AND CURB SURROUND PROCESS PIT. STAIRWAY IN NORTHEAST CORNER. PERSONNEL DOOR IN NORTH WALL NEAR NORTHWEST CORNER. PHOTOGRAPHER: JACK L. ANDERSON. DATE: SEPTEMBER 20, 1957. INL NEGATIVE NO. 57-4721.
- ID-33-I-34 SPERT-III. CONTEXTUAL AERIAL VIEW TAKEN NEAR COMPLETION OF EXTERIOR CONSTRUCTION. CAMERA FACES EAST, SHOWING WEST AND NORTH FACADES. NOTE FLAT, SAGEBRUSH TERRAIN. REACTOR-ROOM IS ROOFED EXCEPT FOR SOUTHMOST SECTION; WEST WING ROOF COMPLETED. LEACHING PIT AT LEFT EDGE OF VIEW. EXCAVATION UNDERWAY FOR PROCESS WASTE LEACH POND SOUTHEAST OF REACTOR BUILDING; NOTE PIPE TRENCH (WITH ANGLED TURN) LEADING TO IT FROM SOUTHEAST CORNER OF BUILDING. PARALLEL CABLE TRENCHES (ORIGINATING AT SPERT CONTROL CENTER OUT OF VIEW ONE-HALF MILE AWAY) LEAD TO WEST WING CONTROL ROOMS. COMPARE

Idaho National Engineering Laboratory, SPERT-III
HAER No. ID-33-I
Index to Photographs (Page 7)

- WITH DRAWING ID-33-I-57, DETAIL 1. THESE WILL
LATER BE COVERED WITH EARTH AND WOODEN PLANKS. TWO
HEAT EXCHANGERS AWAIT PLACEMENT INSIDE BUILDING AT
NORTH END NEAR DEIONIZED WATER TANK. PHOTOGRAPHER:
JACK L. ANDERSON. DATE: SEPTEMBER 30, 1957. INL
NEGATIVE NO. 57-4795.
- ID-33-I-35 SPERT-III EXTERIOR. REACTOR BUILDING AND GUARD
HOUSE (PER-610). CAMERA FACES NORTHWEST, SHOWING
COMPLETED EAST AND SOUTH FACADES OF EACH BUILDING.
FIRE HYDRANT LOCATED BETWEEN THE TWO BUILDINGS.
GUARD HOUSE ROOF SLOPES TO SOUTH; WALLS OF PLYWOOD
AND BATTEN. NOTE ALARM BOX ON GUARD HOUSE ROOF.
COOLING TOWER IN VIEW AT RIGHT EDGE OF VIEW.
PHOTOGRAPHER: JACK L. ANDERSON. DATE: OCTOBER 16,
1957. INL NEGATIVE NO. 57-5181.
- ID-33-I-36 SPERT-III. REACTOR-ROOM INTERIOR. CAMERA FACES
SOUTH ROLLUP DOOR AND ITS CYLINDER CASE.
PRESSURIZER VESSEL IN PLACE AT SOUTH SIDE OF
PROCESS PIT. NINE-PANE WINDOWS INTO WEST WING
CONTROL ROOM AT RIGHT OF VIEW, CORRUGATED STEEL
ROOF AND DIAGONAL STABILITY SUPPORTS, ROOM
LIGHTING, VENTILATION DUCT OVER WINDOWS,
ELECTRICAL CONDUIT MOUNTED BENEATH WINDOWS, FLOOR
GRATE IN PROCESS PIT. PHOTOGRAPHER: JACK L.
ANDERSON. DATE: OCTOBER 20, 1957. INL NEGATIVE NO.
57-5311.
- ID-33-I-37 SPERT-III COOLING TOWER DETAIL. CAMERA FACES
SOUTHEAST. CONCRETE BASIN SUPPORTS REDWOOD SLATS.
PUMP AT LEFT OF VIEW CIRCULATES WATER FOR PROCESS-
PIT PUMP COOLANT LOOP. SPLITTER PIPE DISTRIBUTES
WATER TO TOP OF TOWER. PHOTOGRAPHER: JACK L.
ANDERSON. DATE: NOVEMBER 18, 1957. INL NEGATIVE
NO. 57-5822.
- ID-33-I-38 SPERT-III HEAT EXCHANGERS. CAMERA FACES NORTH
ROLLUP DOOR, LOOKING ACROSS EMPTY REACTOR PIT,
PRESSURIZER VESSEL AND PROCESS PIT. "TUBE AND
SHELL" EXCHANGERS EACH FIT BETWEEN PROCESS PIT
CURB AND REACTOR-ROOM EAST OR WEST WALL. AS YET
UNINSULATED, THEY REST ON SIX SUPPORTS, THREE ON
EACH END OF THE HEAT EXCHANGER. END FACING CAMERA
SHOWS BOLTS FOR PIPE CONNECTIONS OF PRIMARY
COOLANT. EACH WEIGHED 43,200 POUNDS WHEN FULL OF
WATER, NOT COUNTING THE BUNDLE OF U-SHAPED TUBES
INSIDE, WHICH WEIGHED 11,600 POUNDS. PHOTOGRAPHER:

