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**DESIGN CRITERIA
VOLUME V**

**REACTOR PLANT MODIFICATION FOR
INCREASED PRODUCTION
AND**

100-C AREA ALTERATIONS

PROJECT CG-558 AND PROJECT CG-600

BY

M. H. RUSS

**DESIGN SECTION
ENGINEERING DEPARTMENT**

MAY 1, 1955

HANFORD ATOMIC PRODUCTS OPERATION

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PROJECT CG-558
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SECTION F

CODES, STANDARDS AND BIBLIOGRAPHY

Reactor Design and Development Unit
Process Engineering Sub-Section
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SECTION F
CODES, STANDARDS, AND BIBLIOGRAPHY

I. CODES AND STANDARDS

Unless otherwise indicated within these Design Criteria, the design, the material to be used, and the work to be performed shall adhere to the requirements set forth in the latest edition of Hanford Works Standards, Design Guides and approved codes.

II. BIBLIOGRAPHY AS OF MAY 1, 1955

<u>Doc. No.</u>	<u>Title</u>	<u>Author</u>	<u>Date</u>
HAN-51439	Reactor Plant Modification for Increased Production	DF Shaw	8-6-53
HW-27778	Maximum Capacities of the 100-B Water Plant	NO Strand	4-27-53
HW-28137	Maximum Capacities of the 100-F Water Plant	NO Strand	5-22-53
HW-28360	Maximum Capacities of the 100-D, DR Water Plants	NO Strand	6-12-53
HW-28378	Minutes of Meeting No. 1 - Joint Meeting of Research and Development Committee RDS-10 and RDS-11, Development Program for Modifications of Existing Reactors	JR Wolcott	6-12-53
HW-28390	Permissible Pressures in 190-105 Process Piping at B, D, F, DR and H	WJ Love	6-30-53
HW-28425	Permissible Water Flow Rates to 105-C	GM Roy	6-18-53
HW-28426	Water Plant Expansion - Technical	RB Richards	6-22-53
HW-28444	Expansion of Production Capacity - 100-H	GM Roy	6-19-53
HW-28543	Project Proposal. Reactor Plant Modification for Increased Production	CE Kent	6-29-53
HW-28548	Pile Technology Development Test Number DT-105-524-E 100 Areas Filter Plant Hydraulic Limit Tests	WCA Woods	6-29-53

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HW-28558	Capacity Test of Building 190 Pump Units 100-B & 100-F Areas	JC McLaughlin GW Wells	6-26-53
HW-28563	Technical Notes on Protection Against Boiling Damage	LH McEwen	7-1-53
HW-28594	Comparison of 100-H Area Annual Operating Conditions	RK Andersen	7-2-53
HW-28657	Preliminary Evaluation of the Economics for the Replacement of Existing Reactors	RK Andersen	8-5-53
HW-28698	Comparison of Current Annual Operating Costs for the 100-B, 100-D, & 100-F Plants with the Estimated Operating Costs Under the RDS-D-11 Water Plant Modification Program	RK Andersen	7-14-53
HW-28716	Minutes of Meeting to Establish Basis for Instrumentation Scope Design on Water Plant Modification Program RDS-D-11 for the 100-B and 100-C Plants	RK Andersen	7-16-53
HW-28739	Expansion of Water Treatment Facilities, 100 Areas	WL Pearl	7-20-53
HW-28983	Process Aspects of Reactor Operation with Increased Protection from Panellit	RO Mehann	8-7-53
HW-28982	Increased Reactor Safety Through Panellit Gage and Safety Circuit Revisions	RO Mehann	8-10-53
HW-29022	Preliminary Study of the Pile Effluent Piping System	SS Jones	10-20-53
HW-29138	Program for Use of Venturis and Supplemental Orifices to Increase Production in Hanford Reactors	JE Robb	9-8-53
HW-29238	An Eng. and Economic Evaluation of Proposed Modif. to Existing Reactor Plants RDS-10 and RDS-11	GM Roy	9-4-53
HW-29281	Installation of Supplemental Orifices and Venturis in all Hanford Reactors	JE Maider	9-15-53
HW-29351	Technical Bases for Pile Outlet Temperatures, Project CG-558	WCA Woods	9-15-53

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HW-29352	Shielding Aspects of Project CG-558	WK Alexander	9-15-53
HW-29353	Technical Bases for Pile Water Flow Rates, Project CG-558	WK Alexander WCA Woods	9-15-53
HW-29367	Header Pressure Requirements Using Standard and Enlarged Fittings Project CG-558	WK Alexander	9-16-53
HW-29374	A Comparison of Tube Flow-Monitoring	WD Gilbert RF Recht	9-16-53
HW-29399	Filter Plant Expansion	WL Pearl	9-21-53
HW-29419	An Engineering and Economic Evaluation of Proposed Modifications to Existing Reactor Plants RDS-10 and RDS-11	JR Wolcott	9-28-53
HW-29457	PT-105-517-E Supplement A, 100 Areas Filter Plants	WCA Woods	10-5-53
HW-29484	Process Tube Flow Rates Using Standard and Enlarged Fittings	HH Greenfield WD Gilbert	10-1-53
HW-29527	Reactor Plant Modification Additions to the 230 KV Electrical Transmission Line Facilities	HR Hughes	10-2-53
HW-29529	Technical Bases for Evaluation of Production Gains Project CG-558	JR Wolcott	10-2-53
HW-29542	Project Proposal, Alum Activated Silica Water Treatment Facilities	CE Kent	10-19-53
HW-29634	Graphite Temperature Limit	DH Curtiss	10-15-53
HW-29655	Biological Shield Operating Conditions at Higher Power Levels	CA Pursel	10-10-53
HW-29707	Summary of Alternative Cases for Project CG-558	VD Nixon JR Wolcott	10-21-53
HW-29709	Alternative Capacity Increases for Project CG-558 - Reactor Plant Modifications for Increased Production	WE Johnson	10-21-53
HW-29712	Memo on C-Pile Portion of Project CG-558	WK Alexander	10-22-53