Idaho National Engineering Laboratory, SPERT-III
HAER No. ID-33-I
Index to Photographs (Page 8)

JACK L. ANDERSON. DATE: NOVEMBER 20, 1957. INL
NEGATIVE 57-8353.

- ID-33-I-39 SPERT-III REACTOR VESSEL ARRIVES AT SOUTH ROLLUP DOOR OF THE BUILDING. CAMERA FACES SOUTHWEST. CRANE AND A-FRAME PULLEY ROLL REACTOR ON LOGS AND WOOD SLATS TOWARD REACTOR PIT. NINE OPENINGS IN TOP HEAD ARE FOR CONTROL RODS AND ACCESS PORTS. SECURING TOP HEAD TO VESSEL ARE 28 BOLTS. SIX OPENINGS IN SIDE OF VESSEL NEAR TOP ARE ACCESS PORTS; ANOTHER IS FOR THE CONNECTION TO THE PRESSURIZER. PHOTOGRAPHER: JACK L. ANDERSON. DATE: DECEMBER 3, 1957. INL NEGATIVE NO. 57-5971
- ID-33-I-40 SPERT-III REACTOR VESSEL. CAMERA FACES EAST. LIGHT COMES FROM SOUTH ROLLUP DOOR. PROFILE SHOWS BOTTOM "TEE" SECTION AT RIGHT OF VIEW. SIX NOZZLES EQUALLY SPACED AROUND BOTTOM ARE COOLANT OUTLETS. PHOTOGRAPHER: J.L. ANDERSON. DATE: NOVEMBER 27, 1957. INL NEGATIVE NO. 57-5965.
- ID-33-I-41 SPERT-III REACTOR PIT. STEEL SUPPORT RINGS AND GUIDES FOR REACTOR VESSEL. CAMERA FACES DOWN INTO REACTOR PIT BEFORE REACTOR IS LOWERED WITHIN. WIRE GRID FLOOR GRATE. DIAGONAL BRACES ARE FOR LEAD-BRICK BIOLOGICAL SHIELD. ACCESS LADDER EMBEDDED INTO CONCRETE SIDE OF PIT AT UPPER LEFT OF VIEW. RECTANGULAR FORM AT BOTTOM WILL RECEIVE BOTTOM TEE SECTION. PHOTOGRAPHER: JACK L. ANDERSON. DATE: NOVEMBER 27, 1957. INL NEGATIVE 57-5980.
- ID-33-I-42 SPERT-III. INTERIOR DETAIL OF PNEUMATIC PIPING AND CONTROLS. CAMERA FACES EAST WALL BENEATH OPERATING FLOOR. CONCRETE PILLAR AT RIGHT OF VIEW SUPPORTS STRUCTURAL STEEL WALL BEAM. PHOTOGRAPHER: JACK L. ANDERSON. DATE: APRIL 23, 1958. INL NEGATIVE NO. 58-2003.
- ID-33-I-43 SPERT-III PROCESS PIT. CAMERA IS NEAR NORTH END OF BUILDING, FACING SOUTH, LOOKING DOWN INTO PROCESS PIT TOWARD INSULATED PRESSURIZER VESSEL. TWO VERTICAL PIPES ON EACH SIDE OF PRESSURIZER, ALSO INSULATED, TAKE PRIMARY COOLANT TO HEAT EXCHANGERS (NOT IN THIS VIEW). NOTE PUMP LABELED IN LOWER RIGHT OF VIEW. PHOTOGRAPHER: JACK L. ANDERSON. DATE: MAY 19, 1958. INL NEGATIVE NO. 58-2352.
- ID-33-I-44 SPERT-III REACTOR IN PIT. CAMERA FACES NORTH ROLLUP DOOR, WHICH IS PARTIALLY OPEN. SEE HAER

Idaho National Engineering Laboratory, SPERT-III
HAER No. ID-33-I
Index to Photographs (Page 9)

- PHOTO ID-33-I-43 (NEGATIVE NO. 58-2352), TAKEN FROM OPPOSITE DIRECTION. REACTOR TOP HEAD (WITH NONE OF ITS CONTROL DRIVERS ATTACHED) IN FOREGROUND, SURROUNDED BY METAL-GRATE FLOORING. PRESSURIZER VESSEL IS JUST BEYOND IN CENTER OF VIEW. SYMMETRICALLY ARRANGED COOLANT LOOPS CIRCULATE COOLANT WATER FROM REACTOR TO PUMPS AND HEAT EXCHANGERS, WHICH ARE PARALLEL TO PROCESS PIT ON MAIN OPERATING FLOOR. COMPARE WITH PROCESS DIAGRAM IN DRAWING ID-33-I-60. PHOTOGRAPHER: JACK L. ANDERSON. DATE: MAY 19, 1958. INL NEGATIVE NO. 58-2353.
- ID-33-I-45 SPERT-III WEST-WING UTILITY ROOM. DETAIL OF WATER PROCESS EQUIPMENT. CAMERA FACES NORTH WALL. LOUVERED VENTILATING WINDOW AT RIGHT OF VIEW. PHOTOGRAPHER: JACK L. ANDERSON. DATE: SEPTEMBER 24, 1958. INL NEGATIVE NO. 58-4737.
- ID-33-I-46 SPERT-III. EXTERIOR VIEW OF COMPLETED BUILDING. CAMERA FACING NORTHWEST, SHOWING SOUTH AND EAST FACADES. GUARD HOUSE AT LEFT OF VIEW. COOLING TOWER AT RIGHT. FIRE HYDRANT. LIGHT AND POWER POLES. EARTH-COVERED PATH OF DRAIN LINE TO LEACH POND PROJECTS EASTWARD FROM SOUTHEAST CORNER OF BUILDING (AND BEHIND COOLING TOWER). PHOTOGRAPHER: JACK ANDERSON. DATE: OCTOBER 27, 1958. INL NEGATIVE NO. 58-5362.
- ID-33-I-47 SPERT-III. EXTERIOR VIEW OF COMPLETED BUILDING. CAMERA FACING SOUTHEAST, SHOWING NORTH AND WEST FACADES. DEIONIZED WATER TANK AT NORTH END; ELECTRICAL STATION ON WEST SIDE. PHOTOGRAPHER: JACK ANDERSON. DATE: OCTOBER 27, 1958. INL NEGATIVE NO. 58-5371.
- ID-33-I-48 SPERT-III. EXTERIOR DETAIL OF INSULATORS AND WIRES ATTACHED TO WEST WING (AND OTHER) WALLS AS PART OF SECURITY SYSTEM. PHOTOGRAPHER: K. MANSFIELD. DATE: JANUARY 9, 1959. INL NEGATIVE NO. 59-112.
- ID-33-I-49 SPERT-III REACTOR. "PORTRAIT" OF THE REACTOR A FEW WEEKS BEFORE IT WENT CRITICAL FOR FIRST TIME. CAMERA IS LOCATED ON CRANE AND FACES SOUTH. PROCESS PIT, PRESSURIZER VESSEL, INSULATED COOLANT PIPING, AND HEAT EXCHANGERS IN FOREGROUND. TOP HEAD OF REACTOR BEYOND IS EQUIPPED WITH CONTROL-ROD MECHANISMS AND MOTORS. NOTE STORAGE PITS FOR RADIOACTIVE FUEL RODS IN FLOOR AT LEFT OF VIEW.