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HW-29768	Test of the Response of an Area Boiler and Process Turbines to a Sudden Increase in Load	WJ Love	11-13-53
HW-29778	Interim Report Pile Technology Development Test 105-524-E 100 Areas Filter Plant Hydraulic Limit Tests	WCA Woods	11-19-53
HW-29813	Design Data for Modification of B, D, F, DR and H Water Plants	RA Huggins	11-6-53
HW-29822	Clearwell Capacity Requirements for 100 Area Modification Program	RA Huggins	11-3-53
HW-29932	Justification for C Pile Water Plant Expansion	RB Richards	11-2-53
HW-29934	Minutes of Meeting, C-Pile Flow Rates Project CG-558, Reactor Plant Modifications	JR Wolcott	11-11-53
HW-29970	An Analysis of the Economics and Hazards Associated with Process Tube Instrumentation	ME Forsman	11-13-53
HW-30065	Interim Rpt. No. 1 PT-105-4-MR and PT-105-4-MR Supplement a Evaluation of Poison Column Control Facility	RD Shilling	9-10-53
HW-30118	Recommendation for Installation of Back-Up Process Tube Instrumentation	OH Greager	11-30-53
HW-30205	Preliminary Project Proposal Reactor Plant Modification for Increased Production Project CG-558	HE Hylbak	2-4-54
HW-30283	Instrumentation for Thermal Shield Cooling Tubes, Project CG-558	RK Andersen CA Pursel	12-14-53
HW-30379	Tie Straps for Biological Shields	CC Steele	12-28-53
HW-30401 V1	Design Criteria Volume 1 Reactor Plant Modifications for Increased Production and 100-C Area Alterations Project CG-558 and Project CG-600	MH Russ	8-10-54
HW-30401 V2	Design Criteria-Reactor Plant Modifications for Increased Production and 100-C Area Alterations Project CT-558 and Project CG-600. Section C, 100-D and 100-DR Plant Modifications.	MH Russ	8-10-54

<u>Doc. No.</u>	<u>Title</u>	<u>Author</u>	<u>Date</u>
HW-30401 V3	Design Criteria Reactor Plant Modifications for Increased Production Project CG-558	MH Russ	8-15-54
HW-30401 V4	Design Criteria Volume IV Reactor Plant Modifications for Increased Production and 100-C Area Alterations Project CG-558 and Project CG-600	MH Russ	8-15-54
HW-30689	Memorandum on Temp Increase in Process Tubes after Power Failure for Case 4-A at 100-H & 100-F Plants	MH Russ	1-29-54
HW-30865	Interim Report, Horizontal Rod Conversion Development Program - Old Piles	RL Call	2-26-54
HW-30996	Stability of Synchronous Motors in 100 Area Water Plants	AJ McCrocklin etal	7-15-54
HW-31084	Project CG-558 - Synchronous Motors for Process Pump Drives	EP Peabody MH Russ	3-10-54
HW-31162	Procurement of Horizontal Rods - CG-558	HP Shaw	3-17-54
HW-31234	Project Proposal 100-C Alterations	AA Janos	5-6-54
HW-31520	Production Gains Resulting from the Use of the Poison Column Control Facility on B Reactor, etc.	CW Botsford	4-23-54
HW-31689	PT 105-517-E, Suppl. B, 100 Areas Filter Plant Tests	WCA Woods	5-10-54
HW-31938	Interim Report PT 105-568-A Horizontal Rod Skin Temperature Determination	JH Rector	8-6-54
HW-32029	Cavitation in the Outlet Fittings at the B, D, F Piles	HH Greenfield	6-3-54
HW-32108	Recommendations Concerning Secondary Pressure Monitor System, CG-558	HH Greenfield	6-11-54
HW-32113	Project CG-558 - Scope Drawing Transmittal	MH Russ	5-25-54
HW-32168	Additional Justification for Back-Up Instrumentation	MH Russ	6-18-54

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HW-32185	Final Report - Production Test 105-524-A Washer Seal and Seal Leakage Tests for the Horizontal Rod	PM Jackson	6-22-54
HW-32491	Investigation of Panellit System Reliability	HH Greenfield	7-20-54
HW-32887	Reactor Plant Modifications Project (CG-558) Revised During Plans for "Back-Up" Instrumentation for Reactors	AB Greninger	8-27-54
HW-32963	Final Report - Design Test No. 36 Functional Test of 105-K Horizontal Control Rod Prototype Equipment	RL Call	9-7-54
HW-33389	Project Proposal, Revision 4 Reactor Plant Modifications for Increased Production (Project CG-558)	HE Hylbak	12-28-54
HW-33761	3500 HP Process Pump Drives 190-C Operational Limitations	FJ Mollerus	11-12-54
HW-33996	An Improved Method of Process Tube Installation	GO Amy, et al	12-31-54
HW-34312	Front Face Crossheader Check Valves	AK Hardin RD Schilling	1-4-55
HW-34354	Strength of Existing Front and Rear Biological Shields when used to Carry Axial Process Tube Loads	WJ Love	1-7-55
HW-35031	Dev. of a Washer Seal for the B, D, F, DR and H Conversion Horizontal Rods	PM Jackson	2-8-55
HW-35565	Project CG-600 - 100-C Process Water System Modifications	MH Russ	3-2-55
HW-35760	Pressure Drop-Flow Characteristics of Project CG-558 Inlet Assembly	HH Greenfield	3-14-55

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