Idaho National Engineering Laboratory, SPERT-III
HAER No. ID-33-I
Index to Photographs (Page 10)

HOT STORAGE WELL NORTH OF IT IS SURROUNDED BY REMOVABLE SAFETY RAIL. PHOTOGRAPHER: JACK L. ANDERSON. DATE: OCTOBER 27, 1958. INL NEGATIVE NO. 58-536.

ID-33-I-50

SPERT-III REACTOR. TOP GRID IN PLACE WITH FIRST FUEL LOADING. CAMERA FACES UPWARD TOWARD CEILING. MAN AT LEFT CONTROLS OVERHEAD BRIDGE CRANE, WHICH IS LOWERING THE GRID PLATE INTO THE REACTOR VESSEL. RECTANGULAR CYLINDERS CONTAIN EITHER FUEL OR CONTROL RODS. MARKING ON ONE OF RODS SAYS "CR 7," CONTROL ROD SEVEN. REACTOR WILL ATTAIN FIRST CRITICALITY ON DECEMBER 19, 1958. PHOTOGRAPHER: JACK L. ANDERSON. DATE: DECEMBER 19, 1958. INL NEGATIVE NO. 58-6408.

ID-33-I-51

SPERT-III REACTOR TOP GRID. CREW AND CRANE OPERATOR GUIDE TOP GRID PLATE, LOADED WITH FUEL AND CONTROL RODS, ONTO REACTOR VESSEL. ATTACHMENTS IN TOP CENTER WILL CONNECT TO CONTROL-ROD AND TRANSIENT-ROD MECHANISMS. DURING AN EXPERIMENT, THE MECHANISMS WILL DRIVE RODS INTO THE REACTOR UPON A COMMAND REMOTELY SENT FROM THE CONTROL CENTER A HALF MILE AWAY. LEFT TO RIGHT: F.W. WOOD, S.W. GLEAVE, FRANK SCHROEDER, E.L. MORRIS, S.G. FORBES, WARREN NYER, J.A. NORBERG, AND T.R. WILSON. PHOTOGRAPHER: JACK L. ANDERSON. DATE: DECEMBER 19, 1958. INL NEGATIVE NUMBER 58-6406.

ID-33-I-52

SPERT-III REACTOR. CONTROL-ROD DRIVE MECHANISMS ARE CONNECTED TO TOP HEAD. CAMERA FACES SOUTH. DRIVE MOTORS ARE PARALLEL TO CEILING; AIR PISTONS, TO WALLS. PHOTOGRAPHER: HOLMES. DATE: (APPROX) JUNE 1959. INL NEGATIVE NO. 58-3383.

ID-33-I-53

SPERT-III REACTOR. DRIVE MECHANISMS ABOVE REACTOR TOP INCLUDE AIR PISTONS AND DRIVE MECHANISMS. BUNDLES OF INSTRUMENTATION CORDS ARE GATHERED AND SECURED OUT OF THE WAY AT TOP. THIS IS PROBABLY THE LAST PHOTOGRAPH OF THE WORKING REACTOR BEFORE FACILITY WAS SHUTDOWN. PHOTOGRAPHER: FARMER. DATE: JUNE 17, 1968. INL NEGATIVE 68-2404.

ID-33-I-54

WASTE EXPERIMENTAL REDUCTION FACILITY (WERF, PER-609) OCCUPIES SPERT-III BUILDING. INTERIOR. CAMERA FACES SOUTHWEST. SPERT-III REMODEL HAD FIRST FLOOR WITH NO PITS AND INSTALLED EQUIPMENT RELATED TO INCINERATION PROCESS. PHOTOGRAPHER: NOT KNOWN. DATE: APRIL 27, 1982. INL NEGATIVE NO. 82-1994.

Idaho National Engineering Laboratory, SPERT-III
HAER No. ID-33-I
Index to Photographs (Page 11)

ID-33-I-55 WASTE EXPERIMENTAL REDUCTION FACILITY EXTERIOR. ADDITION TO EAST SIDE OF SPERT-III BUILDING WAS OCCUPIED BY WERF INCINERATOR. SOUTH STACK IS UNDER CONSTRUCTION. SPERT-III GUARD HOUSE AT LEFT EDGE OF VIEW. PHOTOGRAPHER: NOT KNOWN. DATE: MARCH 9, 1982.

HAER photographs ID-33-I-56 through ID-33-I-69 are drawings of the SPERT-III reactor building, PER-609; Guard House, PER-610; and selected accessories.

ID-33-I-56 SPERT-III EXCAVATION STUDY. APPROXIMATE BEDROCK ELEVATIONS AT PROPOSED CONSTRUCTION SITE. SECTION PROFILES OF BEDROCK. TOPOGRAPHY OF LEACH POND AND DOWNSLOPE LOCATION FROM REACTOR BUILDING. STEARNS-ROGER 809-PER-001-1. DATE: SEPTEMBER 1956. INL INDEX NO. 763-01-00-00-812-102301.

ID-33-I-57 SPERT-III ELECTRICAL PLOT PLAN. CROSS SECTION AND SPECIFICATIONS FOR PARALLEL CABLE RUNS BETWEEN CONTROL BUILDING AND SPERT-III ON DESERT FLOOR. DETAILS FOR SECTIONS RUNNING BENEATH ACCESS ROAD. STEARNS-ROGER 809-PER-401-E-1. DATE: SEPTEMBER 1956. INL INDEX NO. 763-06-09-10-812-102304.

ID-33-I-58 SPERT-III REACTOR BUILDING ARCHITECTURAL PLANS. FLOOR PLAN, ROOM LAYOUT, AND ROOM NAMES. LINTEL AND DOOR SCHEDULES. DETAILS OF ION CHAMBERS, HOT STORAGE HOLES, AND REACTOR TOP HEAD LAYDOWN AREA. LOCATIONS FOR REACTOR PIT, PROCESS PIT, HEAT EXCHANGERS, CONDUIT TRENCHES, STAIRWAYS. REMOVABLE HAND RAIL DETAIL. STEARNS-ROGER 809-PER-603-A-1. DATE: SEPTEMBER 1956. INL INDEX NO. 763-609-00-812-102308.

ID-33-I-59 SPERT-III REACTOR BUILDING ARCHITECTURAL ELEVATIONS AND SECTION. WEST (WEST WING) AND SOUTH ELEVATIONS. DOOR AND WINDOW ARRANGEMENTS. SECTION A2-A2 SHOWS EAST-TO-WEST PROFILE ACROSS WEST WING, PRESSURIZER PIT, AND PIPING ACCESS PLATFORM BELOW GROUND FLOOR. STEARNS-ROGER 809-PER-609-A-2. DATE: SEPTEMBER 1956. INL INDEX NO. 763-0609-00-812-102309.

ID-33-I-60 SPERT-III REACTOR BUILDING PLAN AND GENERAL ARRANGEMENT OF PROCESS EQUIPMENT. PIPING AND HEAT EXCHANGER LOCATIONS. REACTOR PIT CONTAINS INLET AND OUTLET PIPING FOR PRIMARY COOLANT. HEAT

Idaho National Engineering Laboratory, SPERT-III
HAER No. ID-33-I
Index to Photographs (Page 12)

EXCHANGERS AND COOLING PIPES ARE SYMMETRICALLY ARRANGED. NOTE CONCRETE WALL BETWEEN PROCESS AND REACTOR PITS WITH PENETRATIONS FOR PIPES AND CABLEWAY. STEARNS-ROGER 809-PER-609-M-1. DATE: SEPTEMBER 1956. INL INDEX NO. 763-0609-51-812-102326.

- ID-33-I-61 SPERT-III REACTOR BUILDING. ELEVATION A-A' (NORTH/SOUTH AXIS) THROUGH REACTOR ROOM. HEAT EXCHANGER AND PRIMARY COOLANT PIPES ON MAIN FLOOR WITH CONNECTIONS TO PIPING AND EQUIPMENT IN PROCESS PIT AND TO REACTOR TANK. ELEVATION E-E' ILLUSTRATES PRESSURIZER TANK AND SUMP PUMP DISCHARGE. THERMOCOUPLE DETAIL. STEARNS-ROGER 809-PER-609-M-2. DATE: SEPTEMBER 1956. INL INDEX NO. 763-0609-51-812-102327.
- ID-33-I-62 SPERT-III REACTOR BUILDING. SECTION C-C' SHOWS PROCESS PIT AND HEAT EXCHANGER ARRANGEMENT. SECTION B-B' SHOWS PRIMARY COOLANT PIPE CONNECTIONS TO REACTOR, TEMPERATURE MEASURING STATIONS, AND PROFILE OF HOT STORAGE WELL. SECTION D-D' PERTAINS TO PRIMARY COOLANT CIRCULATING PUMPS. SECTION F-I' IS CROSS SECTION OF COOLANT PIPE WELDS NEAR REACTOR BOTTOM "TEE" SECTION. STEARNS-ROGER 809-PER-609-M-3. DATE: SEPTEMBER 1956. INL INDEX NO. 763-0609-51-812-102328.
- ID-33-I-63 SPERT-III REACTOR BUILDING. BIOLOGICAL RADIATION SHIELD SURROUNDS REACTOR VESSEL. ARRANGEMENT OF 25-POUND LEAD BRICKS AROUND SIX COOLANT OUTLET PORTS, PRESSURIZING NOZZLE, AND ACCESS PORTS. TYPICAL SIX-INCH BY TWO-INCH LEAD BRICKS CURVED TO FIT AROUND THE CIRCULAR TANK. STEARNS-ROGER 809-PER-609-M-4. DATE: SEPTEMBER 1956. INL INDEX NO. 763-0609-40-812-102329.
- ID-33-I-64 SPERT-III FOUNDATION PLAN. UNEXCAVATED WEST WING. PILASTERS EVERY TWENTY FEET AROUND EXTERIOR FOUNDATION. SOUTH WALL ELEVATION. STEARNS-ROGER 809-PER-609-S1. DATE: SEPTEMBER 1956. INL INDEX NO. 763-0609-62-812-102345.
- ID-33-I-65 SPERT-III GROUND FLOOR PLAN. SHOWS PATH OF CONDUIT FROM TRENCHES IN TRANSIENT ROOM TO REACTOR PIT, AND FROM CONTROL ROOM TOWARD PROCESS PIT. RAMPS AT ROLLUP DOORS. STEARNS-ROGER 809-PER-609-S2. DATE: SEPTEMBER 1956. INL INDEX NO. 763-0609-62-812-102346.

Idaho National Engineering Laboratory, SPERT-III
HAER No. ID-33-I
Index to Photographs (Page 13)

- ID-33-I-66 SPERT-III FOUNDATION SECTIONS. FOUNDATION SECTIONS. ILLUSTRATES WHICH PIT AND SUMP FEATURES HAD FLOORS ABOVE OR BELOW BEDROCK. STEARNS-ROGER 809-PER-609-S3. DATE: SEPTEMBER 1956. INL INDEX NO. 763-0609-62-812-102347.
- ID-33-I-67 SPERT-III STRUCTURAL STEEL PLAN. HIGH- AND LOW-BAY ROOFS. GROUND FLOOR PLAN SHOWS REINFORCEMENT FOR HEAT EXCHANGERS. CLIP AND SPRING SUPPORT FOR REACTOR VESSEL. GRATING PLAN FOR PRESSURE AND REACTOR PITS. HANDRAIL DETAILS. STEARNS-ROGER 809-PER-609-S5. DATE: SEPTEMBER 1956. INL INDEX NO. 763-0609-62-812-102349.
- ID-33-I-68 SPERT-III STRUCTURAL STEEL ELEVATIONS AND SECTIONS. NORTH, WEST, AND SOUTH ELEVATIONS (WALLS). SUPPORT STEEL FOR LEAD SHIELD (DETAIL E-6). STEARNS-ROGER 809-PER-609-S6. DATE: SEPTEMBER 1956. INL INDEX NO. 763-0609-62-812-102350.
- ID-33-I-69 SPERT-III GUARD HOUSE (PER-610). NORTH AND EAST ELEVATIONS. FOUNDATION AND FLOOR PLANS. ROOF FRAMING PLAN. SECTION SHOWS SLOPED ROOF. DOOR AND WINDOW DETAILS. STEARNS-ROGER 809-PER-610-A 1. DATE: SEPTEMBER 1956. INL INDEX NO. 763-0609 [sic]-00-812-102355.

Notes:

1. The historical photographs selected for this report are from the Idaho National Laboratory (INL) Photograph Archive. Negatives are stored in boxes at the Inactive Storage Records Warehouse at Idaho Falls, Idaho. Negatives are indexed according to year, name of facility area, and sequence number. Most photographs are dated. An electronic data search is required to identify number of box containing any given photograph.
2. The original engineering drawings for SPERT-III were destroyed after the reactor was decommissioned. The photographic copies in this report were made from microfilm aperture cards, also located at the INL Inactive Storage Records Warehouse. Thus, the negative images are black-on-white. The prints are white-on-black. A reader may find it more convenient to examine drawings by looking at the negatives instead of the prints.
3. The INL photographic and engineering archives date from the earliest operations at the National Reactor Testing Station. They document construction progress, events, equipment and procedures,

Idaho National Engineering Laboratory, SPERT-III
HAER No. ID-33-I
Index to Photographs (Page 14)

and aerial surveys of the site. Most of these resources can be made available to the public for examination and reproduction.

4. For written historical and descriptive information on SPERT-III, please see main entry for SPERT-III, HAER Report ID-33-I. Additional images may also be found in the written report.

5. The INL Index Code for architectural and engineering drawings is composed of the following elements. Using the example 763-609-00-812-102350:

- 763: An NRTS/INEEL "area" number. In this case, the SPERT-III/WERF area.
- 609: The building or structure number at this "area."
- 00: Classification code. In this case, 00 signifies "structural concrete" drawings.
- 812: Code number for the originating contractor. This code number was assigned to Stearns-Roger.
- 102350: A serial number assigned by the NRTS/INEEL Document Control system. This is the only unique number in a drawing's identification elements.

6. Numbers in the 600 and 1600 ranges were assigned to buildings roughly in chronological order of their construction. Structures such as cooling towers and outdoor substations were given 700 and 1700 numbers.

DOES NOT CONTAIN OFFICIAL USE ONLY INFORMATION

Name/Org: JEFF GARNER Date: 4-28-2010

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